United States
Department of
Agriculture

Federal Grain
Inspection
Service

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Rice Inspection Handbook

United States Department of Agriculture
Federal Grain Inspection Service

Program Handbook

July 1, 1994

Foreword

The Rice Inspection Handbook sets forth the policies and procedures for sampling, inspecting, and certificating rice in accordance with the regulations under the Agricultural Marketing Act of 1946, as amended. These regulations establish the basic guidelines for inspecting rice and authorize the issuance of such additional guidelines as may be necessary for the interpretation and application of the United States Standards for Rice. Direct quotations from the United States Standards for Rice are shown in this handbook in all capital letters.

The information contained in this handbook is applicable to official rice inspection services performed by the Federal Grain Inspection Service (FGIS) and designated State cooperators. Persons interested in obtaining official services may call or write any FGIS field office or cooperator.

Trade names are used solely to provide specific information. The mention of trade names does not constitute a guarantee or warranty of the product by the U.S. Department of Agriculture or an endorsement by the Department over other products not mentioned.

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CHAPTER 1

GENERAL

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1.1 INTRODUCTION

The inspection of rice is a service provided under the United States Agricultural Marketing Act of 1946 (Act). This service is provided, upon request, by either a Federal Grain Inspection Service (FGIS)-designated cooperator (e.g., the State of California) or an FGIS field office, depending upon the location of the lot and the type of inspection requested. Official inspections of rice are performed by trained and licensed (or authorized) official personnel employed by FGIS or the cooperator. All official personnel are closely monitored and supervised by FGIS to ensure accurate, reliable rice inspection services.

1.2 DEFINITIONS

Carrier. A truck, trailer, truck/trailer combination, railcar, barge, ship, or other container used to transport bulk, sacked, or packaged rice.

Certification. The process of issuing an official certificate that indicates the quality of a lot or sample of rice or the results of some other official service.

Checkcounting. The process of determining the total number of filled outer containers in a lot in order to determine that the number of containers shown by the applicant is correct and certifying the results.

Checkloading. The process of performing a stowage examination on a carrier, computing the number of filled rice containers loaded aboard the carrier, observing the condition of the rice containers loaded aboard the carrier, sealing the carrier, if practicable, and certifying the results.

Checkweighing. The process of weighing a selected number of containers from a rice lot, determining the estimated total gross, tare, and net weight, or the estimated average gross or net weight per filled container, and certifying the results.

Composite sample. A single sample composed of small portions (component samples) taken throughout a lot.

Condition inspection. The process of determining whether an identifiable rice lot is water damaged, fire damaged, or has rodent or bird contamination, insect infestation, or any other deteriorating condition and certifying the results.

Cooperator. An agency or department of the Federal Government which has an interagency agreement or State agency which has a reimbursable agreement with FGIS.

Lot. Any identified amount of rice offered by an applicant for inspection.

Lot (quality) inspection. The process of obtaining a representative sample(s) of an identified rice lot, examining or testing the sample(s), examining relevant records of the lot, and certifying the results.

Observation of loading. The process of determining that an identified lot has been moved from a warehouse or carrier and loaded into another warehouse or carrier and certifying the results.

Official personnel. Any authorized Department employee or person licensed by FGIS to perform all or specified functions under the Act.

Official sample. A representative sample drawn by official personnel licensed or authorized by FGIS.

Sampling. The process of drawing a sample from a lot of rice.

Security container. A locked container in which official personnel store rice samples, supplies, and equipment.

Stowage examination. The process of visually determining if an identified carrier or container is clean; dry; free of live infestation, rodents, toxic substances, and foreign odor; suitable to store or carry rice; and certifying the results.

Submitted sample inspection. The process of grading or testing a sample of rice submitted by an applicant and certifying the results.

1.3 ABBREVIATIONS

The following abbreviations may be shown on work records.

AV	Average
B	Brewers
BDA	Badly-damaged appearance
BK	Broken kernels
BMR	Brewers Milled Rice
BRK	Brown rice kernels
C	Color
CC	Checkcounting
CE	Condition examination
CH	Chalky kernels
CL	Class
CLO	Checkloading
cm	Centimeter(s)
COFO	Commercially object. foreign odor
CR	Creamy
CT	Count
CTD	Coated
CW	Checkweighing
DG	Dark grey
DHT	Damaged by heat
DK	Damaged kernels
DKG	Dockage
DLQ	Distinctly low quality
DW	Dead weevils
ERA	Extremely red appearance
FE	Facility examination
FM	Foreign material
FSUB	Unknown foreign sub.
ft	Foot (Feet)
g	Gram(s)
GRL	Granulated
HDP	Heat-damaged kernels, kernels damaged by heat or parboiled kernels in non-parboiled rice
HP	Handpicked
HT	Heat-damaged kernels
HTG	Heating
INR	Insect refuse
INW	Insect webbing
kg	Kilogram(s)
lb	Pound(s)
LBK	Large broken kernels
LG	Long grain
LGBR	Long Grain Brown Rice for Processing
LGMR	Long Grain Milled Rice
LGRUF	Long Grain Rough Rice
LIG	Light grey
LIM	Lightly milled
LW	Live weevils
M	Moisture
m	meter(s)
MD	Milling degree
MG	Medium grain
MGBR	Medium Grain Brown Rice for Processing
MGMR	Medium Grain Milled Rice
MGRUF	Medium Grain Rough Rice
ml	Milliliter(s)
mm	Millimeter
MOTH	Angoumois moth
MR	Milled rice
MREQ	Milling requirement
MUST	Musty
MY	Milling yield
NOBS	Non-objectionable seeds
NPB	Nonparboiled rice
NSR	Not standardized rice
O	Odor
OB	Observing loading
OBS	Objectionable seeds
OF	Observing of fumigat.
OIND	Other insects-dead
OINL	Other insects-live
OT	Other types
P	Paddy kernels
PL	Plate
PB	Parboiled
PBD	Parboiled dark
PBL	Parboiled light
RLSR	Roundlot-see reverse
RO	Rosy
RM	Related material
RR	Red rice
RUF	Rough rice
RWM	Reason. well milled
s	Sampling
S	Sieve
SC	Screenings
SD	Seeds
SG	Sample grade
SH	Second head
SHG	Short grain
SHGBR	Short Grain Brown Rice for Processing
SHGMR	Short Grain Milled Rice
SHGRUF	Short Grain Rough Rice
SHMR	Second Head Milled Rice
SLG	Slightly grey
SLRO	Slightly rosy
SMR	Screenings Milled Rice
SK	Smutty *
SOUR	Sour
SR	See reverse
STE	Stowage examination
TBK	Total broken kernels
TR	Total rice
TS	Total seeds
TW	Test weight per bushel
UGK	Ungelatinized kernels
UM	Undermilled
URM	Unrelated material
V	Variety
VR	Very rosy
WH	White
WK	Whole kernels
WLBKL	Whole and large broken kernels
WM	Well milled
WMK	Well milled kernels
WVLY	Weevily
XBR	Mixed Brown Rice for Processing
XMR	Mixed Milled Rice
XRUF	Mixed Rough Rice
#	U.S. No.
#SG	U.S. Sample grade

1.4 ORIGINAL INSPECTION SERVICES

A. Any interested person may request an original inspection.

B. Requests may be made verbally or in writing.

1. Verbal requests shall be confirmed, in writing, upon request. All written requests shall be made in English and include the following:

a. The identification, quantity, and location of the rice;

b. The type of service(s) requested;

c. The names and mailing addresses of interested persons; and

d. Any other relevant information that official personnel require.

2. Copies of request forms may be obtained from the cooperator or FGIS field office. If all required documentation is not available when the request is made, it shall be provided as soon as it is available. At their discretion, official personnel may withhold inspection service pending receipt of the required documentation.

C. Requests for services, other than submitted sample inspections, must be made with the cooperator or FGIS field office responsible for the area in which the service will be provided.

D. Requests for submitted sample inspections may be made with any cooperator or FGIS field office that provides original rice inspection services.

E. Requests for services to be performed during loading, unloading, handling, or processing must be submitted far enough in advance so official personnel can be present.

1.5 RETEST INSPECTION SERVICES

A. Any interested person may request a retest inspection service on chemically-tested (nongrade) factors; e.g., TOFFA and aflatoxin. When more than one interested person requests a retest inspection, the first interested person to file is the applicant of record.

B. Requests may be made verbally or in writing.

1. Verbal requests shall be confirmed, in writing, upon request. All written requests shall be made in English and include the following:

a. The identification, quantity, and location of the rice;

b. The type of service(s) requested;

c. The names and mailing addresses of interested persons; and

d. Any other relevant information that official personnel require.

2. Requests must be filed with the FGIS field office responsible for the area in which the original inspection was performed.

3. Copies of request forms may be obtained from the cooperator or FGIS field office. If all required documentation is not available when the request is made, it shall be provided as soon as it is available. At their discretion, official personnel may withhold inspection service pending receipt of the required documentation.

C. A retest inspection shall only be performed by an authorized person. Official personnel shall not perform, participate in performing, or issue a certificate if they participated in a previous inspection or certification of the lot unless there is only one authorized person available at the time and place of the requested retest inspection.

D. Only one retest inspection may be obtained from any original inspection.

E. The scope of a retest inspection shall be limited to the scope of the original inspection. If the request specifies a different scope, the request shall be dismissed.

F. A retest inspection shall be limited to an analysis of the file sample.

G. A retest inspection certificate supersedes the original inspection certificate. The superseded certificate will be considered null and void as of the date of the retest inspection certificate. The original inspection certificate for the inspection being retested must be promptly surrendered.

H. A retest inspection certificate shall be issued before the close of business on the business day following the date the retest inspection is completed.

1. Each retest inspection certificate shall clearly show the word "Retest" and the following statement: "This certificate supersedes Certificate No. _____, dated _____."

2. When the results for more than one kind of service are reported on the original certificate and not all the services are retested, use the following statement: "(Type of service) results based on retest inspection; all other results are those of the original inspection service."

3. The certificate shall show the following statement: "Results based on file sample."

4. If the superseded original certificate is in the custody of FGIS, the superseded certificate shall be marked "VOID." If the superseded certificate is not in the custody of FGIS at the time the retest certificate is issued, the following statement shall be shown on the retest certificate: "The superseded certificate identified herein has not been surrendered."

I. A request for a retest inspection shall be dismissed when:

1. The scope is different from the scope of the original inspection;

2. The condition of the rice has undergone a material change;

3. A representative file sample is not available;

4. The applicant requests a new sample; or

5. The reasons for the retest are frivolous.

J. Official personnel shall notify the applicant of the proposed dismissal of service. The applicant shall then be afforded reasonable time to take corrective action or to demonstrate there is no basis for the dismissal. If the corrective actions has not been adequate, the applicant shall be notified of the decision to dismiss the request for service; and any results of service shall not be released.

K. An applicant may withdraw a request for retest inspection any time before official personnel release results, either verbally or in writing.

NOTE: Applicants who withdraw a request for service may be billed for all expenses incurred prior to withdrawal.

1.6 APPEAL INSPECTION SERVICES

A. Any interested person may request an appeal inspection. When more than one interested person requests an appeal inspection, the first interested person to file is the applicant of record.

B. Requests may be made verbally or in writing.

1. Verbal requests shall be confirmed, in writing, upon request. All written requests shall be made in English and include the following:

a. The identification, quantity, and location of the rice;

b. The type of service(s) requested;

c. The names and mailing addresses of interested persons; and

d. Any other relevant information that official personnel require.

2. Requests for appeal inspection services on quality (grade) factors must be filed with the FGIS field office responsible for the area in which the original inspection was performed or with the FGIS Board of Appeals and Review (BAR). Requests for appeal inspection services on chemically-tested (nongrade) factors must also be filed with the FGIS field office responsible for the area in which the original inspection was performed. This office shall then forward the request, with the file sample(s), to the appropriate office. *

3. Requests for appeal inspection services must be made before the rice has left the place where the inspection being appealed was performed and not later than the close of business on the second business day following the date of the inspection being appealed. However, the FGIS Administrator may extend the time requirement, as deemed necessary.

4. Copies of request forms may be obtained from the cooperator or FGIS field office. If all required documentation is not available when the request is made, it shall be provided as soon as it is available. At their discretion, official personnel may withhold inspection service pending receipt of the required documentation.

C. An appeal inspection shall only be performed by an authorized person.

D. Official personnel shall not perform, participate in performing, or issue a certificate if they participated in a previous inspection or certification of the lot unless there is only one authorized person available at the time and place of the requested appeal inspection.

E. Only one appeal inspection may be obtained from any original or retest inspection service.

F. The scope of an appeal inspection shall be limited to the scope of the original inspection. If the request specifies a different scope, the request shall be dismissed. When chemically-tested factors are appealed, all chemically-tested factors must be tested and certified.

G. The applicant may request that an appeal inspection be based on the file sample or a new sample. However, an appeal inspection shall be based on a new sample only if the lot can positively be identified by official personnel as the lot that was previously inspected; and the entire lot is available and accessible for sampling and inspection.

H. An appeal inspection shall be limited to a review of the sampling procedures and an analysis of the file sample when, as a result of the original inspection, the rice is found to be contaminated with filth or to contain a deleterious substance. If it is determined that the sampling procedures were improper, a new sample will be obtained if the lot can be positively identified as the lot which was previously inspected and the entire lot is available and accessible for sampling and inspection.

I. An appeal inspection certificate supersedes the original inspection certificate. The superseded certificate will be considered null and void as of the date of the appeal inspection certificate. The original inspection certificate for the inspection being appealed must be promptly surrendered.

J. An appeal inspection certificate shall be issued before the close of business on the business day following the date the appeal inspection is completed.

1. Each appeal inspection certificate shall clearly show the word "Appeal" and the following statement: "This certificate supersedes Certificate No. _____, dated _____."

2. When the results for more than one kind of service are reported on the original certificate and not all the services are appealed, use the following statement: "(Type of service) results based on appeal inspection; all other results are those of the original inspection service."

3. When the results of an appeal inspection are based on a file sample, the certificate shall show the following statement: "Quality results based on file sample."

4. If the superseded original certificate is in the custody of FGIS, the superseded certificate shall be marked "VOID." If the superseded certificate is not in the custody of FGIS at the time the appeal certificate is issued, the following statement shall be shown on the appeal certificate: "The superseded certificate identified herein has not been surrendered."

K. A request for an appeal inspection shall be dismissed when:

1. The scope is different from the scope of the original inspection;

2. The condition of the rice has undergone a material change;

3. The request specifies a file sample and a representative file sample is not available;

4. The applicant requests that a new sample be obtained and a new sample cannot be obtained; or

5. The reasons for the appeal inspection are frivolous.

L. Official personnel shall notify the applicant of the proposed dismissal of service. The applicant shall then be afforded reasonable time to take corrective action or to demonstrate there is no basis for the dismissal. If the corrective actions has not been adequate, the applicant shall be notified of the decision to dismiss the request for service; and any results of service shall not be released.

M. An applicant may withdraw a request for appeal inspection any time before official personnel release results, either verbally or in writing.

NOTE: Applicants who withdraw a request for service may be billed for all expenses incurred prior to withdrawal.

1.7
BOARD APPEAL
INSPECTION
SERVICES

A. Any interested person who is dissatisfied with the original or appeal inspection results may appeal to the FGIS BAR. However, if the initial appeal inspection is performed by the BAR, no further appeal may be made.

B. The Board appeal inspection shall only be performed for physically determined quality (grade) factors and shall be limited to an analysis of the file sample.

1. When a request for a Board appeal inspection is filed, the file sample(s) and all other pertinent information shall be immediately submitted to the BAR.

2. The FGIS field office shall act as a liaison between the BAR and the applicant.

3. The Board appeal certificate shall supersede any certificate previously issued and will be the final appeal inspection service.

4. Each Board appeal inspection certificate shall clearly show the words "Board Appeal" and the following statement: "This certificate supersedes Certificate No. _____, dated _____."

5. When the results for more than one kind of service are reported on the original or appeal certificate, use the following statement: "Quality results based on Board appeal inspection; all other results are those of the (original inspection and/or appeal inspection) service."

6. The following statement shall be placed on the certificate: "Quality results based on file sample."

7. If the superseded certificate is in the custody of FGIS, the superseded certificate shall be marked "VOID." If the superseded certificate is not in the custody of FGIS at the time the Board appeal certificate is issued, the following statement shall be shown on the Board appeal certificate: "The superseded certificate identified herein has not been surrendered."

1.8
NEW ORIGINAL
INSPECTIONS

A. When circumstances prevent a retest, an appeal, or a Board appeal inspection, an applicant may request a new original inspection on any previously inspected lot. However, a new original inspection may not be performed on an identifiable rice lot which, as a result of a previous inspection, was found to be contaminated with filth or to contain a deleterious substance.

B. A certificate issued as a result of a new original inspection is, in fact, an original inspection certificate. It shall be based on a new sample and shall not be restricted to the scope of any previous inspection. Subsequently, the applicant for a new original inspection may request any or all of the inspection services provided for by the regulations.

C. A new original inspection certificate shall not supersede any previously issued certificate. However, when possible, the outstanding original inspection certificate should be surrendered.

1.9
COMMITMENT
SERVICES

A. Applicants for rice inspection services in areas served by an FGIS field office may enter into a service commitment with the field office in order to ensure timely services and to obtain lower inspection charges.

1. A commitment service is an agreement whereby the applicant agrees to pay for 8 hours of service per day for a pre-determined number of official personnel, for at least 5 consecutive days per week.

2. FGIS, in turn, agrees to make official personnel available to the applicant for the specified period and to perform all requested services at reduced hourly rates.

3. All hours of service worked in excess of the commitment are charged at the noncommitment rate.

4. Service charges are not assessed under commitment service for recognized Federal holidays when, upon request of the applicant, service is not performed. The applicant is requested to make this request not later than 2 p.m. the preceding business day.

B. To enter into a commitment service agreement, the applicant must provide the appropriate FGIS field office with 60 days written notice specifying the proposed effective date of the commitment. A commitment may become effective prior to the proposed effective date with the consent of both parties.

C. To terminate a commitment service agreement, the applicant must provide the appropriate FGIS field office with 60 days written notice specifying the date of termination. However, a commitment agreement may be terminated at any time by mutual consent of both parties.

D. FGIS reserves the right to:

1. Determine the number of official personnel needed to perform the service for a commitment applicant, which may be different than the number of official personnel under commitment;

2. Terminate a commitment agreement by giving the applicant 60 days written notice specifying the date of termination; and

3. Temporarily reassign official personnel from a commitment applicant when, in the opinion of FGIS, the official personnel are not needed to perform service for the commitment applicant.

NOTE: Charges will be assessed in accordance with Section 68.91, "Fees for Certain Federal Rice Inspection Services," of the regulations under the Agricultural Marketing Act of 1946, as amended.

1.10 REGISTERED TYPE SAMPLE INSPECTIONS

A. Applicants may request that the quality of rice in a lot be compared with the quality of an identified rice type sample that has been registered with an FGIS field office or federal-state office.

B. When registered type sample inspection is requested, the applicant shall:

1. Submit a clearly identified rice sample for an inspection for quality or other criteria.

a. The sample shall be not less than 1,200 grams for milled rice, 1,800 grams for brown rice for processing, and 2,300 grams for rough rice.

b. Official personnel may require a larger sample if portions are to be sent to other offices or if the applicant requests that the sample be divided into several portions for submission to prospective buyers or brokers.

2. Supply the necessary containers and labels for samples to be sent to prospective buyers or brokers.

3. Specify, in writing, all pertinent information including the following:

a. Identification of the type sample; e.g., Corkin Rice Mills type "Aunt Carolina Brand" or Duncan Rice Mill type 311.

b. Quality factor information or any other criteria information that is desired.

C. Official personnel shall:

1. Perform a quality inspection as specified by the applicant and approved by the FGIS field office or federal-state manager.

2. Issue a submitted sample inspection certificate.

3. Register the type sample in the field office or federal-state office.

4. Retain a representative portion of the type sample, under refrigeration, for comparison with the sample(s) obtained from identified lot(s).

a. Because of limited refrigerated storage and file space and the possibility of quality factor change due to prolonged storage, type samples shall be retained for not more than 1 year from the submitted sample inspection certificate issuance date.

b. Notify the applicant of record at least 30 days prior to the expiration date of the type sample.

c. Destroy the type sample on the expiration date.

5. When requested by the applicant, send a copy of the submitted sample inspection certificate and a sample of the rice to the BAR, other FGIS field offices, or federal-state offices that have been requested to compare the quality of an identified lot of rice against the type sample.

6. If the applicant requests that one or more representative portions be divided-out from the type sample for submission to prospective buyers or brokers, heat seal or glue each representative portion in a plastic bag that has a label affixed. Show the following information on the label:

a. The statement, "This representative portion of rice was taken from type sample (sample identification) and was inspected, registered, and sealed by the (USDA, FGIS or name of cooperator)."

b. Office of inspection (city and State).

c. Applicant (name, city, and State).

d. Registration date (date).

e. Expiration date (date).

f. Submitted sample inspection certificate issued (identification).

g. Name and signature of FGIS field office or federal-state manager (or designee).

7. Issue a lot inspection certificate when the quality of an identified lot of rice is compared against the type sample. State that the quality of the rice in the lot was either "equal to or better than" or "not equal to" the type sample; i.e., "(Type of rice or grade and kind of rice). ("Quality equal to or better than" or "Quality not equal to") (name of registered type sample)."

1.11 OTHERWISE GRADE INSPECTIONS

A. Applicants may request information as to what the quality of rice in a lot or sample would "otherwise grade" if the results of one or more factors were not considered.

B. When requested, official personnel shall:

*
*
*
*

1. Determine and show the actual grade of the lot or sample in the space provided for the grade designation; or determine requested factors only and show the type or class of the rice on the gradeline; e.g., "Milled Rice."

2. Show the grade determining factor results and the results of other analyses in the factor information space.

3. Show the following statement in the Remarks section of the certificate: "(Desired grade and kind) except for (factor(s) that prevent the lot or sample from being assigned the desired grade)."

(Revised 5/1/97)

EXAMPLE 1: An application is received to inspect a lot of U.S. No. 3 Long Grain Milled Rice. The inspection determines that the rice is U.S. No. 4 Long Grain Milled Rice because of 17.0 percent total broken kernels.

Grade Designation. "U.S. No. 4 Long Grain Milled Rice."

Statement. "U.S. No. 3 Long Grain Milled Rice except for total broken kernels."

EXAMPLE 2: An application is received to inspect a lot of U.S. No. 3 Long Grain Milled Rice. The inspection determines that the rice is of the class Mixed Milled Rice because of 18.9 percent other types.

Grade Designation. "U.S. No. 3 Mixed Milled Rice. Long grain whole kernels 72.0%, medium grain whole kernels 12.9%, long grain broken kernels 9.0%, medium or short grain broken kernels 6.0%, and seeds 0.1%."

Statement. "U.S. No. 3 Long Grain Milled Rice except for other types."

EXAMPLE 3: An application is received to inspect a lot of U.S. No. 5 Long Grain Milled Rice. The inspection determines that the rice is U.S. Sample Grade Long Grain Milled Rice because of 57.4 percent total broken kernels. The applicant does not want "U.S. Sample Grade" to be shown on the grade line. The factor results meet the grade limits for U.S. No. 3 Second Head Milled Rice. * * * * * *

Grade Designation. "Milled Rice."

Statement. "U.S. No. 3 Second Head Milled Rice except for whole kernels."

1.12 ORIGIN INSPECTIONS

A. Applicants may request that origin inspection certificates be issued which show that their rice is a product of the soil and industry of the United States.

B. When an origin inspection is requested, official personnel shall:

1. Request from the applicant all relevant records that may indicate the origin of the rice.

2. Obtain a representative sample.

3. Analyze the sample to verify that the rice compares favorably with types of rice known to be grown in the United States. The length/width ratios, size, shape, and other kernel characteristics should be considered in making this determination.

C. If, after reviewing the relevant records and analyzing the rice, there is no indication that the rice is not a product of the soil and industry of the United States, show the following statement on the certificate: "The rice described herein and relevant records indicating the origin of the rice have been examined, and the rice is found to be a product of the soil and industry of the United States."

D. When records are not available or if the records are not sufficient to substantiate that the rice is a product of the soil and industry of the United States, but the representative sample appears to be of a type of rice common to the United States, the following statement may be shown on the certificate: "Applicant states that this rice is a product of the soil and industry of the United States."

1.13 COMBINED-LOT INSPECTIONS

A. Applicants may request a combined-lot inspection to be performed on single lots of rice during loading, unloading, or at rest; or after officially inspecting and certificating rice as two or more single lots.

B. Requests for service shall be in writing and include the following:

1. The estimated quantity of rice that is to be certificated as one lot;

2. The contract grade, if applicable;

3. The identity of each carrier into which the rice is being loaded or from which the rice is being unloaded; and

4. Any other relevant information that official personnel require.

NOTE: For recertification of single-lots as a combined lot, the request for service shall be filed not later than two business days after the latest inspection date of the single lots.

C. Rice in two or more carriers that are to be officially inspected as a combined-lot shall be sampled in a reasonably continuous operation. Representative samples shall be obtained from the rice in each individual carrier and inspected in accordance with the procedures as prescribed in Chapter 2 of this handbook.

D. Rice that has been officially inspected and certificated as two or more single lots may be recertificated as a combined-lot if:

1. The rice in each single lot was sampled in a reasonably continuous operation;

2. The original inspection certificates issued for the single lots have been surrendered to official personnel;

3. Representative file samples of the single lots are available;

4. The rice in the single lots is of one grade and quality;

5. Official personnel who performed the inspection service for the single lots and those who are to recertificate the rice as a combined-lot determine that the samples used as a basis for the inspection of the rice in the single lots were representative at the time of sampling and have not changed in quality or condition; and

6. The quality or condition of the rice meets uniformity requirements established by chapter 2 of this handbook.

E. Official factor and official criteria information shown on a certificate for rice in a combined-lot shall be based on the weighted or mathematical averages of the analysis of the sublots in the lot and shall be determined in accordance with the procedures shown in chapter 7 of this handbook.

F. If rice in a combined-lot is offered for official inspection as it is being loaded aboard a carrier and the rice, or a portion of the rice, in a lot is found to be infested, the applicant shall be notified and shall be given the option of:

1. Removing the infested rice from the lot;

2. Receiving a grade certificate with a special grade or sample grade designation, as appropriate, indicating that the entire lot is infested; or

3. For rough rice, fumigating the rice in accordance with FGIS instructions and receiving a grade certificate without the special grade designation.

G. Samples obtained from rice officially inspected as a combined-lot shall be examined for uniformity of quality. If the rice in the samples is found to be uniform in quality and the rice is loaded aboard or is unloaded from the carriers in a reasonably continuous operation, the grain in the combined-lot shall be officially inspected and certificated as one lot. The requirements of this paragraph with respect to reasonably continuous loading or unloading do not apply to rice which is at rest in carriers when the grain is offered for inspection.

H. When grain officially inspected as a combined lot is found to be not uniform in quality or if the grain is not loaded or unloaded in a reasonably continuous operation, the grain in each portion, and any rice which is loaded or unloaded at different times, shall be officially sampled, inspected, graded, and certificated as single lots.

I. Each official certificate for a combined-lot inspection service shall show the identification for the "combined-lot" or, at the request of the applicant, the identification of each carrier in the combined-lot. If the identification of each carrier is not shown, the statement "Carrier identification available on official inspection log" shall be shown on the inspection certificate in the space provided for remarks. The identification and any seal information for the carriers may be shown on the reverse side of the inspection certificate, provided the statement "See reverse side" is shown on the face of the certificate in the space provided for remarks.

J. If a request for a combined-lot inspection service is filed after the grain has been officially inspected and certificated as single lots, the combined-lot inspection certificate shall show:

1. The date of inspection of the grain in the combined-lot (if the single lots were inspected on different dates, the latest of the dates shall be shown);

2. A serial number other than the serial numbers of the official inspection certificates that are to be superseded;

3. The location of the grain, if at rest, or the name of the facility from which or into which the rice in the combined-lot was loaded or unloaded;

4. A statement showing the approximate quantity of grain in a combined-lot;

5. A completed statement showing the identification of any superseded certificates; and

6. If at the time of issuing the combined-lot inspection certificate the superseded certificates are not in the custody of the official personnel, a statement indicating that the superseded certificates have not been surrendered shall be clearly shown in the space provided for remarks. If the superseded certificates are in the custody of official personnel, the superseded certificates shall be clearly marked "Void."

K. After a combined-lot inspection certificate has been issued, there shall be no further combining and no dividing of the certificate.

L. No combined-lot inspection certificate shall be issued:

1. For any official inspection service other than as described in this handbook; or

2. Which shows a quantity of rice in excess of the quantity in the single lots.

1.14
FACTOR ONLY
INSPECTIONS

A. Applicants may request a factor only inspection to be performed on any lot or sample of rice.

B. Requests for service must specify the factor(s) or other criteria for which analysis is required. "Other criteria" includes, but is not limited to, dockage, test weight per bushel, milling analysis, quantitative analysis, and specifications prescribed by Federal agencies, trade associations, and contracts.

C. When requested, official personnel shall:

1. Determine the factors results according to the procedures in Chapters 3, 4, and 5 of this handbook, or as approved in specific cases by the FGIS Administrator.

2. Show the factor results on the inspection certificate according to the procedures in chapter 6 of this handbook.

3. Show the type or class of the rice on the gradeline of the inspection certificate; e.g., "Milled Rice" or "Long Grain Milled Rice."

*
*
*
*

NOTE: Upon request, also show the following statement: "The quality of this rice, (show factor results that meet or exceed the desired rice grade), is equal to or better than the grade requirements of (desired grade)."

(Revised 5/1/97)

REFERENCE PUBLICATIONS

The following publications are referenced in this handbook. Copies may be obtained, upon request, from the Federal Grain Inspection Service.

1. Agricultural Marketing Act of 1946, as amended, and the regulations thereunder.

2. United States Standards for Rice.

3. FGIS Equipment Handbook.

4. FGIS Mechanical Sampling Systems Handbook.

5. FGIS Instruction 917-3, "Submitting Samples to the Board of Appeals and Review."

6. FGIS Instruction 917-13, "Uniform File Sample Retention System for Rice, Pulses, and Processed Products Inspected Under the AMA."

7. FGIS Conversion Charts for Motomco Moisture Meters.

Attachment 2
RICE INSPECTION HANDBOOK
Chapter 1
General

WEIGHTS, MEASURES, AND CONVERSION FACTORS

Weights and Measures

1	kilogram	=	2.2046 pounds
1	metric ton	=	2204.6 pounds
		=	22.046 hundredweights
		=	10 quintals
		=	1000 kilograms
1	hectare	=	2.4710 acres
1	acre	=	0.40469 hectares

Rough Rice Conversion Factors

1 hundredweight = 2.22 bushels = 0.617 barrel = 0.0453 metric ton

1 bushel = 0.45 hundredweight = 0.277 barrel = 0.0204 metric ton

1 barrel = 3.6 bushels = 1.62 hundredweight = 0.0734 metric ton

1 metric ton = 48.992 bushels = 13.609 barrels = 22.046 hundredweights

bushel per acre x 0.5044 = quintals per hectare

pound per acre x 0.01121 = quintals per hectare

FORM FGIS-983, "CONTRACT SERVICE AGREEMENT"

U.S. DEPARTMENT OF AGRICULTURE
FEDERAL GRAIN INSPECTION SERVICE

CONTRACT SERVICE AGREEMENT

I (*we*), the undersigned, apply for _____ inspection services in accordance with applicable provisions and conditions stated below:

1. The contract service shall be governed by the Agricultural Marketing Act of 1946 (*7 U.S.C. 1621 et seq.*), Part 68 regulations, and the applicable standards and instructions thereunder.
2. The applicant(s):
   a. Agrees to provide the Federal Grain Inspection Service (FGIS) 60 days written notice specifying the proposed effective date of the agreement; provided, that the contract agreement may become effective prior to the proposed effective date by mutual consent.
   b. Agrees to pay for a minimum of 8 hours of service per day per person, 5 consecutive days per week, and for all other hours worked as prescribed in Part 68 of the regulations.
   c. Agrees to assume an even number of the 8 hours per day per person when the applicant shares the contract agreement with another applicant.
   d. Agrees to terminate the contract agreement by notifying FGIS in writing 60 days prior to the effective date of termination.
3. The Federal Grain Inspection Service:
   a. Agrees to make official personnel available to perform inspection services for the applicant(s) in the circuit served by the approving field office.
   b. Agrees to perform the service(s) at the location(s) specified by the applicant(s).
   c. Reserves the right to terminate the contract agreement by notifying the applicant(s) in writing 60 days prior to the effective date of termination.
   d. Reserves the right to determine the number of official personnel needed to perform the service(s).
   e. Reserves the right to reassign official personnel when, in the opinion of the field office manager or his designee, the personnel are not needed to perform service(s) for the applicant. The applicant in these circumstances would be credited with the number of contract hours charged to other applicants or activities of FGIS.
   f. Will begin hourly rate charges when official personnel depart the FGIS field office or assigned duty location to travel to the point of service and end such charges when they return from the point of service, computed to the nearest quarter hour (*less mealtime, if any*).
4. Special Provisions:

	NAME AND ADDRESS OF APPLICANT	SIGNATURE AND DATE	MINIMUM NUMBER OF HOURS PER DAY
1		TITLE	EFFECTIVE DATE
	NAME AND ADDRESS OF APPLICANT	SIGNATURE AND DATE	MINIMUM NUMBER OF HOURS PER DAY
2		TITLE	EFFECTIVE DATE

APPLICATION APPROVAL
(For use by USDA, FGIS)

SIGNATURE	NAME AND TITLE *(Type or Print)*	DATE

FORM FGIS-983 (5-89) (Formerly Form IN-145 (2-78), which is obsolete.)

Attachment 4
RICE INSPECTION HANDBOOK
Chapter 1
General
7/1/94

FORM FGIS-955, "APPLICATION FOR INSPECTION UNDER THE AGRICULTURE MARKETING ACT"

U.S. DEPARTMENT OF AGRICULTURE
FEDERAL GRAIN INSPECTION SERVICE

APPLICATION FOR INSPECTION UNDER THE AGRICULTURAL MARKETING ACT OF 1946

Public reporting burden for this collection of information is estimated to average 17 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the form. Send comments regarding this burden estimate or any other aspects of this collection of information, including suggestions for reducing the burden, to USDA, OIRM, Clearance Officer, Room 404-W, Washington, DC 20250. When replying refer to the OMB Number and Form Number in your letter.

Pursuant to Section 203(h) of the Agricultural Marketing Act of 1946, as amended (7 U.S.C. 1622) and the regulations and standards thereunder (7 CFR Parts 57, and 68), we hereby apply for an inspection of the commodity described below.

1. TYPE OF INSPECTION
   a. (Check one) ☐ ORIGINAL ☐ APPEAL ☐ NEW INSPECTION ☐ RETEST
   b. (Check one) ☐ LOT ☐ MULTIPLE LOT ☐ SUBMITTED SAMPLE

2. SERVICE REQUESTED
   ☐ INSPECT FOR GRADE AND FACTOR ☐ INSPECT FOR FACTORS ONLY ☐ INSPECT FOR CONDITION ☐ CHECK-COUNT ☐ CHECK-WEIGHT ☐ CHECK-LOAD ☐ OTHER *(list under remarks)*

3. Commodity (Kind)

4. LOCATION OF COMMODITY

5. CONTRACT NO *(If any)*

6. CARRIER OR OTHER IDENTIFICATION

7. GRADE AND KIND *(Factor or specification)*

8. QUANTITY *(Specify in bushels, pounds, etc.)*

9. NUMBER AND KIND OF CONTAINERS

10. CONTAINER MARKINGS

11. NAME AND ADDRESS *(Include ZIP Code)* OF APPLICANT *(Firm name)*

12. IF APPLICATION IS BY AGENT, NAME AND ADDRESS *(Including ZIP Code)* OF AGENT *(Firm name)*

13. NAME AND ADDRESS *(Include ZIP Code)* OF CONSIGNEE

14. IF APPLICATION IS FOR A RETEST OR APPEAL INSPECTION, NAME(S) AND ADDRESS(ES) OF OTHER INTERESTED PARTY OR PARTIES, IF ANY *(If none, so state)*

15. REMARKS

In submitting this application, I expressly agree that the fees and charges for the inspection shall be assessable to and payable by me and hereby certify that I am a financially interested party or an authorized agent thereof. 18 U.S.C. 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both, for false or fraudulent statements made to an agency of the United States. I declare that the foregoing statements are true to the best of my knowledge, information and belief.

16. DATE	17. NAME OF FIRM	18. SIGNATURE OF PERSON MAKING APPLICATION

19. FOR USE BY FGIS

APPLICATION RECEIVED BY	DATE	TIME	OFFICE

CERTIFICATE NO or NOS

AMOUNT OF DEPOSIT *(If any)*	FEES AND CHARGES	AMOUNT RETURNED TO APPLICANT *(If any)*

FORM FGIS-955 (2-92) *Previous Editions Obsolete*

INSTRUCTIONS FOR COMPLETING FORM FGIS-955,
"APPLICATION FOR INSPECTION UNDER THE AGRICULTURE MARKETING ACT"

NOTE: The numbers coincide with the numbered blocks on the form.

(1) Check a box on both line a and line b to indicate the type of inspection being requested.

(2) Check the box(es) that indicates the type(s) of service(s) being requested.

(3) Show the type of rice being offered for inspection.

(4) Show the location of the commodity.

(5) Show the contract number only if it is to be shown on the inspection certificate.

(6) Show the complete name and/or number of the carrier.

For submitted samples, show a unique word(s) or alphanumeric identifier. * *

(7) Show the contract grade (or expected) grade, kind, class, special grade, other specifications, or requirements.

(8) Show the net and/or gross weight in pounds, kilograms, or hundredweights. Also show net weight if required for billing purposes.

(9) Show the number and kind of containers.

(10) Show the container markings. If there are no markings, show "None." For bulk rice, show "Bulk."

(11) Show the name and address of the applicant; i.e., the party that will be billed for the service.

(12) If applicable, show the name and address of the agent or person submitting the application.

(13) Show the name and address of the consignee if this information is to be shown on the inspection certificate.

(14) For appeal inspection requests only, show the name(s) and address(es) of all interested parties. If there are none, show "None."

(15) Show load order number, warehouse receipt number, and any other pertinent information or statements.

(16) Show the date the application is submitted.

(17) Show name of person, firm, company, or organization that should be billed for the service. If same as "Applicant," show "Same."

(18) Show the signature of the person who is making the application.

(19) FOR USE BY FGIS.

CHAPTER 2

SAMPLING

Section Number	Section Title	Page Number
2.1	SAFETY	2-1
2.2	REPRESENTATIVE SAMPLE	2-4
2.3	DETAILED WORK RECORD (SAMPLE TICKET)	2-4
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2.1 SAFETY

Official personnel 1/ shall adhere to the following guidelines:

A. Comply with all pertinent Occupational Safety and Health Administration (OSHA) requirements (e.g., 29 CFR 1910-1918); obey all posted warning signs and wear appropriate protective equipment when conditions warrant; and when practical, carry a two-way radio for communication.

B. Wear a Stearns life vest, model IWV-222-1 (if not available, any U.S. Coast Guard-approved Type I, II, III, or V PFD life vest may be worn), when aboard barges or other vessels (midstream or dockside).

NOTE: Life vests must be international orange in color and contain retroreflective panels. If used at night, the vest must be equipped with a light and a whistle.

C. Wear hard hats that meet the American National Standards Institutes (ANSI) Z89.1 or Z89.2 criteria. It is also recommended that official personnel wear shoes or boots that have nonslip soles and definite heels for good footing on ladders, wear clothes that are reasonably close-fitting to reduce the possibility of becoming snagged on ladders or other structural elements, and wear gloves when climbing ladders and opening or closing hatches and doors.

D. Check the gangway before boarding or disembarking barges and other vessels. Do not use defective gangways. Exercise extreme care when using ladders that are permanently affixed to the carrier wall. Do not hand-carry sampling equipment, radios, or other equipment while climbing ladders.

E. Remain alert to your physical condition, especially when drawing samples inside carriers. Rice is sometimes treated with chemicals, usually for the purpose of controlling insect infestation. Contact with toxic fumes or sprays from these chemicals can cause serious injury or death. Shortness of breath, light-headedness, drowsiness, or a headache can be indicative of a dangerous atmosphere. When these symptoms are experienced, leave the area immediately and seek medical attention.

1/ The requirements referenced in this section are mandatory for FGIS employees. All others are strongly encouraged to also follow these guidelines.

F. Travel to and from barges at midstream and other vessels at anchor via U.S. Coast Guard-approved launch, tugboat, licensed water taxi; or by Federal Aviation Administration-approved helicopter or air taxi. Do not jump on or off a barge or other vessel. You must be able to step easily from the launch to the vessel (or vessel to the launch) without stretching or straining over water; expect slippery or obstructed deck conditions when boarding a vessel.

G. While walking on a dock or wharf, be alert for loose or rotting boards that may not support your weight. Learn the locations of life rings, emergency ladders, and telephones. Stay clear of cables whether slack or under tension.

H. Do not probe sample barges at night unless the barge is docked and sufficient artificial light is provided. Use caution when walking on decks and barge tops since they are uneven, slippery when wet, and have protruding cleats and latches. Do not remain on barges while they are being moved and be aware of nearby barges, docks, or vessels which could collide with the barge you are working on. Require the applicant for inspection to roll back the rolltop covers and to lock them in place with lock pins. Do not permit hatches to be opened or closed while you are inside the barge.

I. Do not walk through a break in a string of trucks separated by only a few feet. Be alert to such hazards as moving trucks, cables, debris, metal strapping, or broken ladders; and avoid breathing diesel exhaust fumes.

J. Before entering a railyard, notify your immediate supervisor, the yardmaster, or switch-crew foreman, and any other essential persons of your presence. <u>Do not sample railcars in a railyard alone</u> unless you are being monitored by someone who is in a position to render aid if needed; e.g., one of the two persons that must be present may be an elevator employee. (Inquire about possible switching activities, cars carrying hazardous cargo, and any other unusual activity.

K. Require that all activity cease on the track where they are working. Require the track to be locked-out, or derails installed at both ends of the string of cars, or other appropriate, locally-approved precautions; e.g., using blue flags with radio communication between you and the switch engine driver, using one or more additional employees as a safety observer to warn-off approaching railcars, or using blue flags and a lock-out switch on an elevator hold-track where no railcar or switch engine movement takes place during the performance of official functions.

L. Do not probe sample railcars at night unless adequate artificial light is provided. Do not walk on the rails (walk parallel to the set of tracks and never between the two rails). Ensure that no power lines are close enough to present a hazard (minimum safe distance - 25 feet vertically and horizontally).

M. Check for placarded railcars. If a car is placarded or if a car is not placarded and a fumigant odor is detected, withhold the inspection (don't enter the car or sample the grain) and notify your supervisor immediately.

N. Never crawl under railcars. Avoid climbing through railcars and over couplings and never walk through a break in a string of railcars separated by only a few feet (minimum safe distance - 20 feet). Be alert to such hazards as moving railcars, cables, debris along tracks, metal strapping, or broken ladders hanging from railcars.

O. Be alert to seasonal conditions, such as icy walking surfaces in the winter, and rodents, snakes, scorpions, wasps, and hornets in the warmer months.

P. Exercise caution when opening or closing car hatches or doors. If a hatch or door is stuck, request assistance from the applicant. Do not use your hands to break seals, use a cutting tool or pry bar.

Q. Do not ride on an engine or car being moved or switched. If a car starts to move while you are inside, assume a sitting or kneeling position on top of or in the car to avoid losing your balance, and hold on. Do not attempt to descend a ladder or jump to the ground until the car has stopped and you can do so safely. Report all incidents of car movement to the yardmaster and your supervisor. (Supervisors should also report such movements to either OSHA or the Federal Railroad Administration.)

R. Use the belt-and-lanyard system to protect against falls from the top of railcars, when possible.

S. Notify the yardmaster (or foreman) when you leave the work area and report all "bad order cars" (e.g., missing ladder rungs, broken doors) to the car owner, the railroad, or the applicant for inspection.

T. When working in warehouses, watch out for forklifts and tow-motors. Also, be alert for sacks slipping (falling) from improperly stacked pallets.

2.2 REPRESENTATIVE SAMPLE

Obtaining a representative sample from a lot of rice is an important and essential part of the rice inspection process. If the sample is not representative, the inspector's final determination will not reflect the true quality of the lot. For a sample to be considered representative, it must be:

1. Obtained by official personnel in accordance with official procedures;

2. Obtained using FGIS-approved equipment (see the FGIS Equipment Handbook);

3. Of the prescribed size (2,500 grams or more for rough rice and brown rice for processing, and 1,500 grams or more for milled rice); and

4. Handled securely and protected from manipulation, substitution, and careless handling.

2.3 DETAILED WORK RECORD (SAMPLE TICKET)

A. The accurate recording of the lot's identity and its condition at the time of sampling is essential to the correct certification of the lot's quality. Samplers must record all unusual conditions and other pertinent information on the sample ticket. If the condition is not reported on the sample ticket, the lot could be inadvertently misgraded.

B. Sample tickets shall contain the following information:

1. The sampler's signature or initials;

2. The date the sample was obtained;

3. The location of the lot of rice at the time of sampling (if the city and/or State in which the sampling took place is not obvious, this shall also be shown);

4. Full identification of the lot;

5. When applicable, information related to the condition of the carrier's storage area; and

6. Any other pertinent information that may affect the grading or certification of the lot.

C. The original or copy of the sample ticket shall be retained by the issuing office in accordance with the Files Maintenance and Records Disposition Handbook.

2.4 LOT ACCESSIBILITY

A. The entire lot should be completely and safely accessible.

NOTE: Labor and equipment necessary for making a lot accessible shall be furnished by the applicant.

1. If a lot is not completely accessible for sampling, dismiss the request for service or, at the applicant's request, sample that portion that is accessible and issue a "partial inspection" certificate.

2. When a "partial inspection" is requested, make notations on the sample ticket indicating the total number of containers in the lot and the number of containers that were accessible for sampling.

EXAMPLE: If there are 1,263 containers in a lot, but only 400 containers are accessible. The sampler's ticket should read: "Sample represents 400 containers only; balance of containers inaccessible for sampling; total containers in pile 1,263."

B. For the purpose of sampling sacked rice stored in a warehouse or similar facility, the lot shall be considered accessible when a minimum of one side of each pallet in the lot is accessible for sampling.

1. The applicant or warehouse manager need not have every sack in the lot exposed and accessible for sampling unless requested to do so by the sampler.

2. It is the sampler's prerogative to request any or all sacks in the lot to be made accessible for sampling should there be any reason to suspect that the lot is not uniform in quality.

3. The following are some examples of when the sampler should suspect that a lot may not be uniform:

a. Weathered, dirty, wet, or sour smelling sacks mixed in a lot of clean sacks. These sacks may contain rice of lower quality.

b. Sacks with different markings. This could indicate the mixing of sacks from another lot which had different quality requirements.

c. Sacks that appear to have trier penetration marks. These sacks may have been previously sampled, graded, and found to be of lower quality.

2.5 SAMPLE HANDLING AND SECURITY

A. A representative sample must never be out of the control and/or observation of the sampler. Special care shall always be taken to protect samples from manipulation, substitution, and improper handling. There are many ways in which a sample may lose its representativeness. For example, a sample shall no longer be considered representative if it is:

1. Spilled, no matter how little is lost or how much is recovered.

2. Stored in an improper manner or in an area not under the control of official personnel. When samples are not analyzed on the same day they are obtained, store them in a cool, dry place to prevent any change in condition.

3. Transported by means which do not ensure the integrity of the sample.

NOTE: Official samples may be shipped via U.S. mail or commercial parcel service, provided that the samples are delivered directly to official personnel and all other necessary security precautions are taken. Such precautions may include enclosing the sample bag in a mail bag secured by a metal seal if warranted.

B. Lockboxes or other security containers shall be provided by the applicant at plants where official services are performed on a continuing basis. The lockboxes shall be:

1. Of sufficient size to contain samples, sampling supplies and equipment, and checkweighing scales--it is not intended that items, such as dividers and probes, be stored in the lockbox;

2. Placed in the immediate work area--lockboxes shall not be placed in the basement or other remote locations, if it is impossible or impractical to locate the lockboxes in the immediate sampling area, a portable locked container, such as a locked metal pail, should be used; and

3. Equipped with a hasp for a padlock--padlocks shall be provided by official personnel and, under no circumstances, shall keys to the padlocks be issued to or made accessible to unauthorized persons.

2.6 EXAMINATION OF PLANTS 1/

A. Official personnel shall examine or survey rice plants for insanitary conditions when:

1. Required by Federal law or purchase contract;

2. Required by FGIS Program Directive;

3. Requested by the applicant for inspection; or

4. Deemed necessary by official personnel.

B. Insanitary conditions shall include those conditions that, in the opinion of official personnel, would render the rice unfit for human consumption but which may not be adequately reflected by the grade assigned to the rice. Insanitary conditions shall include, but not be limited to, the presence of:

1. Vermin or insects;

2. Toxic substances;

3. Decayed animal or vegetable matter;

4. Other filth; and

5. Harmful substances, such as broken glass and metal shavings.

C. If the plant is approved as a result of the survey, official inspection services may begin or continue at a time agreed upon by plant management and official personnel.

D. If the plant is not approved as a result of the survey, official inspection services shall be conditionally withheld pursuant to the procedures in Section 68.24 of the regulations under the Act, the FGIS "Sanitation Inspection Handbook," and FGIS Program Directive 910.3.

1/ The premises, buildings, structures, and equipment (including but not limited to machines, utensils, vehicles, and fixtures located in or about the premises) used or employed in the preparation, processing, holding, transporting, and storage of rice. Establishments engaged only in the harvesting, storage, or distribution of rice prior to the rice being cleaned, shelled, milled, or otherwise processed for human consumption are not considered as "plants" for the purpose of this directive.

2.7 EXAMINATION OF FILLED CONTAINERS

A. Official personnel shall examine filled containers to determine whether the rice being offered for inspection may have been contaminated or may become contaminated as a result of the condition of the container.

B. Filled container examinations include checking the containers, such as burlap, jute, cotton, kraft (paper), or polypropylene bags; cases; or bales to determine whether they are free from dirt, stains, tears, live or dead insects, insect webbing, and insect refuse.

C. If adverse conditions are found, note the conditions, the kind of containers, and all container markings on the sample ticket and in the Remarks section of the certificate.

2.8 EXAMINATION OF CARRIERS

A. When rice is to be sampled during loading, examine the carrier prior to loading (and, when appropriate, the containers or sacks) for conditions that could adversely affect the quality of the rice. (See FGIS Program Directive 918.48, "Stowage Examinations.") Adverse conditions include, but are not limited to, the presence of:

1. Live weevils or other injurious insects;

2. Odors of previously transported cargoes;

3. Water;

4. Out-of-condition rice or other commodities;

5. Decaying animal or vegetable matter;

6. Protruding objects which may damage the containers;

7. Holes in the carrier's roof, sides, or floor; and

8. Rust scale, dirt, chemicals, and unknown substances.

B. Record the results of the examination on a sample ticket, inspection log, general service worksheet, stowage examination worksheet, or other work record.

C. If no adverse conditions are found, sampling/loading may begin or continue at a time agreed upon by the plant management and official personnel.

D. If adverse conditions are found, official inspection service shall be conditionally withheld pursuant to the procedures in Section 68.24 of the regulations under the Act.

E. In lieu of removing rust scale from lash or other types of barges that are to be loaded with sacked rice, a woven polyethylene liner may be used to cover the walls and floors.

1. If a liner is installed, verify that the rust scale is effectively covered and show the following statement in the Remarks section of the certificate, "Woven polyethylene liner installed in barge in lieu of removing rust scale."

2. Bulk rice offered for official inspection may not be loaded into carriers that have woven polyethlene liners covering either the bottom or the side of the carrier because such liners may tear and contaminate the rice. However, bulk rice may be loaded into standard intermodal containers and truck trailers that contain polyethylene disposable bag-type liners.

F. When rice is sampled after loading, examine the accessible portions of the carrier and note any adverse conditions on the sample ticket and in the Remarks section of the certificate.

NOTE: Stowage examinations are not required for outbound domestic railcar shipments of rice that are sampled at the time of loading, if: (1) the applicant for inspection, with the mutual agreement of all interested parties, request that a stowage examination not be performed and (2) official personnel verify that the railcars' previous cargo was grain, rice, pulses, or processed grain products.

2.9 EXAMINATION OF SAMPLE PORTIONS

Compare each sample portion taken from a lot of rice with other sample portions drawn from the same lot for uniformity of type/class, quality, and condition.

1. If all sample portions are uniform, composite the portions together.

2. If any sample portion is considered to be of distinctly different type/class, quality, or condition from the remainder of the sample portions, draw separate samples from the portion of the lot that contains the distinctly different rice, the remainder of the lot, and the entire lot. Keep the samples in separate containers and note on the respective sample tickets the estimated quantity of the lot represented by each sample.

2.10 SAMPLING CONTAINERS OF RICE

A. Randomly select an appropriate number of containers from the lot.

1. Determine the number of containers in the lot.

2. Determine the minimum number of containers from which samples need to be drawn (see Table 1).

Table 1 - Sampling Rate

Containers 1/ in Lot	Sample Size	Containers in Lot	Sample Size	Containers in Lot	Sample Size
100 or less	10				
101 - 121	11	1,601 - 1,681	41	4,901 - 5,041	71
122 - 144	12	1,682 - 1,764	42	5,042 - 5,184	72
145 - 169	13	1,765 - 1,849	43	5,185 - 5,329	73
170 - 196	14	1,850 - 1,936	44	5,330 - 5,476	74
197 - 225	15	1,937 - 2,025	45	5,477 - 5,625	75
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1,226 - 1,296	36	4,226 - 4,356	66	9,026 - 9,216	96
1,297 - 1,369	37	4,357 - 4,489	67	9,217 - 9,409	97
1,370 - 1,444	38	4,490 - 4,624	68	9,410 - 9,604	98
1,445 - 1,521	39	4,625 - 4,761	69	9,605 - 9,801	99
1,522 - 1,600	40	4,762 - 4,900	70	9,802 -10,000	100

NOTE: For lots packed in primary and secondary containers, the number of secondary (outer) containers in the lot shall be used to determine the number of containers to be sampled.

1/ If the lot contains more than 10,000 containers, divide the lot into 2 or more (approximately) equal-size sublots of 10,000 containers or less Sample and grade each sublot separately.

B. Draw a sample from each selected container using either an approved rice sack trier (see List of Approved Equipment - Equipment Handbook) of sufficient length to reach the center of the container, a compartmented trier of sufficient length to reach the bottom of the container, or a ladle.

1. When sampling rice in large-sized containers (22.5 kilograms/50 pounds or more):

a. For closed containers, use a 29.5-centimeter (11 5/8-inch) rice sack trier for brown rice or milled rice, and a 40.6-centimeter (16-inch) rice sack trier for rough rice. A 99-centimeter (39-inch) compartmented trier may also be used for any type of rice. *

b. For open containers, use a 99-centimeter (39-inch) compartmented trier or a ladle. *

2. For sampling rice in medium-sized containers (4.5 to 22.4 kilograms/10 to 49.9 pounds):

a. For closed containers, use a 29.5-centimeter (11 5/8-inch) rice sack trier for brown rice or milled rice, and a 40.6-centimeter (16-inch) rice sack trier for rough rice.

b. For open containers, use a ladle.

3. For sampling rice in small-sized containers (4.5 kilograms/10 pounds or less), use a ladle or take the entire contents of selected containers.

C. The procedures for drawing a sample with a rice sack trier are as follows:

1. Insert the trier into the sack.

2. Give the inserted trier two or three short in-and-out motions to allow a free flow of rice through the trier into a sample container.

3. Examine the sampled rice for uniformity (type/class, quality, and condition). If uniform, combine the rice with other rice of equal quality from the same lot, sublot, or component.

NOTE: Close all trier holes made during sampling.

D. Draw a sample with a compartmented tier as follows:

1. Stand the container on end and insert the trier into the top of the container.

2. Move the trier diagonally through the container until the end of the trier touches the bottom corner opposite the top corner from which it was inserted.

3. Open the trier with the slots facing upward.

4. While the slots are open, give the trier two or three short up-and-down motions so that the compartments in the trier can be filled.

5. Close the trier gently to avoid damaging the rice, withdraw the trier, and place its contents full length on a sampling cloth.

6. Examine the sampled rice for uniformity (type/class, quality, and condition). If uniform, combine the rice with other rice of equal quality from the same lot, sublot, or component.

E. The procedures for drawing a sample with a ladle are as follows:

1. Dip the ladle into the open container before it is sealed.

2. Pour the sample into a sample pan.

3. Examine the sampled rice for uniformity (type/class, quality, and condition). If uniform, combine the rice with other rice of equal quality from the same lot, sublot, or component.

F. After samples have been taken from a lot offered for inspection, the applicant is responsible for closing all open containers from which samples have been drawn and replacing containers taken as samples. If the applicant does not replace the containers that were removed or properly seal the containers which were left open, note on the sample ticket the number of whole/sealed containers remaining after sampling.

G. When rice in containers is sampled during movement (online), draw a sample from one of the first five containers that are packed, a sample from one of the last five containers, and the remaining samples at random intervals during the packing of the lot.

2.11
SAMPLING
BULK RICE
AT REST

A. Use an approved double-tubed compartmented trier (see List of Approved Equipment - Equipment Handbook) of sufficient length to reach the bottom of the carrier.

Carrier	Length of Tier	Compartments
Barge	12-foot	20
Hopper Car	10- or 12-foot	20
Box Car	6-foot	12
Truck	5- or 6-foot	11 or 12
Hopper Truck	6-, 8-, or 10-foot	12, 16, or 20

B. Sample bulk rice at rest in a carrier as follows:

1. Visually examine the lot of rice at rest in the carrier. Record any unusual conditions on the sample ticket.

2. Spread your canvas and make sure that it and the trier are clean and dry.

3. For each type of carrier there is an established sampling pattern (see section C, pages 2-14 to 2-16). Probe the rice in the areas identified by the sampling pattern for the particular carrier.

4. Insert the trier at a 10 degree angle from the vertical, with the slots facing upward and completely closed.

5. After the trier is fully inserted (with the slots facing upward), open the slots and move the trier up and down quickly in two, short motions.

6. Close the slots snugly, but very gently so as not to damage the rice--a slight opening between the slots and the trier is allowable, grasp the trier by the outer tube, and withdraw it from the rice. Do not pull the trier by the handle. *

7. Empty the trier on the canvas and compare the rice from each depth of the trier for uniformity of type/class, quality, and condition. Also compare the sample portion to others drawn from the same lot. If all sample portions are uniform, they shall be composited and placed in a sample bag along with a completed sample ticket.

NOTE: If the trier does not reach the bottom of the carrier, show "Top (depth reached) feet sampled, BNS." on the sample ticket.

C. The following figures indicate the standard sampling patterns. Each lot shall be probed in as many additional locations as are necessary to assure that the sample is the required size and representative of the lot. Additional probes shall be drawn in a balanced (proportional) manner.

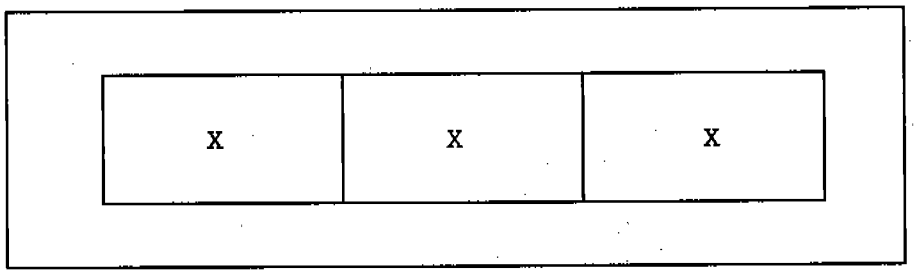

Figure 1. Sampling Pattern - Hopper Car

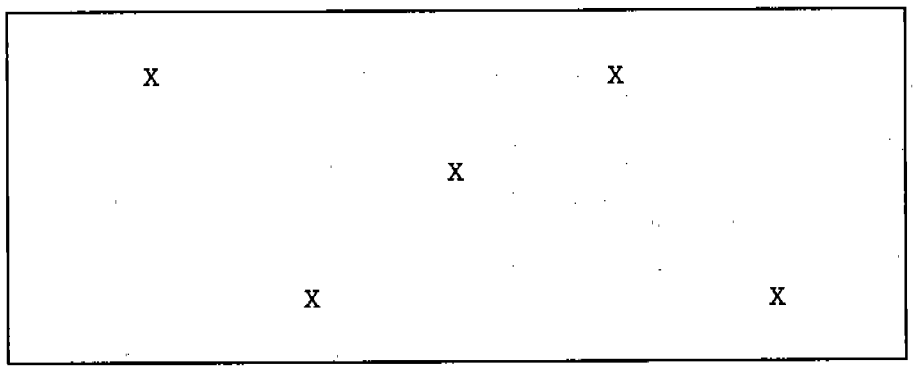

Figure 2. Sampling Pattern - Boxcar, Truck, or Trailer

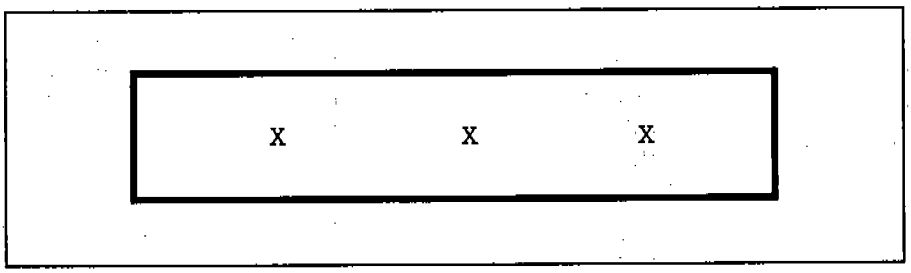

Figure 3. Sampling Pattern - Hopper-Bottom Truck

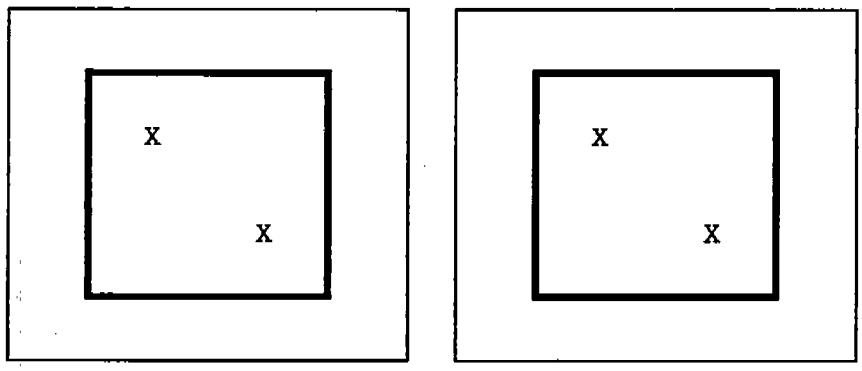

Figure 4. Sampling Pattern - Dual Hopper-Bottom Trailer

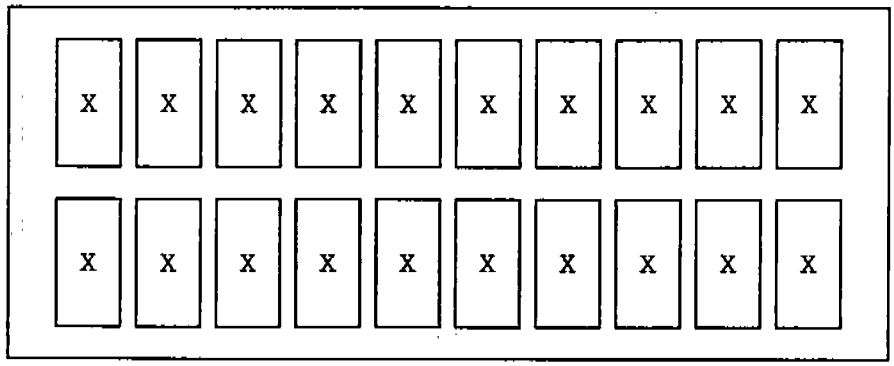

Figure 5. Sampling Pattern - Lift Top Barge

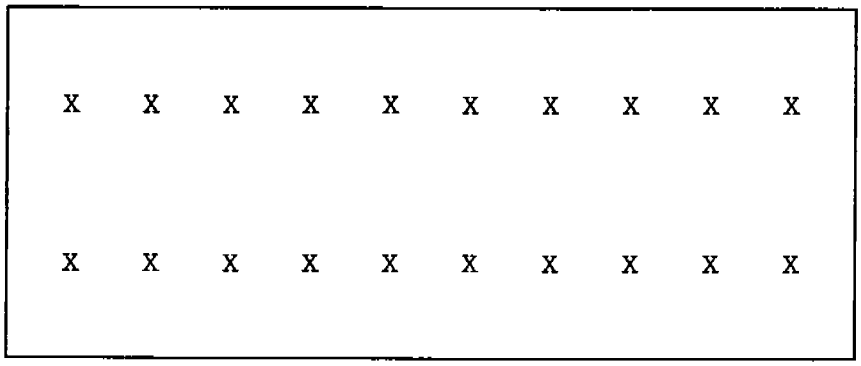

Figure 6. Sampling Pattern - Roll Top Barge

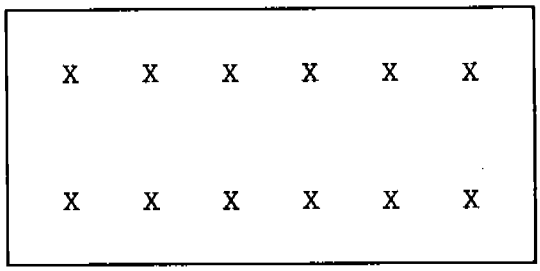

Figure 7. Sampling Pattern - Lash Barge

D. Sample bulk rice at rest in bins and elevators by inserting the probe into the rice through exterior inspection holes/doors. Record the following statement on the sample ticket: "Sample represents an estimated (amount) only. Balance of bin inaccessible for sampling; total amount in bin estimated (amount)."

WARNING: Do not enter closed bins.

E. Sample bulk rice in flat storage facilities/ warehouses in as many places as practicable, but in no case in less than five locations.

F. Sample bulk rice in "tote" bags (e.g., large flexible containers holding 500 - 3000 pounds of rice) as follows:

1. Lots of 1 to 4 Bags. Draw a total of no less than 5 probe samples from the entire lot. Always draw the same number of probe samples from each bag.

2. Lots of 5 to 9 Bags. Draw at least one probe sample from each bag, but always draw the same number of probe samples from each bag.

3. Lots of 10 to 30 Bags. Draw no less than 10 probe samples from the entire lots. Randomly select the bags to be probed and draw no more than one probe sample from each selected bag.

4. Lots of 31 or More Bags. Draw one probe sample from at least 25 percent of the bags or 10 probe samples from the entire lot, whichever is greater.

(Revised 5/1/97)

2.12 SAMPLING BULK RICE DURING MOVEMENT 1/

A. Diverter-Type Mechanical (D/T) Samplers. FGIS tested and approved D/T samplers may be used to sample bulk rice during movement. See the Mechanical Sampling Systems Handbook for testing and approval information.

1. Prior to using a D/T, ensure that the system is clean and free of rice or debris from a previous shipment.

2. For sampling rice as it is being placed in sacks or similar containers, set the D/T counter switch so that the pelican will traverse the stream at least once every 25 containers.

3. For sampling rice being loaded into bulk carriers, set the timer in accordance with the prescribe procedures in the Mechanical Sampling Systems Handbook and Book I, Grain Sampling.

B. Woodside-Type Mechanical Samplers. FGIS tested and approved Woodside-type mechanical samplers may be used to sample bulk rice during movement. See the Mechanical Sampling Systems Handbook for testing and approval information.

C. Pelicans. FGIS-approved pelican samplers may be used to sample rice in a falling stream.

1. To draw a sample using the pelican, first grasp the pelican's handle firmly. Then, swing the pelican completely through the stream in one continuous motion. This is known as taking a "cut."

2. The following is the minimum number of "cuts" required:

Hopper Car	-	2 cuts per compartment
Boxcar	-	4 cuts per carrier
Truck	-	2 cuts per carrier
Hopper Truck	-	2 cuts per carrier
Barge/Ship	-	1 cut per 13,500 kilograms (30,000 lbs.)

WARNING: Sampling a free-falling stream of rice with a pelican sampler can be dangerous. Assure yourself of firm, nonskid footing. Retrieval lines may be attached to the handle of the pelican and to the carrier. Do not tie the line to a person.

1/ Refer to Book I, Grain Sampling, for additional guidelines and requirements.

D. Ellis Cup Samplers. FGIS-approved Ellis cup samplers may be used for sampling rice moving on a conveyor belt.

1. Draw a sample using the Ellis cup as follows:

a. Hold the Ellis cup firmly and upright, with the sides of the cup parallel to the sides of the conveyor belt, and with the open-end of the cup facing the oncoming flow of rice.

b. Push the curved portion of the cup straight down in the center of the stream to the full depth of the rice. After filling, withdraw the cup and empty it.

c. Then, immediately draw two more portions from the stream; one to the left of center and one to the right of center. This is known as taking a "set" of samples.

NOTE: When drawing samples with an Ellis cup from rice in a narrow stream or on a slow moving conveyor belt, all portions may be taken from the center of the stream and portions may be drawn in a delayed-manner, as necessary.

2. The following is the minimum number of "sets" required:

Hopper Car	-	1 sets per compartment
Boxcar	-	2 sets per carrier
Truck	-	1 sets per carrier
Hopper Truck	-	1 set per carrier
Barge/Ship	-	1 set per 13,500 kilograms (30,000 lbs.)

WARNING: Ensure that you have good footing to avoid falling onto the belt and that a U-shaped protective guard rail is installed not less than 2 1/2 feet above each belt and secured to the floor.

CHAPTER 3

INSPECTION OF ROUGH RICE

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Attachment 1 FGIS Form-911, "Rice Sample Ticket"
Attachment 2 Grades and Grade Requirements for Rough Rice

3.1 DEFINITION OF ROUGH RICE

RICE (ORYZA SATIVA L.) WHICH CONSISTS OF 50 PERCENT OR MORE OF PADDY KERNELS OF RICE.

PADDY KERNELS. WHOLE OR BROKEN UNHULLED KERNELS OF RICE.

A. Paddy kernels are usually determined by cursory examination of the work sample as a whole.

B. When a detailed examination is necessary, determine paddy kernels on a representative portion of not less than 50 grams of rough rice before the removal of dockage.

1. Record the percent of paddy kernels on the work record to the nearest tenth percent.

2. If the rice contains less than 50 percent of paddy kernels, consider the rice to be brown rice for processing and refer to Chapter 4, "Inspection of Brown Rice for Processing," for additional information.

3.2 GRADES AND GRADE REQUIREMENTS

The grades and grade requirements for all classes of rough rice are shown in the United States Standards for Rice (section 68.210) and in Attachment 2, "Grades and Grade Requirements for Rough Rice," to this chapter.

3.3 SPECIAL GRADES AND SPECIAL GRADE REQUIREMENTS

A. The special grades and special grade requirements for all classes of rough rice are shown in the United States Standards for Rice (section 68.212).

B. A special grade, when applicable, is supplemental to the grade assigned. Such special grades for rough rice are defined as follows:

1. Infested rough rice. Rough rice that is infested with live weevils or other live insects injurious to stored rice.

2. Parboiled rough rice. Rough rice in which the starch has been gelatinized by soaking, steaming, and drying. If the rice is:

a. Not distinctly colored by the parboiling process, the rice shall be considered "Parboiled Light;"

b. Distinctly but not materially colored by the parboiling process, the rice shall be considered "Parboiled;"

c. Materially colored by the parboiling process, the rice shall be considered "Parboiled Dark."

3. Smutty rough rice. Rough rice which contains more than 3.0 percent of smutty kernels.

4. Glutinous rough rice. Special varieties of rice which contain more than 50 percent chalky kernels.

5. Aromatic rough rice. Special varieties of rice that have a distinctive and characteristic aroma; e.g., basmati and jasmine rice.

3.4 WORK RECORD

Record the results of all tests and findings clearly and accurately on a laboratory ticket or similar form. This will be used as the source of the information reported on the inspection certificate. FGIS personnel shall use form FGIS-911, "Rice Sample Ticket," to record inspection results. Cooperator's shall use a similar form.

NOTE: For submitted sample inspections, results may be recorded on a form FGIS-932, "Rice Inspection Certificate - Submitted Sample Inspection," or similar form.

3.5 REPRESENTATIVE PORTION

A specified quantity of rice divided-out from the representative sample by means of an FGIS-approved device.

3.6 WORK SAMPLE

A representative portion of rice (approximate size - 1,000 grams) that is used to make all such determinations required for a particular class of rice.

* 3.7 FILE SAMPLE

A. A representative portion of rice (approximate size - 1,250 grams) that may be used in conjunction with the work sample, when needed, to determine the complete grade. File samples may also be used for monitoring, retest, and appeal inspection purposes.

B. Retain file samples in appropriate containers for the required retention period. After maintaining for the required period, dispose of the file samples in accordance with established procedures. See FGIS Instruction 917-13, "Uniform File Sample Retention System for Rice, Pulses, and Processed Products Inspected Under AMA," for additional information.

(Revised 5/1/97)

3.8 PERCENTAGES AND COUNTS

A. Percentages are determined upon the basis of weight and are rounded as follows:

1. When the figure to be rounded is followed by a figure greater than or equal to 5, round to the next higher figure; e.g., report 6.36 as 6.4, 0.35 as 0.4, and 2.45 as 2.5.

2. When the figure to be rounded is followed by a figure less than 5, retain the figure; e.g., report 8.34 as 8.3, and 1.22 as 1.2.

B. Record percentages as follows:

1. For milling yield, to the nearest whole percent.

2. For all other factors, to the nearest tenth percent.

C. Record counts, for all factors determined on the basis of count, to the nearest whole number.

3.9 LABORATORY SCALES

Weigh samples and portions of samples using the proper class of FGIS-approved laboratory scales, and record the results to the correct division size. Use the table below to determine the scale class and division size required for weighing particular sized samples.

Table 1 - Laboratory Scales

Portion Size	Scale Class	Maximum Division Size	Record Results to at Least the Nearest--
120 grams or less	Precision	0.01 gram	0.01 gram
Samples for moisture determinations	Precision or Moisture	0.1 gram	0.1 gram
More than 120 grams	Precision, Moisture, or General	1 gram	1 gram

NOTE: See chapter 2, Equipment Handbook, for additional information.

3.10
PRELIMINARY
EXAMINATION

A. The sampler must: (1) observe the uniformity of the rice as to type/class, quality, and condition; (2) make the determination for "Heating"; (3) draw the representative sample; and (4) report relevant information to the inspector.

B. The inspector must review the sampler's remarks/information. If the inspector has questions or doubts the representativeness of the sample, he or she must contact the sampler and obtain the needed information or make arrangements to obtain another sample.

3.11
BASIS OF
DETERMINATION

THE DETERMINATION OF SEEDS, OBJECTIONABLE SEEDS, HEAT-DAMAGED KERNELS, RED RICE AND DAMAGED KERNELS, CHALKY KERNELS, OTHER TYPES, COLOR, AND THE SPECIAL GRADE PARBOILED ROUGH RICE SHALL BE ON THE BASIS OF THE WHOLE AND LARGE BROKEN KERNELS OF MILLED RICE THAT ARE PRODUCED IN THE MILLING OF ROUGH RICE TO A WELL-MILLED DEGREE.

WHEN DETERMINING CLASS, THE PERCENTAGE OF (A) WHOLE KERNELS OF ROUGH RICE SHALL BE DETERMINED ON THE BASIS OF THE ORIGINAL SAMPLE, AND (B) TYPES OF RICE SHALL BE DETERMINED ON THE BASIS OF THE WHOLE AND LARGE BROKEN KERNELS OF MILLED RICE THAT ARE PRODUCED IN THE MILLING OF ROUGH RICE TO A WELL-MILLED DEGREE.

SMUTTY KERNELS SHALL BE DETERMINED ON THE BASIS OF THE ROUGH RICE AFTER IT HAS BEEN CLEANED AND SHELLED AS PRESCRIBED IN FGIS INSTRUCTIONS OR BY ANY METHOD THAT IS APPROVED BY THE ADMINISTRATOR AS GIVING EQUIVALENT RESULTS.

ALL OTHER DETERMINATIONS SHALL BE ON THE BASIS OF THE ORIGINAL SAMPLE. MECHANICAL SIZING OF KERNELS SHALL BE ADJUSTED BY HANDPICKING AS PRESCRIBED IN FGIS INSTRUCTIONS OR BY ANY METHOD THAT IS APPROVED BY THE ADMINISTRATOR AS GIVING EQUIVALENT RESULTS.

NOTE 1: When rice that is offered for inspection as one lot is found to contain more than 10,000 containers or 1,000,000 pounds (bulk) of rice, the lot must be sampled on the basis of two or more (approximately) equal-sized sublots of 10,000 containers or 1,000,000 pounds or less. Inspect each sublot separately. (For additional information, see Chapter 7, "Roundlot Inspection Plan" and Chapter 8, "Warehouse-Lot Inspection Plan.")

NOTE 2: When rice that is offered for inspection as one lot is subsequently found to contain portions that are distinctly different in class/type, quality, or condition, the rice in each portion shall be inspected separately.

A. Follow a systematic grading procedure. The order of procedure may vary depending on the class and the quality of the rice and the tests that are required to determine the grade. A general order of procedure is as follows:

1. Review the information on the sample ticket.

2. Examine the representative sample for odor and distinctly low quality.

3. Use an FGIS-approved divider to process the representative sample into three representative portions: (1) a work sample, (2) a file sample, and (3) a moisture portion.

NOTE: For specific information on the operation and maintenance of dividers, see chapter 3, Equipment Handbook.

4. Examine the work sample for:

Class	Paddy kernels (if necessary)
Infestation	Test weight (if requested)
	Type

5. Remove the dockage from the work sample and, upon request, determine the percent of dockage.

6. Also upon request, examine the dockage-free portion for gold and straw colored kernels.

7. Shell the dockage-free portion and examine the shelled rice portion for smutty kernels.

8. Mill the shelled rice portion and determine total milled rice (milling yield).

9. Examine the milled rice for odor.

10. Divide-out from the milled rice portion a 40-gram portion and determine whole kernels (milling yield).

11. Place the remainder of the milled rice portion on a No. 6 plate or sieve and separate out the whole and large broken kernels.

12. Examine the whole and large broken kernels portion for color.

13. Reduce the whole and large broken kernels portion to 500-grams and examine the portion for:

Heat-damaged kernels
Ungelatinized kernels in parboiled rice
Seeds

14. Reduce the 500-gram portion to 25 grams and examine the portion for:

Chalky kernels
Red rice and damaged kernels
Other types

B. When the grade (or contract compliance) of a lot or sample is determined by a narrow margin (± 0.1 percent or 1 count) on a single factor, **except for the factors seeds and heat-damaged kernels on non-cargo lots**, another determination shall be made on another representative portion of equivalent size divided-out from the work sample or file sample. The factor result shall be based on the average of the two determinations.

3.12
MOISTURE

MOISTURE. WATER CONTENT IN ROUGH RICE AS DETERMINED BY AN APPROVED DEVICE IN ACCORDANCE WITH PROCEDURES PRESCRIBED IN FGIS INSTRUCTIONS, FOR THE PURPOSE OF THIS PARAGRAPH, "APPROVED DEVICE" SHALL INCLUDE THE MOTOMCO MOISTURE METER AND ANY OTHER EQUIPMENT THAT IS APPROVED BY THE ADMINISTRATOR AS GIVING EQUIVALENT RESULTS.

NOTE: MILLING YIELD SHALL NOT BE DETERMINED WHEN THE MOISTURE CONTENT OF THE ROUGH RICE EXCEEDS 18.0 PERCENT.

A. Determine moisture on a representative portion of exactly 200 grams of rough rice before the removal of dockage.

B. Refer to chapter 5 of the Moisture Handbook for information about determining moisture using the Motomco moisture meter.

C. Record the percent of moisture on the work record and the certificate to the nearest tenth percent. If the moisture content exceeds 14.0 percent, grade the rice "U.S. Sample grade."

3.13
TYPE

[ROUGH RICE SHALL BE DIVIDED INTO] THE FOLLOWING THREE TYPES: LONG GRAIN, MEDIUM GRAIN, AND SHORT GRAIN.

TYPES SHALL BE BASED ON THE LENGTH-WIDTH RATIO OF KERNELS OF RICE THAT ARE UNBROKEN AND THE WIDTH, THICKNESS, AND SHAPE OF KERNELS OF RICE THAT ARE BROKEN AS PRESCRIBED IN FGIS INSTRUCTIONS.

A. The length-width ratio limitations for rough rice are:

Long grain	Medium grain	Short grain
3.4 (or more) to 1	2.3 - 3.3 to 1	2.2 (or less) to 1

B. Type is usually determined by a cursory examination of the work sample as a whole.

C. When a detailed examination is necessary, measure the length and width of 15 unbroken kernels taken at random from the work sample and determine their average length-width ratio.

1. For awnless kernels, length is the straight-line distance from the outer glumes to the tip of the lemma. For kernels with an awn, length is the straight-line distance from the outer glumes to the base of the awn.

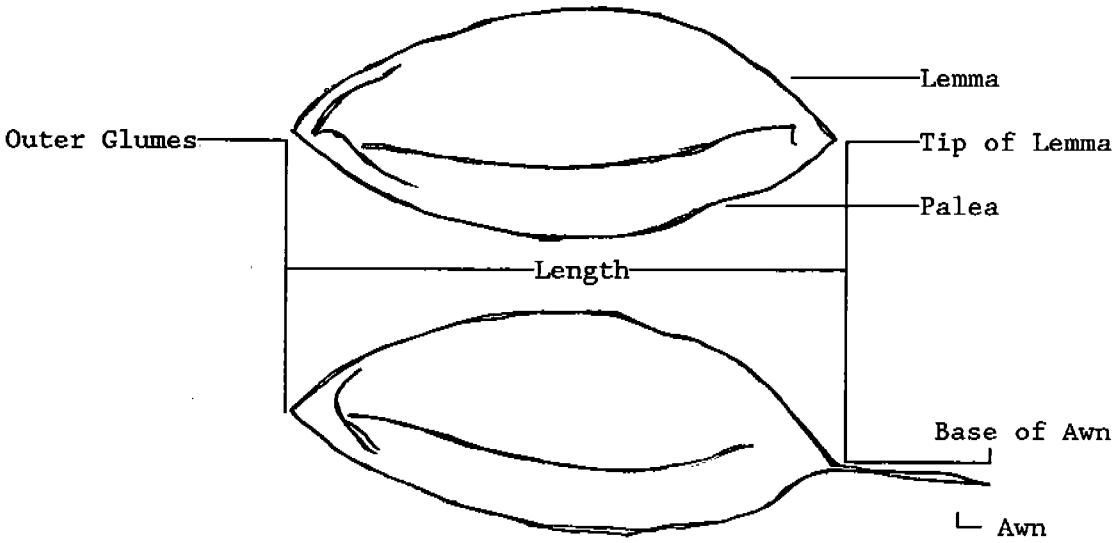

Figure 1. Measuring the Length of Rough Rice Kernels

2. Width is the distance across the lemma and the palea at the widest point.

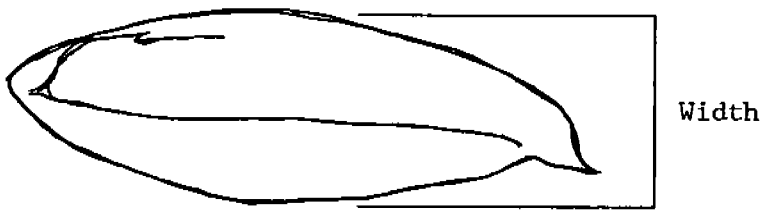

Figure 2. Measuring the Width of Rough Rice Kernels

3.14
CLASS

[ROUGH RICE SHALL BE DIVIDED INTO] THE FOLLOWING FOUR CLASSES: LONG GRAIN ROUGH RICE, MEDIUM GRAIN ROUGH RICE, SHORT GRAIN ROUGH RICE, AND MIXED ROUGH RICE.

CLASSES SHALL BE BASED ON THE PERCENTAGE OF WHOLE KERNELS, LARGE BROKEN KERNELS, AND TYPES OF RICE.

"LONG GRAIN ROUGH RICE" SHALL CONSIST OF ROUGH RICE WHICH CONTAINS MORE THAN 25 PERCENT OF WHOLE KERNELS AND WHICH, AFTER MILLING TO A WELL-MILLED DEGREE,
* CONTAINS NOT MORE THAN 10 PERCENT OF WHOLE OR LARGE BROKEN KERNELS OF MEDIUM OR SHORT GRAIN RICE.

"MEDIUM GRAIN ROUGH RICE" SHALL CONSIST OF ROUGH RICE WHICH CONTAINS MORE THAN 25 PERCENT OF WHOLE KERNELS AND WHICH, AFTER MILLING TO A WELL-MILLED DEGREE, CONTAINS NOT MORE THAN 10 PERCENT OF WHOLE OR LARGE BROKEN KERNELS OF LONG GRAIN RICE OR WHOLE KERNELS OF SHORT GRAIN RICE.

"SHORT GRAIN ROUGH RICE" SHALL CONSIST OF ROUGH RICE WHICH CONTAINS MORE THAN 25 PERCENT OF WHOLE KERNELS AND WHICH, AFTER MILLING TO A WELL-MILLED DEGREE, CONTAINS NOT MORE THAN 10 PERCENT OF WHOLE OR LARGE BROKEN KERNELS OF LONG GRAIN RICE OR WHOLE KERNELS OF MEDIUM GRAIN RICE.

"MIXED ROUGH RICE" SHALL CONSIST OF ROUGH RICE WHICH CONTAINS MORE THAN 25 PERCENT OF WHOLE KERNELS AND WHICH, AFTER MILLING TO A WELL-MILLED DEGREE, CONTAINS MORE THAN 10 PERCENT OF "OTHER TYPES."

A. Class is usually determined by a cursory examination of the work sample as a whole.

B. When a detailed examination is necessary to determine whole kernels for class, make this determination on a representative portion of not less than 40 grams of rough rice before the removal of dockage.

1. Record the percent of whole kernels on the work record to the nearest tenth percent.

2. If the rice contains 25 percent or less of whole kernels, show the designation "Rough Rice" on the grade-line of the certificate. Do not show either a class or grade designation on the certificate.

C. When a detailed examination is necessary to determine other types for class, make this determination on a representative portion of not less than 25 grams of whole and large broken kernels of well-milled rough rice.

1. Record the percent of each type on the work record to the nearest tenth percent.

2. If the rice contains more than 10 percent of:

a. Whole or large broken kernels of medium or short grain rice in long grain rice; or

b. Whole and large broken kernels of long grain rice or whole kernels of short grain rice in medium grain rice; or

c. Whole or large broken kernels of long grain rice or whole kernels of medium grain rice in short grain rice.

Grade the rice "Mixed rough rice," and record the percent of whole kernels of each class of rice and the percent of large broken kernels of each class of rice, to the nearest tenth percent, in order of predominance, on the gradeline of the certificate.

3.15
ODOR

A. Determine odor on the basis of a representative portion of well-milled rough rice. Upon request, a non-grade odor determination may be made on the basis of the rough rice, as is. *

1. An indication of an off-odor (i.e., musty, sour, and commercially objectionable foreign odor) can sometimes be detected by smelling the rough rice at the time of sampling. This can serve to "flag" potential problems. But, make the final odor determination on a portion of the sample milled to a well-milled degree. *

NOTE: If there is any question as to the odor of the rough rice when the sample is being taken, put the sample into an airtight container to preserve its condition for further examination in the laboratory.

2. A musty odor shall be any odor that is earthy, moldy, or ground-like. Do not confuse a burlap bag odor with a musty odor.

3. A sour odor shall be any odor that is rancid, sharp, or acrid.

4. A commercially objectionable foreign odor shall be any odor that is not normal to rice and that, because of its presence, renders the rice unfit for normal commercial usage; e.g., fertilizer, hides, oil products, skunk, smoke, fire-burnt, and decaying animal and vegetable matter odors.

5. Fumigants or insecticide odors are not considered as commercially objectionable foreign odors, unless they are caused by a fumigant or insecticide that does not dissipate quickly. When a sample of rice contains a fumigant or insecticide odor that prohibits a true odor determination, the following guidelines shall apply:

a. The representative sample of rice shall be allowed to air-out under forced ventilation (a fume hood) in an open metal container (e.g., a pan) for up to 4 hours; and

b. If the fumigant or insecticide odor still prohibits the determination of the rice's true odor after 4 hours, the rice shall be considered as having a commercially objectionable foreign odor.

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WARNING: When sampling rice, check for placarded railcars. If a car is placarded (or if a car isn't placarded but a fumigant odor is detected), don't enter the car or sample the rice, and notify your supervisor immediately.

NOTE: Aromatic (scented) rice shall not be considered as having a commercially objectionable foreign odor if it has an odor known to be common to such rice. Non-aromatic varieties of rice, which have a scented rice-like aroma, shall be considered to have a commercially objectionable foreign odor.

B. When rice is determined to be musty, sour, or have a commercially objectionable foreign odor, record the type of odor on the work record and in the Remarks section of the certificate, and grade the rice "U.S. Sample grade."

3.16
HEATING

A. Determine heating on the basis of the lot as whole.

1. When high temperature develops in rice as the result of excessive respiration, such rice is heating.

2. Heating rice usually gives off a sour or musty odor.

3. Care should be taken never to confuse rice that is warm due to storage in bins, cars, or other containers during hot weather with rice that is heating from excessive respiration.

B. When applicable, show the term "Heating" on the work record and in the Remarks section of the certificate, and grade the rice "U.S. Sample grade."

(Revised 5/1/97)

3.17
DISTINCTLY
LOW QUALITY

A. Determine distinctly low quality on the basis of the representative sample as a whole or the lot as a whole.

B. Rough rice that is obviously affected by unusual conditions which adversely affect the quality of the rice, and which cannot be graded properly by use of the grading factors specified or defined in the standards, shall be considered as being of distinctly low quality; e.g., rice found to contain large debris, stones, glass, metal fragments, bird droppings, rodent droppings, castor beans, crotalaria seeds, treated seeds, or toxic substances.

C. When applicable, show the statement "Distinctly low quality on account of (cause or reason)." on the work record and in the Remarks section of the certificate, and grade the rice "U.S. Sample grade."

3.18
INSECT
INFESTATION

INFESTED ROUGH RICE. TOLERANCES FOR LIVE INSECTS FOR INFESTED ROUGH RICE ARE DEFINED ACCORDING TO SAMPLING DESIGNATION AS FOLLOWS:

REPRESENTATIVE SAMPLE. THE REPRESENTATIVE SAMPLE CONSISTS OF THE WORK PORTION, AND THE FILE SAMPLE IF NEEDED AND WHEN AVAILABLE. THE ROUGH RICE (EXCEPT WHEN EXAMINED ACCORDING TO PARAGRAPH (A)(3) OF THIS SECTION) WILL BE CONSIDERED INFESTED IF THE REPRESENTATIVE SAMPLE CONTAINS TWO OR MORE LIVE WEEVILS, OR ONE LIVE WEEVIL AND ONE OR MORE OTHER LIVE INSECTS INJURIOUS TO STORED RICE, OR FIVE OR MORE OTHER LIVE INSECTS INJURIOUS TO STORED RICE.

LOT AS A WHOLE (STATIONARY). THE LOT AS A WHOLE IS CONSIDERED INFESTED WHEN TWO OR MORE LIVE WEEVILS, OR ONE LIVE WEEVIL AND ONE OR MORE OTHER LIVE INSECTS INJURIOUS TO STORED RICE, OR FIVE OR MORE OTHER LIVE INSECTS INJURIOUS TO STORED RICE, OR 15 OR MORE LIVE ANGOUMOIS MOTHS OR OTHER LIVE MOTHS INJURIOUS TO STORED RICE ARE FOUND IN, ON, OR ABOUT THE LOT.

SAMPLE AS A WHOLE DURING CONTINUOUS LOADING/ UNLOADING. THE MINIMUM SAMPLE SIZE FOR RICE BEING SAMPLED DURING CONTINUOUS LOADING/UNLOADING IS 500 GRAMS PER EACH 100,000 POUNDS OF RICE. THE SAMPLE AS A WHOLE IS CONSIDERED INFESTED WHEN A COMPONENT (AS DEFINED IN FGIS INSTRUCTIONS) CONTAINS TWO OR MORE LIVE WEEVILS, OR ONE LIVE WEEVIL AND ONE OR MORE OTHER LIVE INSECTS INJURIOUS TO STORED RICE, OR FIVE OR MORE OTHER LIVE INSECTS INJURIOUS TO STORED RICE.

NOTE: "Weevils" shall include coffee bean weevils, broad-nosed grain weevils, rice weevils, granary weevils, maize weevils, and lesser grain borers. "Other live insects injurious to stored rice" shall include beetles, moths, meal worms, and other insects injurious to stored rice described in ARS Handbook No. 500.

A. Determine infestation on the basis of a representative portion of approximately 1,000 grams, the lot as a whole, and/or a component sample taken during continuous loading/ unloading.

1. Examine a representative portion.

a. If no live insect is found in the portion, make no further check for insects.

b. If two or more live weevils are found, consider the rice to be "Infested."

c. If one live weevil and any other live insect injurious to stored rice is found, consider the rice to be "Infested."

* d. If only one live weevil or other insect
* injurious to stored rice is found, cut another representative portion of approximately 1,000 grams from the file sample. (Use the rest of the representative sample if the file sample is less than 1,000 grams.)

(1) If one or more live weevils or other live insects injurious to stored rice are found in the second portion, consider the rice to be "Infested."

(2) If no live insect is found in the second portion, do not consider the rice to be "Infested."

e. If no live weevil is found, but 5 or more other live insects injurious to stored rice are present, consider the rice to be "Infested."

2. Examine the rice in the lot; i.e., the surface area of the lot and the area around the lot.

a. If no live insect is found in, on, or about the lot, make no further check for insects.

b. If two or more live weevils are found, consider the rice to be "Infested."

c. If one live weevil and any other live insect injurious to stored rice is found, consider the rice to be "Infested."

d. If no live weevils are found, but five or more other live insects injurious to stored rice are present, consider the rice to be "Infested."

e. If 15 or more live Angoumois moths or other live moths are present, consider the rice to be "Infested."

3. Examine the component samples 1/ taken during continuous loading/unloading.

a. Divide-out from each component sample a representative portion of approximately 1,000 grams.

b. Examine the representative portion for live insects.

(1) If no live insects are found in the representative portion, make no further check of the component for insects.

(2) If two or more live weevils are found, consider the rice to be "Infested."

(3) If one live weevil and any other live insect injurious to stored rice is found, consider the rice to be "Infested."

(4) If one live weevil and no other insect injurious to stored rice is found, cut another representative portion of approximately 1,000 grams from the component sample.

1/ As specified in Chapter 7, "Roundlot Inspection." For shiplots and bargelots, a component sample may not represent more than 500,000 pounds of rice and each sublot/lot must contain two or more approximately, equal-sized components.

(a) If one or more live weevils or other live insects injurious to stored rice are found in the second portion, consider the rice to be "Infested."

(b) If no live insects are found in the second portion, do not consider the rice to be "Infested."

(5) If no live weevils are found, but five or more other live insects injurious to stored rice are present, consider the rice to be "Infested."

B. When applicable, show the term "Infested" on the work record and on the gradeline of the certificate.

3.19
TEST WEIGHT
PER BUSHEL

NOTE: This factor is not provided for under the U.S. Standards for Rough Rice, but may be determined upon request.

A. Determine test weight per bushel on a representative portion of approximately 1,000 grams of rough rice before the removal of dockage.

B. See chapter 1 of the Grain Inspection Handbook, Book II, for information about performing test weight per bushel determinations.

C. Record the test weight per bushel on the work record to the nearest tenth of a pound and show one of the following statements in the Remarks section of the certificate:

1. "Test weight per bushel of (amount) pounds."

2. "Test weight per bushel of (amount) pounds is approximately equivalent to (amount) kilograms per hectoliter." (Kilograms per hectoliter is determined by multiplying the test weight per bushel by 1.287.)

NOTE: Bulk density may be determined by dividing the test weight per bushel by 1.2445. Bulk density is the number of pounds in one cubic foot.

3.20
DOCKAGE

A. Determine dockage on a representative portion of 1,000 grams of rough rice. Dockage is all matter other than rice that can be readily removed from the rough rice by the use of appropriate sieves and cleaning devices. It may also include underdeveloped, shriveled, and small pieces of kernels of rough rice that are removed in properly separating the dockage and that cannot be recovered by properly rescreening or recleaning.

B. Set-up the Carter dockage tester as follows:

Table 2 - Dockage Tester Settings

	Long grain	Medium grain		Short grain	
		Southern	Western	Southern	Western
	All	Production		Production	
Air Setting	Standard	Standard	Standard	Standard	Standard
Riddle	--------	--------	--------	--------	--------
Top Sieve	28	28	31 *	31	31 *
Middle Sieve	25	25	--------	26	--------
Bottom Sieve	22	4	27	4	21

* The No. 3 sieve may be used in the top sieve carriage to aid in the removal of paddy kernels with stems remaining on them.

NOTE: For Mixed rough rice, use the sieves prescribed for the type of rice that predominates in the mixture.

C. Adjust the feed hopper of the dockage tester so that during the first run practically all of the rice will pass through the upper half of the top sieve before it passes the midpoint of the sieve. Vary the feed adjustment, depending on the class of rice and the amount of dockage in the rice.

D. Dockage consist of: all material removed by air, all material (except rice) which goes over the top sieve, all material (except rice) which goes over the middle sieve, and all material that goes through the bottom sieve.

E. If dockage remains in the sample after running it through the dockage tester, recomposite the sample--except for the dockage that has already been removed--and rerun it.

F. Upon request, record the percent of dockage on the work record and in the Remarks section of the certificate to the nearest tenth percent.

3.21 PADDY KERNELS WITH GOLD OR STRAW COLORED HULLS

NOTE: This factor is not provided for under the U.S. Standards for Rough Rice, but may be determined upon request.

A. Determine paddy kernels with gold or straw colored hulls on a representative portion of not less than 50 grams of dockage-free rough rice.

B. Separate the gold and the straw colored paddy kernels, and when applicable, the brown rice kernels, from the representative portion.

C. Record the percent of paddy kernels with gold colored hulls, straw colored hulls, and when applicable, brown rice kernels, on the work record to the nearest tenth percent and show one of the following statements, as applicable, in the Remarks section of the certificate:

1. "A dockage-free portion of this rice when separated consists of (percentage) of straw colored paddy kernels and (percentage) of gold colored paddy kernels."

2. "A dockage-free portion of this rice when separated consists of (percentage) of straw colored paddy kernels, (percentage) of gold colored paddy kernels, and (percentage) of brown rice kernels."

3. "The hulls of the paddy kernels in this rice are (straw or gold, as applicable) colored."

3.22 MILLING YIELD

MILLING YIELD. AN ESTIMATE OF THE QUANTITY OF WHOLE KERNELS AND TOTAL MILLED RICE (WHOLE AND BROKEN KERNELS COMBINED) THAT ARE PRODUCED IN THE MILLING OF ROUGH RICE TO A WELL-MILLED DEGREE.

NOTE: MILLING YIELD SHALL NOT BE DETERMINED WHEN THE MOISTURE CONTENT OF THE ROUGH RICE EXCEEDS 18.0 PERCENT.

A. Determine milling yield on a representative portion of 1,000 grams of rough rice before the removal of dockage.

1. Divide-out a representative portion of between 950 and 1,050 grams.

2. Add or remove kernels (by finger-pinching, not pouring) until the required portion is obtained.

B. Milling yield is determined by removing the dockage from the representative portion, shelling the dockage-free portion, converting the shelled rice to milled rice, and then hand-picking the whole kernels from the total milled rice portion.

1. Remove the dockage from the rough rice. (See section 3.20).

2. Shell the dockage-free rough rice. (Shelling is the removal of the hulls from the paddy rice.)

a. Adjust the hopper feed so that between 450 and 500 grams of rice passes through the sheller per minute.

b. Adjust the dial setting so that after shelling the sample contains 2 to 3 percent paddy kernels in long grain rice or 3 to 4 percent paddy kernels in medium or short grain rice. The approximate dial settings are:

Long Grain	19
Medium Grain	23
Short Grain	45

NOTE: For Mixed rough rice, use the dial setting prescribed for the type of rice that predominates in the mixture.

c. Start the sheller and then pour the rice into the sheller.

d. After all of the rice has cleared the sheller, turn the sheller off.

NOTE: Pass the rice through the sheller only once.

3. Mill the shelled rice. (Milling is the removal of practically all of the germ and the bran from the brown rice.)

a. If the miller has not been used recently, warm-up the miller, as follows:

(1) Place approximately 750 grams of milled or brown rice in the milling chamber with a 2-pound weight on the weight holder. *

(2) Make at least three consecutive 30-second runs. *

(3) Thoroughly clean the miller.

b. Proceed with the milling of the shelled portion, using a two-bar, 3/64-inch oblong screen.

c. Set the miller's timer switch at exactly 30 seconds.

d. Tilt the chamber so that the rice will flow uniformly beneath the milling cylinder, and pour the entire portion of shelled rice into milling chamber.

e. Close the milling chamber and return it to the milling position.

f. Position the saddle and weight arm on the milling chamber.

g. Position the weight holder on the weight arm.

h. Position the prescribed weight on the weight holder for the type of rice to be milled.

Table 3 - Prescribed Weight

Type of Rice	Milling Cycle	Brushing Cycle
Long Grain	2 pounds	0 pounds
Medium Grain (Southern)	7 pounds	0 pounds
Medium Grain (Western)	10 pounds	2 pounds
Short Grain (Southern)	12 pounds	0 pounds
Short Grain (Western)	10 pounds	2 pounds

NOTE: For Mixed rough rice, use the weight prescribed for the type of rice that predominates in the mixture.

i. Start the miller for the 30-second milling cycle.

j. After milling, reduce the weight to the brushing cycle requirements.

k. Start the miller for the 30-second brushing cycle.

l. After brushing, remove the weights, weight holder, weight arm, and saddle.

m. Clean the miller and the hopper.

n. Place a container under the hopper opening and transfer the rice from the milling chamber into the container. Do not close or seal the container.

o. Allow the sample to cool to room temperature before removing it from the container.

p. Examine the rice for milling degree.

IN DETERMINING MILLING YIELD IN ROUGH RICE, THE DEGREE OF MILLING SHALL BE EQUAL TO, OR BETTER THAN, THAT OF THE INTERPRETIVE LINE SAMPLE FOR "WELL-MILLED" RICE.

q. If it is determined that the rice is not equal to or better than the interpretive line sample for "well-milled" rice, pour the rice back into the miller and repeat the brushing cycle.

4. Determine the percent of total milled rice. Total milled rice is the whole and broken kernels that are produced in the milling of rough rice to a well-milled degree.

a. Weigh the rice after milling and divide this weight by the weight of the rice before the removal of dockage, shelling, and milling.

EXAMPLE: The sample of rough rice weighs 1,000 grams before the removal of dockage, shelling, and milling. After the removal of dockage, shelling, and milling, the sample weighs 679 grams.

679 grams ÷ 1,000 grams = 67.9 %

67.9 % = 68 % total milled rice

b. Record the percent of total milled rice on the work record and the certificate to the nearest whole percent.

5. Determine the percent of whole kernels.

<u>WHOLE KERNELS</u>. UNBROKEN KERNELS OF RICE AND BROKEN KERNELS OF RICE WHICH ARE AT LEAST THREE-FOURTHS OF AN UNBROKEN KERNEL.

a. Divide out a representative portion of not less than 40 grams of well-milled rough rice.

b. Remove the whole kernels from the well-milled rough rice portion using any device or method that will facilitate the separation of the whole kernels from the broken kernels.

c. Determine the percent of whole kernels in the 40-gram portion and then multiply this percentage by the percentage (unrounded) of total milled rice.

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EXAMPLE: The 40-gram portion of well-milled rough rice contains 84.9 percent of whole kernels. The percent of total milled rice is 67.9 percent before rounding.

34.51 g ÷ 40.61 g = 84.9 %

84.9 % X 67.9 % = 57.6 % = 58 % whole kernels

NOTE: Carry-out all figures used in the calculations to tenths of a percents. Do not carry-out to hundreths.

d. Record the percent of whole kernels on the work record and the certificate to the nearest whole percent.

3.23 BROKEN KERNELS

BROKEN KERNELS. KERNELS OF RICE WHICH ARE LESS THAN THREE-FOURTHS OF WHOLE KERNELS.

NOTE: This factor is not provided for under the U.S. Standards for Rough Rice, but may be determined upon request.

A. Determine broken kernels on a representative portion of not less than 25 grams of well-milled rough rice.

B. Remove the broken kernels from the milled rough rice portion using any device or method that will facilitate the separation of the broken kernels from the whole kernels.

C. Record the percent of broken kernels on the work record and the certificate to the nearest tenth percent.

3.24 LARGE BROKEN KERNELS

NOTE: This factor is not provided for under the U.S. Standards for Rough Rice, but may be determined upon request.

A. Determine large broken kernels on the well-milled rough rice portion as a whole. Large broken kernels are the broken kernels of rice (including seeds) removed from the total milled rice sample that will pass over a 6 plate or remain on top of a 6 sieve.

1. Run the rice over a 6 plate (for Southern production) or a 6 sieve (for Western production). (See procedures in section 3.25.)

2. Remove all whole kernels from the material that passes over the plates or remains on top of the sieve. All other rice that passes over the plates or remains on top of the sieve shall be considered as large broken kernels.

B. Record the percent of large broken kernels on the work record and the certificate to the nearest tenth percent.

NOTE: Upon request, the number of seeds or heat-damaged kernels, or the percent of red rice and damaged kernels or chalky kernels in the large broken portion may be determined. Determine these factors on a representative portion of not less than 25 grams of large broken kernels of well-milled rough rice.

3.25 WHOLE AND LARGE BROKEN KERNELS

WHOLE AND LARGE BROKEN KERNELS. RICE (INCLUDING SEEDS) THAT (1) PASSES OVER A 6 PLATE (FOR SOUTHERN PRODUCTION), OR (2) REMAINS ON TOP OF A 6 SIEVE (FOR WESTERN PRODUCTION).

A. Determine whole and large broken kernels on the well-milled rough rice portion as a whole.

B. For southern production rice:

1. Place a 6 plate in the top carriage and a 6 plate in the bottom carriage of the rice sizing device.

2. Pour the milled rough rice portion on the top plate. After the sample is poured, place the emptied triangular pan under the hopper to catch the rice that flows over the plates.

3. Press the starting switch. Allow the machine to run until the rice stops flowing over the plates into the triangular pan.

4. After the rice stops flowing and the machine is turned off, remove the plates and empty their contents into the rectangular container. Lightly tap the bottom of the plate to remove material retained in the perforations of the plate.

5. Usually one run of the milled rough rice over the plates is sufficient to remove the 6 plate material. Observe the plates as they are being emptied. If most of the perforations of the bottom plate are filled, run the sample over the plates again.

6. Consider material that passes over the 6 plates after the final run as whole and large broken kernels.

NOTE: Do not hand-adjust the material that lodges in or passes over the 6 plate.

C. For western production rice:

Mechanical Sieving Method

1. Mount a 6 sieve with a bottom pan on a mechanical sieve shaker.

2. Set the stroke counter for 20 strokes.

3. Place a portion of about 250 grams in the center of the sieve.

4. Follow the procedure for operating the mechanical sieve shaker described in chapter 1, Grain Inspection Handbook, Book II.

5. All material remaining on top of the 6 sieve, (including the material remaining in the perforation of the sieve) is considered whole and large broken kernels.

NOTE: Do not hand-adjust the material that remains of top of or passes through the 6 sieve.

6. Pour the remaining sample portion onto the sieve and repeat the aforementioned procedures.

Hand Sieving Method.

1. Mount the 6 sieve on a bottom pan.

2. Place a portion of about 250 grams in the center of the sieve.

3. Hold the sieve level in both hands with elbows close to the body and the sieve perforations parallel to the direction of movement.

4. In a steady motion, move the sieve from left to right approximately 10 inches, and return from right to left.

5. Repeat the sieving operation 20 times.

6. All the material remaining on top of the 6 sieve (including the material remaining in the perforations of the sieve) is considered as whole and large broken kernels.

NOTE: Do not hand-adjust the material that remains on top of or passes through the 6 sieve.

7. Pour the remaining sample portion onto the sieve and repeat the aforementioned procedures.

D. Upon request, record the percent of whole and large broken kernels on the work record and the certificate to the nearest tenth percent.

3.26
HEAT-DAMAGED
KERNELS

HEAT-DAMAGED KERNELS. WHOLE OR BROKEN KERNELS OF RICE WHICH ARE MATERIALLY DISCOLORED AND DAMAGED AS A RESULT OF HEATING, AND WHOLE OR LARGE BROKEN KERNELS OF PAR-BOILED RICE IN NONPARBOILED RICE WHICH ARE AS DARK AS, OR DARKER IN COLOR THAN, THE INTERPRETIVE LINE FOR HEAT-DAMAGED KERNELS.

A. Determine heat-damaged kernels on a representative portion of 500 grams of whole and large broken kernels of well-milled rough rice.

1. Divide-out a representative portion of between 475 and 525 grams.

2. Add or remove kernels (by finger-pinching, not pouring) until the required portion is obtained.

B. When it is determined by general observation that the 500 gram portion probably contains 75 or more heat-damaged kernels, divide the 500-gram portion into 2 portions: a 100-gram portion and a 400-gram portion.

1. Examine the 100-gram portion for heat-damaged kernels.

2. If the 100-gram portion contains 25 or more heat-damaged kernels, multiply the number of kernels found by 5.

3. If the 100-gram portion contains less than 25 heat-damaged kernels, examine the 400-gram portion and add the number of heat-damaged kernels found in both portions together.

C. If the whole and large broken kernels portion removed from the total milled rice weighs less than 500 grams, make the determination on the portion that is available and interpolate the number of heat-damaged kernels that would be present in a 500-gram portion as follows:

1. Multiply the number of heat-damaged kernels by 500.

2. Divide the sum by the weight of the whole and large broken kernels portion, and round to the nearest whole number.

EXAMPLE: The number of heat-damaged kernels in the whole and large broken kernels (WLBK) portion is 6. The weight of the WLBK portion is 450 grams.

$$\frac{6 \text{ HT X } 500 \text{ grams}}{450 \text{ grams WLBK}} = 6.6 = 7 \text{ HT in } 500 \text{ grams}$$

C. Record the number of heat-damaged kernels on the work record and the certificate to the nearest whole number.

1. Add the number of heat-damaged kernels to the number of objectionable seeds and record the sum on the work record and the certificate to the nearest whole number.

2. Add the number of heat-damaged kernels to the number of total seeds and record the sum on the work record and the certificate to the nearest whole number.

3.27 SEEDS

SEEDS. WHOLE OR BROKEN SEEDS OF ANY PLANT OTHER THAN RICE.

OBJECTIONABLE SEEDS. SEEDS OTHER THAN RICE, EXCEPT SEEDS OF ECHINOCHLOA CRUSGALLI (COMMONLY KNOWN AS BARNYARD GRASS, WATERGRASS, AND JAPANESE MILLET).

A. Determine objectionable seeds and non-objectionable seeds on a representative portion of 500 grams of whole and large broken kernels of well-milled rough rice.

1. Divide-out a representative portion of between 475 and 525 grams.

2. Add or remove kernels (by finger-pinching, not pouring) until the required portion is obtained.

B. If the whole and large broken kernels portion removed from the total milled rice weighs less than 500 grams, make the determination on the portion that is available and interpolate the number of seeds that would be present in a 500-gram portion as follows:

1. Multiply the number of seeds by 500.

2. Divide the sum by the weight of the whole and large broken kernels portion, and round to the nearest whole number.

EXAMPLE: The number of seeds in the whole and large broken kernels (WLBK) portion is 8. The weight of the WLBK portion is 430 grams.

$$\frac{8 \text{ SD X } 500 \text{ grams}}{430 \text{ grams WLBK}} = 9.3 \text{ or } 9 \text{ SD in } 500 \text{ grams}$$

C. Record the number of objectionable seeds and non-objectionable seeds on the work record.

D. Record the number of objectionable seeds on the certificate.

1. Add the number of objectionable seeds to the number of heat-damaged kernels and record the sum on the work record and the certificate to the nearest whole number.

2. Add the number of total seeds (objectionable seeds and non-objectionable seeds) to the number of heat-damaged kernels and record the sum on the work record and the certificate to the nearest whole number.

3.28 RED RICE AND DAMAGED KERNELS

RED RICE. WHOLE OR LARGE BROKEN KERNELS OF RICE ON WHICH THERE IS AN APPRECIABLE AMOUNT OF RED BRAN.

DAMAGED KERNELS. WHOLE OR BROKEN KERNELS OF RICE WHICH ARE DISTINCTLY DISCOLORED OR DAMAGED BY WATER, INSECTS, HEAT, OR ANY OTHER MEANS, AND WHOLE OR LARGE BROKEN KERNELS OF PARBOILED RICE IN NONPARBOILED RICE. "HEAT-DAMAGED KERNELS" SHALL NOT FUNCTION AS DAMAGED KERNELS.

A. Determine red rice and damaged kernels on a representative portion of not less than 25 grams of whole and large broken kernels of well-milled rough rice.

B. Red rice is rice that has a streak of red bran one-half or more the length of the kernel, or two or more streaks that total one-half or more the length of the kernel. A kernel or a piece of kernel of rice that does not have sufficient red bran to be considered as red rice shall be considered as long grain, medium grain, or short grain rice, as appropriate.

C. The major types of damaged kernels are as follows:

1. Insect-Bored Kernels. Whole and large broken kernels of rice that have been bored by insects. Kernels that are only slightly eaten by insects and are clean in appearance shall be considered as sound kernels.

2. Fungus-Damaged or "Pecky" Kernels. Whole and large broken kernels of rice that have one or more black, brown, red, or other discolored spots or areas on them caused by fungus growth or insects.

3. Parboiled Rice in Nonparboiled Rice. Parboiled kernels in nonparboiled rice that are lighter in color than the interpretive line for heat-damaged kernels.

4. Other Damaged Kernels. Whole and large broken kernels of rice that are distinctly discolored or damaged from causes other than those listed above shall be considered as damaged kernels.

D. Record the percent of red rice and damaged kernels on the work record and the certificate to the nearest tenth percent.

3.29 CHALKY KERNELS

CHALKY KERNELS. WHOLE OR BROKEN KERNELS OF RICE WHICH ARE ONE-HALF OR MORE CHALKY.

A. Determine chalky kernels on a representative portion of not less than 25 grams of whole and large broken kernels of well-milled rough rice.

B. Record the percent of chalky kernels on the work record and the certificate to the nearest tenth percent.

3.30 OTHER TYPES

OTHER TYPES. (1) WHOLE KERNELS OF (i) LONG GRAIN RICE IN MEDIUM OR SHORT GRAIN RICE, (ii) MEDIUM GRAIN RICE IN LONG OR SHORT GRAIN RICE, (iii) SHORT GRAIN RICE IN LONG OR MEDIUM GRAIN RICE, AND (2) LARGE BROKEN KERNELS OF (i) LONG GRAIN RICE IN MEDIUM OR SHORT GRAIN RICE AND (ii) MEDIUM OR SHORT GRAIN RICE IN LONG GRAIN RICE.

NOTE: LARGE BROKEN KERNELS OF MEDIUM GRAIN RICE IN SHORT GRAIN RICE AND LARGE BROKEN KERNELS OF SHORT GRAIN RICE IN MEDIUM GRAIN RICE SHALL NOT BE CONSIDERED OTHER TYPES.

A. Determine other types on a representative portion of not less than 25 grams of whole and large broken kernels of well-milled rough rice.

B. Record the percent of other types on the work record and the certificate to the nearest tenth percent. If the amount of other types exceeds 10.0 percent, grade the rice "Mixed rough rice."

3.31
COLOR

A. Color is usually determined by a cursory examination of whole and large broken kernels of well-milled rough rice.

B. When a detailed examination is necessary to determine color, make this determination on a representative portion of approximately 250 grams of whole and large broken kernels of well-milled rough rice.

C. Describe the color of the rice using one of the following terms:

WHITE	LIGHT GRAY	DARK GRAY
CREAMY	GRAY	ROSY
SLIGHTLY GRAY	SLIGHTLY ROSY	

D. For parboiled rough rice, also describe the rice as either "not distinctly colored by the parboiling process," "distinctly, but not materially colored, by the parboiling process," or "materially colored by the parboiling process."

E. Record the color on the work record and the certificate.

3.32
SMUTTY ROUGH RICE/SMUTTY KERNELS

SMUTTY ROUGH RICE SHALL BE ROUGH RICE WHICH CONTAINS MORE THAN 3.0 PERCENT OF SMUTTY KERNELS.

SMUTTY KERNELS. WHOLE OR BROKEN KERNELS OF RICE WHICH ARE DISTINCTLY INFECTED BY SMUT.

A. Determine smutty kernels on a representative portion of not less than 15 grams of rough rice after the removal of dockage and after shelling, but before milling.

NOTE: Hand shell any paddy kernels remaining after shelling.

B. Record the percent of smutty kernels on the work record and the certificate to the nearest tenth percent. If the rice contains more than 3.0 percent smutty kernels, consider the rice to be "smutty" and show the special grade "Smutty" on the gradeline of the certificate.

NOTE: Except as specified, all grades and grade requirements in the U.S. Standards for Rough Rice apply to "Smutty Rough Rice."

3.33 PARBOILED ROUGH RICE/ UNGELATINIZED KERNELS

PARBOILED ROUGH RICE SHALL BE ROUGH RICE IN WHICH THE STARCH HAS BEEN GELATINIZED BY SOAKING, STEAMING, AND DRYING. GRADES U.S. NO. 1 TO U.S. NO. 6, INCLUSIVE, SHALL CONTAIN NOT MORE THAN 10.0 PERCENT OF UNGELATINIZED KERNELS. GRADES U.S. NO. 1 AND U.S. NO. 2 SHALL CONTAIN NOT MORE THAN 0.1 PERCENT, GRADES U.S. NO. 3 AND U.S. NO. 4 NOT MORE THAN 0.2 PERCENT, AND U.S. NO. 5 AND U.S. NO. 6 NOT MORE THAN 0.5 PERCENT OF NONPARBOILED RICE. IF THE RICE IS:

(1) NOT DISTINCTLY COLORED BY THE PARBOILING PROCESS, IT SHALL BE CONSIDERED "PARBOILED LIGHT";

(2) DISTINCTLY BUT NOT MATERIALLY COLORED BY THE PARBOILING PROCESS, IT SHALL BE CONSIDERED "PARBOILED";

(3) MATERIALLY COLORED BY THE PARBOILING PROCESS, IT SHALL BE CONSIDERED "PARBOILED DARK".

THE COLOR LEVELS FOR "PARBOILED LIGHT," "PARBOILED," AND "PARBOILED DARK" SHALL BE IN ACCORDANCE WITH THE INTERPRETIVE LINE SAMPLE FOR PARBOILED RICE.

NOTE: THE MAXIMUM LIMITS FOR "CHALKY KERNELS," "HEAT-DAMAGED KERNELS," "KERNELS DAMAGED BY HEAT," AND "COLOR REQUIREMENTS" IN SECTION 68.210 ARE NOT APPLICABLE TO THE SPECIAL GRADE "PARBOILED ROUGH RICE."

UNGELATINIZED KERNELS. WHOLE OR BROKEN KERNELS OF PARBOILED RICE WITH DISTINCT WHITE OR CHALKY AREAS DUE TO INCOMPLETE GELATINIZATION OF THE STARCH.

NOTE: Parboiled rough rice shall be rough rice in which at least 90 percent of the kernels are colored by the parboiling process.

A. When a detailed examination is necessary to determine color, make this determination on a representative portion of approximately 250 grams of whole and large broken kernels of well-milled rough rice. Describe the rice as either:

1. "Parboiled light" if it is not distinctly colored by the parboiling process,"

2. "Parboiled" if it is distinctly, but not materially colored, by the parboiling process, or

3. "Parboiled dark" if it is materially colored by the parboiling process.

B. When a detailed examination is necessary to determine nonparboiled or ungelantinized kernels, make this determination on a representative portion of not less than 25 grams of whole and large broken kernels of well-milled rough rice.

C. Record the color and the percent of ungelatinized kernels on the work record and the certificate to the nearest tenth percent. If the rice contains at least 90.0 percent parboiled kernels, consider the rice to be "parboiled" and show the special grade "Parboiled Light,""Parboiled," or "Parboiled Dark," as applicable, on the gradeline of the certificate.

NOTE: Except as specified, all grades and grade requirements in the U.S. Standards for Rough Rice apply to "Parboiled Rough Rice."

3.34 GLUTINOUS ROUGH RICE/ NONCHALKY KERNELS

GLUTINOUS ROUGH RICE SHALL BE SPECIAL VARIETIES OF RICE (ORYZA SATIVA L. GLUTINOSA) WHICH CONTAIN MORE THAN 50 PERCENT CHALKY KERNELS. FOR LONG GRAIN, MEDIUM GRAIN, AND SHORT GRAIN ROUGH RICE, GRADE U.S. NO. 1 SHALL CONTAIN NOT MORE THAN 1.0 PERCENT OF NONCHALKY KERNELS, GRADE U.S. NO. 2 NOT MORE THAN 2.0 PERCENT OF NONCHALKY KERNELS, GRADE U.S. NO. 3 NOT MORE THAN 4.0 PERCENT OF NONCHALKY KERNELS, GRADE U.S. NO. 4 NOT MORE THAN 6.0 PERCENT OF NONCHALKY KERNELS, GRADE U.S. NO. 5 NOT MORE THAN 10.0 PERCENT OF NONCHALKY KERNELS, AND GRADE U.S. NO. 6 NOT MORE THAN 15.0 PERCENT OF NONCHALKY KERNELS.

NOTE: THE MAXIMUM LIMITS FOR "CHALKY KERNELS" IN SECTION 68.210 ARE NOT APPLICABLE TO THE SPECIAL GRADE "GLUTINOUS ROUGH RICE."

A. Determine nonchalky kernels on a representative portion of not less than 25 grams of whole and large broken kernels of well-milled glutinous rough rice.

B. Record the percent of nonchalky kernels on the work record and the certificate to the nearest tenth percent. If the rice is a glutinous variety and contains less than 50.0 percent nonchalky kernels, consider the rice to be "glutinous" and show the special grade "Glutinous" on the gradeline of the certificate.

NOTE: Except as specified, all grades and grade requirements in the U.S. Standards for Rough Rice apply to "Glutinous Rough Rice."

3.35 AROMATIC ROUGH RICE

AROMATIC ROUGH RICE SHALL BE SPECIAL VARIETIES OF RICE (ORYZA SATIVA L. SCENTED) THAT HAVE A DISTINCTIVE AND CHARACTERISTIC AROMA; E.G., BASMATI AND JASMINE RICE.

A. Determine aromatic on the basis of the odor of the lot as a whole, the representative sample as a whole, or a representative portion of well-milled rough rice.

B. If the rice is an aromatic variety and has an odor common to such rice, consider the rice to be "aromatic" and show the special grade "Aromatic" on the gradeline of the certificate.

3.36 INTERPRETIVE LINE SLIDES AND SAMPLES

A. The interpretive line slide (ILS) system assists inspectors in making subjective grading decisions. This system consists of a portable tabletop transparency viewer and photographic slide transparencies. The viewer uses a precisely controlled light source of low intensity designed to provide a standard picture and to protect the slide. Therefore, only use the special viewer for ILS. Other light sources, such as a regular slide projector, may provide a distorted picture and damage the ILS. Use of such a projector is not prohibited; but, once used in this manner, the slides may not be used for official purposes.

Table 4
Currently Available Interpretative Line Slides

RICE	1.0	OBJECTIONABLE SEEDS
RICE	1.1	NON-OBJECTIONABLE SEEDS (CALIFORNIA)
RICE	1.2	NON-OBJECTIONABLE SEEDS (SOUTHERN)
RICE	2.0	HEAT DAMAGED KERNELS
RICE	2.1	KERNELS DAMAGED BY HEAT
RICE	2.7	KERNELS DAMAGED BY INSECTS (PECK)
RICE	6.1	PADDY KERNELS IN MILLED RICE (PARTIALLY UNHULLED)
RICE	9.0	RELATED MATERIAL
RICE	9.1	UNRELATED MATERIAL

B. Interpretive line samples are actual samples enclosed in clear plastic containers. Overexposure to direct light can result in the bleaching of these samples. Therefore, interpretative line samples should be stored in cool, dark places.

FGIS FORM-911, "RICE SAMPLE TICKET"

1 56201	CERTIFICATE NO. A 12345	TO BOARD	FIELD OFFICE Stuttgart
LOCATION	QUANTITY 5,672 grams - paper bag		
IDENTIFICATION	MOVEMENT (Circle)		
SEAL BROKEN	01 IN	02 OUT	03 BULK	04 EXPORT	05 CAR
SEAL APPLIED	06 TRUCK	07 LOCAL	08 BAGGED	09 SUB
SAMPLER	DATE SAMPLED	LAB. NO.	CLASS LGRUF
IDENTIFYING MARKS			

FACTOR	GRAMS PORT.	GRAMS SEP.	ACG INSP.	SUPV.	BOARD	FACTOR	GRAMS PORT.	GRAMS SEP.	ACG INSP.	SUPV.	BOARD
01 C			CR	CR		12 TBK					
02 CH	25.13	.21	0.8	0.5		13 TS-HT	500		7	6	
03 FM						14 4S					
04 HT ~~HDP~~	500		4	3		15 SP/5½S					
05 HT/OBS	500		4/2	3/2		16 6P/6S					
06 M			11.9	11.8		17 6½S					
07 MD						18 30S					
08 NOBS	500		1	1		19 WK	43.98	36.30	57.6	60.6	
09 OT						20 TR	1002	699	69.9	70.4	
10 P						21					
11 RR&DK	25.22	.09	0.4	0.3		22					

REMARKS

NO INFESTATION

ACG OR INSPECTOR John Smith	CODE NO. 6789	DATE INSP. 6/20/92
ACG OR INSPECTOR'S GRADE U.S. No. 3 LGRUF, MY 58/70		
SUPERVISOR Bob Jones	DATE SUPV. 6/20/92	REVIEWED BY	DATE REVIEWED
SUPERVISOR'S GRADE U.S. No. 3 LGRUF MY 61/70	BOARD'S GRADE	

FORM FGIS-911 (2-89) RICE SAMPLE TICKET USDA-FGIS
(Edition of 6-83, may be used.)

Attachment 2
RICE INSPECTION HANDBOOK
Chapter 3
Inspection of Rough Rice
7/1/94

GRADES AND GRADE REQUIREMENTS FOR ROUGH RICE

Grading Factors	Grades U.S. Nos.					
	1	2	3	4	5	6
	Maximum number in 500 grams					
Seeds and Heat-Damaged Kernels Total (Singly or Combined).....	4	7	10	27	37	75
Heat-Damaged Kernels and Objectionable Seeds (Singly or Combined).....	3	5	8	22	32	75
Heat-Damaged Kernels.....	1	2	5	15	25	75
	Maximum limit (percent)					
Red Rice and Damaged Kernels (Singly or Combined) 4/.....	0.5	1.5	2.5	4.0	6.0	15.0
Chalky Kernels 1/ 2/						
in Long Grain.....	1.0	2.0	4.0	6.0	10.0	15.0
in Medium or Short Grain.....	2.0	4.0	6.0	8.0	10.0	15.0
Other Types 3/.....	1.0	2.0	3.0	5.0	10.0	10.0
	Minimum Requirement					
Color 1/.....	No.1 Shall be white or creamy. No.2 May be slightly gray. No.3 May be light gray. No.4 May be gray or slightly rosy No.5 May be dark gray or rosy. No.6 May be dark gray or rosy.					

U.S. Sample grade shall be rough rice which:
(a) does not meet the requirements for any of the grades from U.S. No. 1 to U.S. No. 6, inclusive;
(b) contains more than 14.0 percent of moisture;
(c) is musty or sour, or heating;
(d) has a commercially objectionable foreign odor; or
(e) is otherwise of distinctly low quality.

1/ For the special grade Parboiled rough rice, see section 68.212(b).
2/ For the special grade Glutinous rough rice, see section 68.212(d).
3/ These limits do not apply to the class Mixed Rough Rice.
4/ Rice in grade U.S. No. 6 shall contain not more than 6.0 percent of damaged kernels.

CHAPTER 4

INSPECTION OF BROWN RICE FOR PROCESSING

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Attachment 1 FGIS Form-911, "Rice Sample Ticket"
Attachment 2 Grades and Grade Requirements for Brown Rice for Processing

4.1 DEFINITION OF BROWN RICE FOR PROCESSING

RICE (ORYZA SATIVA L.) WHICH CONSISTS OF MORE THAN 50.0 PERCENT OF KERNELS OF BROWN RICE, AND WHICH IS INTENDED FOR PROCESSING TO MILLED RICE.

BROWN RICE. WHOLE OR BROKEN KERNELS OF RICE FROM WHICH THE HULLS HAVE BEEN REMOVED.

A. Brown rice is usually determined by a cursory examination of the work sample as a whole.

B. When a detailed examination is necessary to determine brown rice, make this determination on a representative portion of not less than 50 grams of unmilled brown rice for processing.

1. Record the percent of brown rice on the work record to the nearest tenth percent.

2. If the rice contains 50 percent or less of brown rice, consider the rice to be either rough rice or milled rice and refer to the appropriate chapter for additional information.

4.2 GRADES AND GRADE REQUIREMENTS

The grades and grade requirements for all classes of brown rice for processing are shown in the United States Standards for Rice (section 68.261) and in Attachment 2, "Grades and Grade Requirements for Brown Rice for Processing," to this chapter.

4.3 SPECIAL GRADES AND SPECIAL GRADE REQUIREMENTS

A. The special grades and special grade requirements for all classes of brown rice for processing are shown in the United States Standards for Rice (section 68.263).

B. A special grade, when applicable, is supplemental to the grade assigned. Such special grades for brown rice for processing are defined as follows:

1. Parboiled brown rice for processing. Brown rice for processing in which the starch has been gelatinized by soaking, steaming, and drying.

2. Smutty brown rice for processing. Brown rice for processing which contains more than 3.0 percent of smutty kernels.

3. Glutinous brown rice for processing. Special varieties of rice which contain more than 50 percent of chalky kernels.

4. Aromatic brown rice for processing. Special varieties of rice that have a distinctive and characteristic aroma; e.g., basmati and jasmine.

4.4 WORK RECORD

Record the results of all tests and findings clearly and accurately on a laboratory ticket or similar form. This will be used as the source of the information reported on the inspection certificate. FGIS personnel shall use form FGIS-911, "Rice Sample Ticket," to record inspection results. Cooperator's shall use a similar form.

NOTE: For submitted sample inspections, results may be recorded on a form FGIS-932, "Rice Inspection Certificate - Submitted Sample Inspection," or similar form.

4.5 REPRESENTATIVE PORTION

A specified quantity of rice divided-out from the representative sample by means of an FGIS-approved device.

4.6 WORK SAMPLE

A representative portion of rice (approximate size - 1,000 grams) that is used to make all such determinations required for a particular class of rice.

* 4.7 FILE SAMPLE

A. A representative portion of rice (approximate size - 1,250 grams) that may be used in conjunction with the work sample, when needed, to determine the complete grade. File samples may also be used for monitoring, retest, and appeal inspection purposes.

B. Retain file samples in appropriate containers for the required retention period. After maintaining for the required period, dispose of the file samples in accordance with established procedures. See FGIS Instruction 917-13, "Uniform File Sample Retention System for Rice, Pulses, and Processed Products Inspected Under AMA," for additional information.

4.8 PERCENTAGES AND COUNTS

A. Percentages are determined upon the basis of weight and are rounded as follows:

1. When the figure to be rounded is followed by a figure greater than or equal to 5, round to the next higher figure; e.g., report 6.36 as 6.4, 0.35 as 0.4, and 2.45 as 2.5.

2. When the figure to be rounded is followed by a figure less than 5, retain the figure; e.g., report 8.34 as 8.3, and 1.22 as 1.2.

(Revised 5/1/97)

B. Record percentages as follows:

1. For milling yield, to the nearest whole percent.

2. For all other factors, to the nearest tenth percent.

C. Record counts, for all factors determined on the basis of count, to the nearest whole number.

4.9 LABORATORY SCALES

Weigh samples and portions of samples using the proper class of FGIS-approved laboratory scales, and record the results to the correct division size. Use the table below to determine the scale class and division size required for weighing particular sized samples.

Table 1 - Laboratory Scales

Portion Size	Scale Class	Maximum Division Size	Record Results to at Least the Nearest--
120 grams or less	Precision	0.01 gram	0.01 gram
Samples for moisture determinations	Precision or Moisture	0.1 gram	0.1 gram
More than 120 grams	Precision, Moisture, or General	1 gram	1 gram

NOTE: See chapter 2, Equipment Handbook, for additional information.

4.10 PRELIMINARY EXAMINATION

A. The sampler must: (1) observe the uniformity of the rice as to type/class, quality, and condition; (2) make the determination for "Heating"; (3) draw the representative sample; and (4) report relevant information to the inspector.

B. The inspector must review the sampler's remarks/information. If the inspector has questions or doubts the representativeness of the sample, he or she must contact the sampler and obtain the needed information or make arrangements to obtain another sample.

4.11
BASIS OF
DETERMINATION

THE DETERMINATION OF KERNELS DAMAGED BY HEAT, HEAT-DAMAGED KERNELS, PARBOILED KERNELS IN NONPARBOILED RICE, AND THE SPECIAL GRADE PARBOILED BROWN RICE FOR PROCESSING SHALL BE ON THE BASIS OF THE BROWN RICE FOR PROCESSING AFTER IT HAS BEEN MILLED TO A WELL-MILLED DEGREE. ALL OTHER DETERMINATIONS SHALL BE ON THE BASIS OF THE ORIGINAL SAMPLE. MECHANICAL SIZING OF KERNELS SHALL BE ADJUSTED BY HANDPICKING AS PRESCRIBED IN FGIS INSTRUCTIONS OR BY ANY METHOD WHICH GIVES EQUIVALENT RESULTS.

BROKEN KERNELS SHALL BE DETERMINED BY THE USE OF EQUIPMENT AND PROCEDURES PRESCRIBED IN FGIS INSTRUCTIONS OR BY ANY METHOD WHICH GIVES EQUIVALENT RESULTS.

NOTE 1: When rice that is offered for inspection as one lot is found to contain more than 10,000 containers or 1,000,000 pounds (bulk) of rice, the lot must be sampled on the basis of two or more (approximately) equal-sized sublots of 10,000 containers or 1,000,000 pounds or less. Inspect each sublot separately. (For additional information, see Chapter 7, "Roundlot Inspection Plan" and Chapter 8, "Warehouse-Lot Inspection Plan.")

NOTE 2: When rice that is offered for inspection as one lot is subsequently found to contain portions that are distinctly different in class/type, quality, or condition, the rice in each portion shall be inspected separately.

A. Follow a systematic grading procedure. The order of procedure varies with the class and quality of the rice and the tests that are required to determine the grade. A general order of procedure is as follows:

1. Review the information on the sample ticket.

2. Examine the representative sample for odor and distinctly low quality.

3. Use an FGIS-approved divider to process the representative sample into three representative portions: (1) a work sample, (2) a file sample, and (3) a moisture portion.

NOTE: For specific information on the operation and maintenance of dividers, see chapter 3, Equipment Handbook.

4. Examine the work sample for:

Class	Test weight (if requested)
Type	

5. Divide the work sample into two representative portions: 750 grams and 500 grams.

6. Examine the 500-gram portion for infestation, paddy kernels, and seeds.

7. Reduce the 500-gram portion to 100 grams and examine the portion for related and unrelated material.

8. Reduce the 100-gram portion to 50 grams and examine the portion for paddy kernels.

9. Divide-out from the 50-gram portion, a 25-gram portion and a 15-gram portion.

10. Examine the 25 gram portion for:

Chalky kernels	Well-milled kernels
Red rice and damaged kernels	Broken kernels removed by a 6-plate or 6-1/2 sieve
Other types	

11. Examine the 15-gram portion for smutty kernels.

12. Mill the 750-gram portion and, upon request, determine the milling yield (total milled rice and whole kernels).

13. Reduce the milled rice portion to 500 grams and examine the portion for heat-damaged kernels and ungelatinized kernels.

14. Reduce the 500-gram portion of milled rice to 25 grams and examine the portion for parboiled kernels in nonparboiled rice and kernels damaged by heat.

B. When the grade (or contract compliance) of a lot or sample is determined by a narrow margin (± 0.1 percent or 1 count) on a single factor, **except for the factors heat-damaged kernels and ungelatinized kernels on non-cargo lots** another determination shall be made on another representative portion of equivalent size divided-out from the work sample or file sample. The factor result shall be based on the average of the two determinations.

4.12
MOISTURE

MOISTURE. WATER CONTENT IN BROWN RICE FOR PROCESSING AS DETERMINED BY AN APPROVED DEVICE IN ACCORDANCE WITH PROCEDURES PRESCRIBED IN FGIS INSTRUCTIONS. FOR THE PURPOSE OF THIS PARAGRAPH, "APPROVED DEVICE" SHALL INCLUDE THE MOTOMCO MOISTURE METER AND ANY OTHER EQUIPMENT THAT IS APPROVED BY THE ADMINISTRATOR AS GIVING EQUIVALENT RESULTS.

NOTE: MILLING YIELD SHALL NOT BE DETERMINED WHEN THE MOISTURE CONTENT OF THE BROWN RICE FOR PROCESSING EXCEEDS 18.0 PERCENT.

A. Determine moisture on a representative portion of exactly 250 grams of unmilled brown rice for processing.

B. Refer to chapter 5 of the Moisture Handbook for information about determining moisture using the Motomco moisture meter.

C. Record the percent of moisture on the work record and the certificate to the nearest tenth percent. If the moisture content exceeds 14.5 percent, grade the rice "U.S. Sample grade."

4.13
TYPE

THERE ARE THREE TYPES OF BROWN RICE FOR PROCESSING: LONG GRAIN, MEDIUM GRAIN, AND SHORT GRAIN.

TYPES SHALL BE BASED ON THE LENGTH-WIDTH RATIO OF KERNELS OF RICE THAT ARE UNBROKEN AND THE WIDTH, THICKNESS, AND SHAPE OF KERNELS OF RICE THAT ARE BROKEN AS PRESCRIBED IN FGIS INSTRUCTIONS.

A. The length-width ratio limitations for brown rice for processing are:

Long grain	Medium grain	Short grain
3.1 (or more) to 1	2.1 - 3.0 to 1	2.0 (or less) to 1

B. Type is usually determined by a cursory examination of the work sample as a whole.

C. When a detailed examination is necessary, determine type by measuring the length and width of 15 unbroken kernels of unmilled brown rice for processing taken at random from the work sample and determining their average length-width ratio.

1. Length is distance between the most distant tips of the kernel, including the embryo.

2. Width is the distance across the kernel at the widest point.

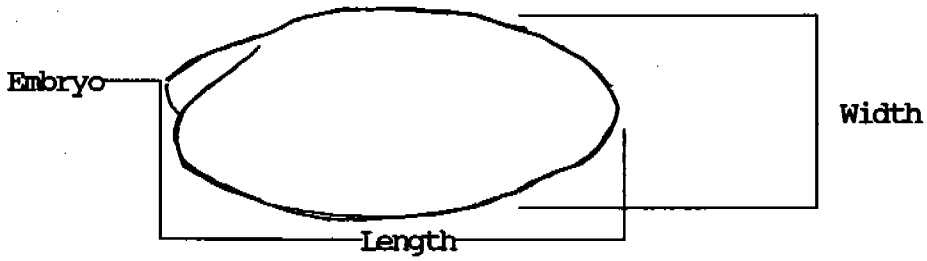

Figure 1. Measuring Brown Rice for Processing Kernels

4.14 CLASS

THERE ARE FOUR CLASSES OF BROWN RICE FOR PROCESSING: LONG GRAIN BROWN RICE FOR PROCESSING, MEDIUM GRAIN BROWN RICE FOR PROCESSING, SHORT GRAIN BROWN RICE FOR PROCESSING, AND MIXED BROWN RICE FOR PROCESSING.

CLASSES SHALL BE BASED ON THE PERCENTAGE OF WHOLE KERNELS, BROKEN KERNELS, AND TYPES OF RICE.

"LONG GRAIN BROWN RICE FOR PROCESSING" SHALL CONSIST OF BROWN RICE FOR PROCESSING WHICH CONTAINS MORE THAN 25.0 PERCENT OF WHOLE KERNELS OF BROWN RICE AND NOT MORE THAN 10.0 PERCENT OF WHOLE OR BROKEN KERNELS OF MEDIUM OR SHORT GRAIN RICE.

"MEDIUM GRAIN BROWN RICE FOR PROCESSING" SHALL CONSIST OF BROWN RICE FOR PROCESSING WHICH CONTAINS MORE THAN 25.0 PERCENT OF WHOLE KERNELS OF BROWN RICE AND NOT MORE THAN 10.0 PERCENT OF WHOLE OR BROKEN KERNELS OF LONG GRAIN RICE OR WHOLE KERNELS OF SHORT GRAIN RICE.

"SHORT GRAIN BROWN RICE FOR PROCESSING" SHALL CONSIST OF BROWN RICE FOR PROCESSING WHICH CONTAINS MORE THAN 25.0 PERCENT OF WHOLE KERNELS OF BROWN RICE AND NOT MORE THAN 10.0 PERCENT OF WHOLE OR BROKEN KERNELS OF LONG GRAIN RICE OR WHOLE KERNELS OF MEDIUM GRAIN RICE.

"MIXED BROWN RICE FOR PROCESSING" SHALL BE BROWN RICE FOR PROCESSING WHICH CONTAINS MORE THAN 25.0 PERCENT OF WHOLE KERNELS OF BROWN RICE AND MORE THAN 10.0 PERCENT OF OTHER TYPES."

A. Class is usually determined by a cursory examination of the work sample as a whole.

B. When a detailed examination is necessary to determine whole kernels for class, make this determination on a representative portion of not less than 25 grams of unmilled brown rice for processing.

1. Record the percent of whole kernels on the work record to the nearest tenth percent.

2. If the rice contains 25 percent or less of whole kernels, show the designation "Brown Rice for Processing" on the gradeline of the certificate.

C. When a detailed examination is necessary to determine other types for class, make this determination on a representative portion of not less than 25 grams of unmilled brown rice for processing.

1. Record the percent of each type on the work record to the nearest tenth percent.

2. If the rice contains more than 10 percent of:

a. Whole or broken kernels of medium or short grain rice in long grain rice;

b. Whole and broken kernels of long grain rice or whole kernels of short grain rice in medium grain rice; or

c. Whole or broken kernels of long grain rice or whole kernels of medium grain rice in short grain rice;

Grade the rice "Mixed brown rice for processing," and record the percentages of whole kernels of each type of rice in order of predominance and the percentages of broken kernels of each type, in order of predominance, on the gradeline of the certificate.

* 4.15 ODOR

A. Determine odor on the basis of a representative portion of well-milled brown rice for processing. Upon request, a non-grade odor determination may be made on the basis of the brown rice, as is.

1. An indication of an off-odor (i.e., musty, sour, and commercially objectionable foreign odor) can sometimes be detected by smelling the brown rice at the time of sampling. This can serve to "flag" potential problems. But, make the final odor determination on a portion of the sample milled to a well-milled degree.

NOTE: If there is any question as to the odor of the brown rice when the sample is being taken, put the sample into an airtight container to preserve its condition for further examination in the laboratory.

2. A musty odor shall be any odor that is earthy, moldy, or ground-like. Do not confuse a burlap bag odor with a musty odor.

3. A sour odor shall be any odor that is rancid, sharp, or acrid.

4. A commercially objectionable foreign odor shall be any odor that is not normal to rice and that, because of its presence, renders the rice unfit for normal commercial usage; e.g., fertilizer, hides, oil products, skunk, smoke, fire-burnt, and decaying animal and vegetable matter odors.

5. Fumigant or insecticide odors are not considered as commercially objectionable foreign odors, unless they are caused by a fumigant or insecticide that does not dissipate quickly. When the sample of rice contains a fumigant or insecticide odor that prohibits a true odor determination, the following guidelines shall apply:

a. The representative sample of rice shall be allowed to air-out under forced ventilation (a fume hood) in an open metal container (e.g., a pan) for up to 4 hours; and

b. If the fumigant or insecticide odor still prohibits the determination of the rice's true odor after 4 hours, the rice shall be considered as having a commercially objectionable foreign odor.

WARNING: When sampling rice, check for placarded railcars. If a car is placarded (or if a car isn't placarded but a fumigant odor is detected), don't enter the car or sample the rice, and notify your supervisor immediately. * * * * *

NOTE: Aromatic (scented) rice shall not be considered as having a commercially objectionable foreign odor if it has an odor known to be common to such rice. Non-aromatic varieties of rice, which have a scented rice-like aroma, shall be considered to have a commercially objectionable foreign odor.

B. When rice is determined to be musty, sour, or have a commercially objectionable foreign odor, record the type of odor on the work record and in the Remarks section of the certificate, and grade the rice "U.S. Sample grade."

4.16
HEATING

A. Determine heating on the basis of the lot as whole.

1. When high temperature develops in rice as the result of excessive respiration, such rice is heating.

2. Heating rice usually gives off a sour or musty odor.

3. Care should be taken never to confuse rice that is warm due to storage in bins, cars, or other containers during hot weather with rice that is heating from excessive respiration.

B. When applicable, show the term "Heating" on the work record and in the Remarks section of the certificate, and grade the rice "U.S. Sample grade."

4.17
DISTINCTLY
LOW QUALITY

A. Determine distinctly low quality on the basis of the lot as a whole or the representative sample as a whole.

B. Brown rice for processing that is obviously affected by other unusual conditions which adversely affect the quality of the rice and which cannot be graded properly by use of the grading factors specified or defined in the standards shall be considered as being of distinctly low quality; e.g., rice found to contain large debris, stones, glass, metal fragments, bird droppings, rodent droppings, castor beans, crotalaria seeds, treated seeds, or toxic substances.

C. When applicable, show the statement "Distinctly low quality on account of (cause or reason)." on the work record and in the Remarks section of the certificate, and grade the rice "U.S. Sample grade."

4.18
INSECT
INFESTATION

NOTE: "Weevils" shall include coffee bean weevils, broadnosed grain weevils, rice weevils, granary weevils, maize weevils, and lesser grain borers. "Other live insects" shall include beetles, moths, meal worms, and other insects injurious to stored rice described in ARS Handbook No. 500.

A. Determine infestation on the basis of a representative portion of approximately 500 grams of unmilled brown rice for processing, the lot as a whole, and/or a component sample taken during continuous loading/unloading.

1. Examine a representative portion.

a. If no live insects are found in the portion, make no further check of the sample for insects.

b. If two or more live insects are found, consider the rice to be "U.S. Sample grade."

c. If one live insect is found, cut another representative portion of approximately 500 grams from the file sample. (Use the rest of the representative sample if the file sample is less than 500 grams.)

(1) If one or more live insects are found in the second portion, consider the rice to be "U.S. Sample grade."

(2) If no live insects are found in the second portion, do not consider the rice to be "U.S. Sample grade."

2. Examine the rice in the lot; i.e., the surface area of the lot and the area around the lot.

a. If no live insects are found in, on, or about the lot, make no further check of the lot for insects.

b. If two or more live insects are found, consider the rice to be "U.S. Sample grade."

3. Examine the component samples 1/ taken during continuous loading/unloading.

a. Divide-out from each component sample a representative portion of approximately 500 grams.

b. Examine the representative portion for live insects.

(1) If no live insects are found in the representative portion, make no further check of the component for insect.

(2) If two or more live insects are found, consider the rice to be "U.S. Sample grade."

1/ As specified in Chapter 7, "Roundlot Inspection." For shiplots and bargelots, a component sample may not represent more than 500,000 pounds of rice and each sublot/lot must contain two or more approximately, equal-sized components.

(3) If one live insect is found, cut another representative portion of approximately 500 grams from the component sample.

(a) If one or more live insects are found in the second portion, consider the rice to be "U.S. Sample grade."

(b) If no live insects are found in the second portion, do not consider the rice to be "U.S. Sample grade."

B. When applicable, show "U.S. Sample grade on account of live insects" on the work record and in the Remarks section of the certificate, and grade the rice "U.S. Sample grade."

4.19
TEST WEIGHT
PER BUSHEL

NOTE: This factor is not provided for under the U.S. Standards for Brown Rice for Processing, but may be determined upon request.

A. Determine test weight per bushel on a representative portion of approximately 1,000 grams of unmilled brown rice for processing.

B. See chapter 1 of the Grain Inspection Handbook, Book II, for information about performing test weight per bushel determinations.

C. Record the test weight per bushel on the work record to the nearest tenth of a pound and show one of the following statements in the Remarks section of the certificate:

1. "Test weight per bushel of (amount) pounds."

2. "Test weight per bushel of (amount) pounds is approximately equivalent to (amount) kilograms per hectoliter." (Kilograms per hectoliter is determined by multiplying the test weight per bushel by 1.287.)

NOTE: Bulk density may be determined by dividing the test weight per bushel by 1.2445. Bulk density is the number of pounds in one cubic foot.

4.20 MILLING YIELD

MILLING YIELD. AN ESTIMATE OF WHOLE KERNELS AND TOTAL MILLED RICE (WHOLE AND BROKEN KERNELS COMBINED) THAT IS PRODUCED IN THE MILLING OF BROWN RICE FOR PROCESSING TO A WELL-MILLED DEGREE.

NOTE: MILLING YIELD SHALL NOT BE DETERMINED WHEN THE MOISTURE CONTENT OF THE BROWN RICE FOR PROCESSING EXCEEDS 18.0 PERCENT.

A. Determine milling yield on a representative portion of 750 grams of unmilled brown rice for processing.

1. Divide-out a representative portion of between 725 and 775 grams.

2. Add or remove kernels (by finger-pinching, not pouring) until the required portion is obtained.

B. Milling yield is determined by converting the brown rice for processing to milled rice and then hand-picking the whole kernels from the total milled rice portion.

C. Mill the brown rice for processing.

1. If the miller has not been used recently, warm-up the miller, as follows:

a. Place approximately 750 grams of milled rice in the milling chamber with a 2-pound weight on the weight holder.

b. Make three consecutive 30-second runs.

c. Thoroughly clean the miller.

2. Proceed with the milling of the 750-gram portion, using a two-bar, 3/64-inch oblong screen.

3. Set the miller's timer switch at exactly 30 seconds.

4. Tilt the chamber so that the rice will flow uniformly beneath the milling cylinder, and pour the entire portion of brown rice into milling chamber.

5. Close the milling chamber and return it to the milling position.

6. Position the saddle and weight arm on the milling chamber.

7. Position the weight holder on the weight arm.

8. Position the prescribed weight on the weight holder for the type of rice to be milled.

Table 3 - Prescribed Weight

Type of Rice	Milling Cycle	Brushing Cycle
Long Grain	2 pounds	0 pounds
Medium Grain (Southern)	7 pounds	0 pounds
Medium Grain (Western)	10 pounds	2 pounds
Short Grain (Southern)	12 pounds	0 pounds
Short Grain (Western)	10 pounds	2 pounds

NOTE: For Mixed brown rice for processing, use the weight prescribed for the type of rice that predominates in the mixture.

9. Start the miller for the 30-second milling cycle.

10. After milling, reduce the weight to the brushing cycle requirements.

11. Start the miller for the 30-second brushing cycle.

12. After brushing, remove the weights, weight holder, weight arm, and saddle.

13. Clean the miller and the hopper.

14. Place a container under the hopper opening and transfer the rice from the milling chamber into the container. Do not close or seal the container.

15. Allow the sample to cool to room temperature before removing it from the container.

16. Examine the rice for milling degree. If it is determined that the rice is not equal to or better than the interpretive line sample for "well-milled" rice, pour the rice back into the miller and repeat the brushing cycle.

D. Determine the percentage of total milled rice.

1. Weigh the rice after milling and divide this weight by the weight of the rice before milling.

EXAMPLE: The sample of brown rice for processing weighs 750 grams before milling. After milling, the sample weighs 650 grams.

650 g ÷ 750 g = 86.6 % = 87 % total milled rice

2. Record the percentage of total milled rice on the work record and the certificate to the nearest whole percent.

E. Determine the percentage of whole kernels.

WHOLE KERNELS. UNBROKEN KERNELS OF RICE AND BROKEN KERNELS OF RICE WHICH ARE AT LEAST THREE-FOURTHS OF AN UNBROKEN KERNEL.

1. Divide out a representative portion of not less than 40 grams of well-milled brown rice for processing.

2. Remove the whole kernels from the 40-gram portion using any device or method that will facilitate the separation of the whole kernels from the broken kernels.

3. Determine the percentage of whole kernels in the 40-gram portion and then multiply this percentage by the percentage (unrounded) of total milled rice.

EXAMPLE: The 40-gram portion contains 84.9 percent of whole kernels. The percentage of total milled rice is 86.6 percent before rounding. *

34.51 g ÷ 40.61 g = 84.9 % *

84.9 % X 86.6 % = 73.5 % = 74 % whole kernels *

4. Record the percentage of whole kernels on the work record and the certificate to the nearest whole percent.

4.21
MILLING
ANALYSIS

A. Milling analysis provides an estimate of the quantity (percentage) of whole kernels, second head-sized kernels, screenings-sized kernels, and brewers-sized kernels that are produced in the milling of a lot of brown rice for processing.

NOTE: This factor is not provided for under the U.S. Standards for Brown Rice for Processing, but may be determined upon request.

B. The following definitions are applicable only to this determination.

1. Whole Kernels. Unbroken kernels of rice and broken kernels of rice that are at least three-fourths of an unbroken kernel.

2. Second Head Kernels. Broken kernels of rice and other material that remain on top of a 6 sieve.

3. Screenings Kernels. Broken kernels of rice and other material that pass through a 6 sieve but remain on top of a 5 1/2 sieve.

4. Brewers Kernels. Broken kernels of rice and other material that pass through a 5 1/2 sieve.

C. Determine the percent of whole kernels on a representative portion of not less than 25 grams of well-milled brown rice for processing.

1. Remove the broken kernels from the 25-gram portion using any device or method that will facilitate the separation of the broken kernels from the whole kernels.

2. Determine the percent of whole kernels by subtracting the percent of broken kernels from 100.0 percent. For example:

100.0 % - 19.6 % TBK = 80.4 % WK

3. Calculate the adjusted base by subtracting the percent of whole kernels from 100 percent and then dividing the resultant by 100. For example:

(100 % - 80.4 % WK) ÷ 100 = .80 adjusted base

D. Determine the percent of screenings kernels and brewers kernels on a representative portion of not less than 125 grams.

1. Nest a 6 sieve on top of a 5 1/2 sieve in a bottom pan.

2. Place the sieves in a mechanical grain sizer and set the timer to 20.

3. Put the rice in the center of the top sieve and actuate the sizer.

NOTE: If a mechanical sizer is unavailable, hold the sieves and bottom pan level and, using a steady motion, move the sieves from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation 20 times.

4. Return the material remaining in the perforations of the sieve to the portion that remains on top of the sieve.

5. Consider all material that passed through the 6 sieve, but remains on top of the 5 1/2 sieve, as screenings kernels. Do not hand-adjust the separation.

6. Consider all material that passes through the 5 1/2 sieve as brewers kernels. Do not hand-adjust the separation.

E. Adjust the percent of screenings and brewers by multiplying the "actual" percent of screenings and brewers by the adjusted base. For example:

2.1 % SMR X .80 = 1.7 % SMR
1.3 % BMR X .80 = 1.0 % BMR

F. Determine the percent of second head kernels by adding the percent of screenings and brewers kernels together and then subtracting that total from the percent of broken kernels. For example:

19.6 % TBK - (1.7 % SMR + 1.0 % BMR) = 16.9 % SHMR

G. Record the percent of whole kernels, second head kernels, screenings kernels, and brewers kernels on the work record and the certificate to the nearest whole percent.

4.22
PADDY KERNELS

PADDY KERNELS. WHOLE OR BROKEN UNHULLED KERNELS AND WHOLE OR BROKEN KERNELS OF RICE HAVING A PORTION OR PORTIONS OF THE HULL REMAINING WHICH COVER ONE-HALF (1/2) OR MORE OF THE WHOLE OR BROKEN KERNELS.

A. Determine the number of paddy kernels on a representative portion of 500 grams of unmilled brown rice for processing.

1. Divide-out a representative portion of between 475 and 525 grams.

2. Add or remove kernels (by finger-pinching, not pouring) until the required portion is obtained.

B. Determine the percentage of paddy kernels on a representative portion of not less than 50 grams of unmilled brown rice for processing.

C. Record the number or percent of paddy kernels on the work record and the certificate. Record the percent to the nearest tenth percent.

D. If the rice contains 50 percent or more of paddy kernels, consider the rice to be rough rice and refer to Chapter 3, "Inspection of Rough Rice," for additional information.

4.23
SEEDS

SEEDS. WHOLE OR BROKEN SEEDS OF ANY PLANT OTHER THAN RICE.

OBJECTIONABLE SEEDS. WHOLE OR BROKEN SEEDS OTHER THAN RICE, EXCEPT SEEDS OF *ECHINOCHLOA CRUSGALLI* (COMMONLY KNOWN AS BARNYARD GRASS, WATERGRASS, AND JAPANESE MILLET).

A. Determine objectionable seeds and non-objectionable seeds on a representative portion of approximately 500 grams of unmilled brown rice for processing.

1. Divide-out a representative portion of between 475 and 525 grams.

2. Add or remove kernels (by finger-pinching, not pouring) until the required portion is obtained.

B. Record the number of objectionable seeds and non-objectionable seeds on the work record.

C. Record the number of objectionable seeds on the certificate.

1. Add the number of objectionable seeds to the number of heat-damaged kernels and record the sum on the work record and the certificate.

2. Add the number of total seeds (objectionable seeds and non-objectionable seeds) to the number of heat-damaged kernels and record the sum on the work record and the certificate.

4.24 HEAT-DAMAGED KERNELS

HEAT-DAMAGED KERNELS. WHOLE OR BROKEN KERNELS OF RICE WHICH ARE MATERIALLY DISCOLORED AND DAMAGED AS A RESULT OF HEATING AND PARBOILED KERNELS IN NONPARBOILED RICE WHICH ARE AS DARK AS, OR DARKER IN COLOR THAN, THE INTERPRETIVE LINE FOR HEAT-DAMAGED KERNELS.

A. Determine the number of heat-damaged kernels on a representative portion of approximately 500 grams of well-milled brown rice for processing.

1. Divide-out a representative portion of between 475 and 525 grams.

2. Add or remove kernels (by finger-pinching, not pouring) until the required portion is obtained.

B. Remove and weigh the heat-damaged kernels. Consider each 0.02 gram of heat-damaged kernels as "one heat-damaged kernel in 500 grams." Round the results to the lowest number. For example:

0.01 gram of HT = 0 HT	0.03 gram of HT = 1 HT
0.02 gram of HT = 1 HT	0.04 gram of HT = 2 HT

C. When it is determined by general observation that the 500-gram portion probably contains 75 or more heat-damaged kernels, divide the 500-gram portion into 2 portions: a 100-gram portion and a 400-gram portion.

1. Examine the 100-gram portion for heat-damaged kernels.

2. If the 100-gram portion contains 25 or more heat-damaged kernels, multiply the number of kernels found by 5.

3. If the 100-gram portion contains less than 25 heat-damaged kernels, examine the 400-gram portion and add the number of heat-damaged kernels found in both portions together.

D. Record the number of heat-damaged kernels on the work record and the certificate.

E. Add the number of heat-damaged kernels to the number of total seeds and record the sum on the work record and the certificate.

4.25 RED RICE AND DAMAGED KERNELS

RED RICE. WHOLE OR BROKEN KERNELS OF RICE ON WHICH THE BRAN IS DISTINCTLY RED IN COLOR.

DAMAGED KERNELS. WHOLE OR BROKEN KERNELS OF RICE WHICH ARE DISTINCTLY DISCOLORED OR DAMAGED BY WATER, INSECTS, HEAT, OR ANY OTHER MEANS (INCLUDING PARBOILED KERNELS IN NONPARBOILED RICE AND SMUTTY KERNELS). "HEAT-DAMAGED KERNELS" SHALL NOT FUNCTION AS DAMAGED KERNELS.

A. Determine red rice and damaged kernels (other than damaged by heat and parboiled kernels in nonparboiled rice) on a representative portion of not less than 25 grams of unmilled brown rice for processing.

B. Determine kernels damaged by heat and parboiled kernels in nonparboiled rice on a representative portion of not less than 25 grams of well-milled brown rice for processing.

C. Red rice is rice that has a streak of red bran one-half or more the length of the kernel, or two or more streaks that total one-half or more the length of the kernel. A kernel or a piece of kernel of rice that does not have sufficient red bran to be considered as red rice shall be considered as long grain, medium grain, or short grain rice, as appropriate.

D. The major types of damaged kernels are as follows:

1. Insect-Bored Kernels. Whole and broken kernels of rice that have been bored by insects. Kernels that are only slightly eaten by insects and are clean in appearance shall be considered as sound kernels.

2. Fungus-Damaged or "Pecky" Kernels. Whole and broken kernels of rice that have one or more black, brown, red, or other discolored spots or areas on them caused by fungus growth or insects.

3. Kernels Damaged by Heat. Whole and broken kernels of rice that have been discolored by heat but are lighter in color than the interpretive line for heat-damaged kernels.

4. Parboiled Rice in Nonparboiled Rice. Parboiled kernels in nonparboiled rice that are lighter in color than the interpretive line for heat-damaged kernels.

5. Other Damaged Kernels. Whole and broken kernels of rice that are distinctly discolored or damaged from causes other than those listed above shall be considered as damaged kernels. However, those whole and broken kernels that show sheller marks, but are otherwise not distinctly discolored or damaged, shall not function as damaged kernels.

E. Record the percent of red rice and damaged kernels on the work record and the certificate to the nearest tenth percent.

NOTE: Damaged kernels are the sum of the percentage of kernels damaged by heat and/or parboiled kernels in non-parboiled rice plus the percentage of all other damaged kernels.

4.26 CHALKY KERNELS

CHALKY KERNELS. WHOLE OR BROKEN KERNELS OF RICE WHICH ARE ONE-HALF OR MORE CHALKY.

A. Determine chalky kernels on a representative portion of not less than 25 grams of unmilled brown rice for processing.

B. Record the percent of chalky kernels on the work record and the certificate to the nearest tenth percent.

4.27 BROKEN KERNELS REMOVED BY A 6 PLATE OR A 6 1/2 SIEVE

6 PLATE. A LAMINATED METAL PLATE 0.142-INCH THICK, WITH A TOP LAMINA 0.051-INCH, PERFORATED WITH ROWS OF ROUND HOLES 0.0938 (6/64) INCH IN DIAMETER, AND A BOTTOM LAMINA 0.091-INCH THICK, WITHOUT PERFORATIONS.

6 1/2 SIEVE. A METAL SIEVE 0.032-INCH THICK, PERFORATED WITH ROWS OF ROUND HOLES 0.1016 (6 1/2) INCH IN DIAMETER.

A. Determine broken kernels removed by a 6 plate or a 6 1/2 sieve on a representative portion of not less than 50 grams of unmilled brown rice for processing.

B. For southern production rice:

1. Place a 6 plate in the bottom carriage of the rice sizing device.

2. Pour the 50-gram portion on the plate. After the sample is poured, place the emptied triangular pan under the hopper to catch the rice that flows over the plate.

3. Press the starting switch. Allow the machine to run until the rice stops flowing over the plate into the triangular pan.

4. After the rice stops flowing and the machine is turned off, remove the plate and empty their contents into the rectangular container. Lightly tap the bottom of the plate to remove material retained in the perforations of the plate.

5. Hand adjust the material that lodges in the 6 plate to remove any whole kernels, any brokens that obviously do not belong with the 6 plate brokens, any seeds and any related or unrelated material.

C. For western production rice:

Mechanical Sieving Method.

1. Mount a 6-1/2 sieve with a bottom pan on a mechanical sieve shaker.

2. Set the stroke counter for 20 strokes.

3. Follow the procedure for operating the mechanical sieve shaker described in chapter 1, Grain Inspection Handbook, Book II.

4. Return the broken kernels that remain in the perforations of the sieve to the portion that remains on the top of the sieve.

5. Hand adjust the material that passes through the 6-1/2 sieve to remove any whole kernels, any brokens that obviously do not belong with the 6-1/2 sieve brokens, any seeds, and any related or unrelated material.

Hand Sieving Method.

1. Mount a 6-1/2 sieve on a bottom pan.

2. Pour the representative portion in the center of the sieve.

3. Hold the sieve level in both hands with elbows close to the body and the sieve perforations parallel to the direction of movement.

4. In a steady motion, move the sieve from left to right approximately 10 inches, and return from right to left.

5. Repeat the sieving operation 20 times.

6. Return the broken kernels that remain in the perforations of the sieve to the portion that remains on the top of the sieve.

7. Hand adjust the material that passes through the 6-1/2 sieve to remove any whole kernels, any brokens that obviously do not belong with the 6-1/2 sieve brokens, any seeds, and any related or unrelated material.

D. Record the percent of broken kernels removed by a 6-plate or 6-1/2 sieve on the work record and the certificate to the nearest tenth percent.

4.28 BROKEN KERNELS

BROKEN KERNELS. KERNELS OF RICE WHICH ARE LESS THAN THREE-FOURTHS OF WHOLE KERNELS.

NOTE: This factor is not provided for under the U.S. Standards for Brown Rice for Processing, but may be determined upon request.

A. Determine broken kernels on a representative portion of not less than 25 grams of unmilled brown rice for processing.

B. Remove the broken kernels from the 25-gram portion using any device or method that will facilitate the separation of the broken kernels from the whole kernels.

C. Record the percent of broken kernels on the work record and the certificate to the nearest tenth percent.

4.29 OTHER TYPES

OTHER TYPES. (1) WHOLE KERNELS OF: (i) LONG GRAIN RICE IN MEDIUM OR SHORT GRAIN RICE, (ii) MEDIUM GRAIN RICE IN LONG OR SHORT GRAIN RICE, (iii) SHORT GRAIN RICE IN LONG OR MEDIUM GRAIN RICE, AND (2) BROKEN KERNELS OF (i) LONG GRAIN RICE IN MEDIUM OR SHORT GRAIN RICE AND (ii) BROKEN KERNELS OF MEDIUM OR SHORT GRAIN RICE IN LONG GRAIN RICE.

NOTE: BROKEN KERNELS OF MEDIUM GRAIN RICE IN SHORT GRAIN RICE AND BROKEN KERNELS OF SHORT GRAIN RICE IN MEDIUM GRAIN RICE SHALL NOT BE CONSIDERED OTHER TYPES.

A. Determine other types on a representative portion of not less than 25 grams of unmilled brown rice for processing.

B. Record the percent of other types on the work record and the certificate to the nearest tenth percent. If the amount of other types exceeds 10.0 percent, grade the rice "Mixed brown rice for processing."

4.30 WELL-MILLED KERNELS

WELL-MILLED KERNELS. WHOLE OR BROKEN KERNELS OF RICE FROM WHICH THE HULLS AND PRACTICALLY ALL OF THE GERMS AND THE BRAN LAYER HAVE BEEN REMOVED.

A. Determine well-milled kernels on a representative portion of not less than 25 grams of unmilled brown rice for processing.

B. Record the percent of well-milled kernels on the work record and the certificate to the nearest tenth percent.

4.31 WHOLE KERNELS

WHOLE KERNELS. UNBROKEN KERNELS OF RICE AND BROKEN KERNELS OF RICE WHICH ARE AT LEAST THREE-FOURTHS OF AN UNBROKEN KERNEL.

A. Determine whole kernels on a representative portion of not less than 25 grams of unmilled brown rice for processing when determining the whole kernels in class and on not less than 40 grams when determining the milling yield or milling analysis.

B. Remove the whole kernels from the representative portion using any device or method that will facilitate the separation of the whole kernels from the broken kernels.

C. For class, record the percent of whole kernels on the work record and the certificate to the nearest tenth percent. For milling yield or milling analysis, record the percent of whole kernels on the work record and the certificate to the nearest whole percent.

4.32 RELATED AND UNRELATED MATERIAL

RELATED MATERIAL. ALL BY-PRODUCTS OF A PADDY KERNEL, SUCH AS THE OUTER GLUMES, LEMMA, PALEA, AWN, EMBRYO, AND BRAN LAYERS.

UNRELATED MATERIAL. ALL MATTER OTHER THAN RICE, RELATED MATERIAL, AND SEEDS.

NOTE: Live and dead insects found in the representative portion shall be included with the unrelated material.

A. Determine related and unrelated material on a representative portion of not less than 100 grams of unmilled brown rice for processing.

B. Record the percent of related and unrelated material on the work record. If the amount of related material exceeds 0.2 percent or the amount of unrelated material exceeds 0.1 percent, record the percent of related or unrelated material on the certificate and grade the rice "U.S. Sample grade."

4.33 SMUTTY BROWN RICE FOR PROCESSING/ SMUTTY KERNELS

SMUTTY BROWN RICE FOR PROCESSING SHALL BE RICE WHICH CONTAINS MORE THAN 3.0 PERCENT OF SMUTTY KERNELS.

SMUTTY KERNELS. WHOLE OR BROKEN KERNELS OF RICE WHICH ARE DISTINCTLY INFECTED BY SMUT.

A. Determine smutty kernels on a representative portion of not less than 15 grams of unmilled brown rice for processing.

B. Record the percent of smutty kernels on the work record and the certificate to the nearest tenth percent. If the rice contains more than 3.0 percent smutty kernels, consider the rice to be "smutty" and show the special grade "Smutty" on the gradeline of the certificate.

NOTE: Except as specified, all grades and grade requirements in the U.S. Standards for Brown Rice for Processing apply to "Smutty Brown Rice for Processing."

4.34 PARBOILED BROWN RICE FOR PROCESSING/ UNGELATINIZED KERNELS

PARBOILED BROWN RICE FOR PROCESSING SHALL BE RICE IN WHICH THE STARCH HAS BEEN GELATINIZED BY SOAKING, STEAMING, AND DRYING. GRADE U.S. NOS. 1 TO U.S. NO. 5, INCLUSIVE, SHALL CONTAIN NOT MORE THAN 10.0 PERCENT OF UNGELATINIZED KERNELS. GRADES U.S. NO. 1 AND U.S. NO. 2 SHALL CONTAIN NOT MORE THAN 0.1 PERCENT, GRADES U.S. NO. 3 AND U.S. NO. 4 NOT MORE THAN 0.2 PERCENT, AND GRADE U.S. NO. 5 NOT MORE THAN 0.5 PERCENT OF NONPARBOILED RICE.

NOTE: THE MAXIMUM LIMITS FOR "CHALKY KERNELS," "HEAT-DAMAGED KERNELS," AND "KERNELS DAMAGED BY HEAT" SHOWN IN SECTION 68.261 ARE NOT APPLICABLE TO THE SPECIAL GRADE "PARBOILED BROWN RICE FOR PROCESSING."

UNGELATINIZED KERNELS. WHOLE OR BROKEN KERNELS OF PARBOILED RICE WITH DISTINCT WHITE OR CHALKY AREAS DUE TO INCOMPLETE GELATINIZATION OF THE STARCH.

A. When a detailed examination is necessary to determine nonparboiled or ungelantinized kernels, make this determination on a representative portion of not less than 25 grams of well-milled brown rice for processing.

B. Record the percent of ungelatinized kernels on the work record and certificate to the nearest tenth percent.

NOTE: Except as specified, all grades and grade requirements in the U.S. Standards for Brown Rice for Processing apply to "Parboiled Brown Rice for Processing."

4.35 GLUTINOUS BROWN RICE FOR PROCESSING/ NONCHALKY KERNELS

GLUTINOUS BROWN RICE FOR PROCESSING SHALL BE SPECIAL VARIETIES OF RICE (ORYZA SATIVA L. GLUTINOSA) WHICH CONTAIN MORE THAN 50 PERCENT CHALKY KERNELS. FOR LONG GRAIN, MEDIUM GRAIN, AND SHORT GRAIN BROWN RICE FOR PROCESSING, GRADE U.S. NO. 1 SHALL CONTAIN NOT MORE THAN 1.0 PERCENT OF NONCHALKY KERNELS, GRADE U.S. NO. 2 NOT MORE THAN 2.0 PERCENT OF NONCHALKY KERNELS, GRADE U.S. NO. 3 NOT MORE THAN 4.0 PERCENT OF NONCHALKY KERNELS, GRADE U.S. NO. 4 NOT MORE THAN 6.0 PERCENT OF NONCHALKY KERNELS, AND GRADE U.S. NO. 5 NOT MORE THAN 10.0 PERCENT OF NONCHALKY KERNELS

NOTE: THE MAXIMUM LIMITS FOR "CHALKY KERNELS" IN SECTION 68.261 ARE NOT APPLICABLE TO THE SPECIAL GRADE "GLUTINOUS BROWN RICE FOR PROCESSING."

A. Determine nonchalky kernels on a representative portion of not less than 25 grams of unmilled brown rice for processing.

B. Record the percent of nonchalky kernels on the work record and the certificate to the nearest tenth percent. If the rice is a glutinous variety and contains less than 50.0 percent nonchalky kernels, consider the rice to be "glutinous" and show the special grade "Glutinous" on the gradeline of the certificate.

NOTE: Except as specified, all grades and grade requirements in the U.S. Standards for Brown Rice for Processing apply to "Glutinous Brown Rice for Processing."

4.36 AROMATIC BROWN RICE FOR PROCESSING

AROMATIC BROWN RICE FOR PROCESSING SHALL BE SPECIAL VARIETIES OF RICE (ORYZA SATIVA L. SCENTED) THAT HAVE A DISTINCTIVE AND CHARACTERISTIC AROMA; E.G., BASMATI AND JASMINE RICE.

A. Determine aromatic on the basis of the odor of the lot as a whole, the representative sample as a whole, or a representative portion of well-milled brown rice for processing.

B. If the rice is an aromatic variety and has an odor common to such rice, consider the rice to be "aromatic" and show the special grade "Aromatic" on the gradeline of the certificate.

4.37 INTERPRETIVE LINE SLIDES AND SAMPLES

A. The interpretive line slide (ILS) system assists inspectors in making subjective grading decisions. This system consists of a portable tabletop transparency viewer and photographic slide transparencies. The viewer uses a precisely controlled light source of low intensity designed to provide a standard picture and to protect the slide. Therefore, only use the special viewer for ILS. Other light sources, such as a regular slide projector, may provide a distorted picture and damage the ILS. Use of such a projector is not prohibited; but, once used in this manner, the slides may not be used for official purposes.

Table 4
Currently Available Interpretative Line Slides

RICE	1.0	OBJECTIONABLE SEEDS
RICE	1.1	NON-OBJECTIONABLE SEEDS (CALIFORNIA)
RICE	1.2	NON-OBJECTIONABLE SEEDS (SOUTHERN)
RICE	2.0	HEAT DAMAGED KERNELS
RICE	2.1	KERNELS DAMAGED BY HEAT
RICE	2.7	KERNELS DAMAGED BY INSECTS (PECK)
RICE	6.1	PADDY KERNELS IN MILLED RICE (PARTIALLY UNHULLED)
RICE	9.0	RELATED MATERIAL
RICE	9.1	UNRELATED MATERIAL

B. Interpretive line samples are actual samples enclosed in clear plastic containers. Overexposure to direct light can result in the bleaching of these samples. Therefore, interpretative line samples should be stored in cool, dark places.

(RESERVED)

FGIS FORM-911, "RICE SAMPLE TICKET"

1 56201	CERTIFICATE NO. F-17983	TO BOARD	FIELD OFFICE Beaumont

LOCATION: Public Docks
IDENTIFICATION: SX 793 B
QUANTITY: 1 Bargelot (Bulk)
SEAL BROKEN
SEAL APPLIED
SAMPLER: JR
IDENTIFYING MARKS

MOVEMENT (Circle): 01 IN | 02 OUT | 03 BULK | 04 EXPORT | 05 CAR | 06 TRUCK | 07 LOCAL | 08 BAGGED | 09 SUB

DATE SAMPLED: 5/1/92
LAB. NO.
CLASS: LGBR

FACTOR	GRAMS PORT.	GRAMS SEP.	ACG INSP.	SUPV.	BOARD	FACTOR	GRAMS PORT.	GRAMS SEP.	ACG INSP.	SUPV.	BOARD
01 C						12 TBK					
02 CH	25.31	.22	0.9	0.3		13 TS-HT			6	6	
03 FM						14 4S					
04 HT	500		2	2		15 5P/5½S					
05 HT/OBS	500		2/4	2/4		16 6P/6S					
06 M			13.7	13.6		17 6½S					
07 MD						18 30S					
08 NOBS			0	0		19 WK	45.95	40.81	77.3	76.2	
09 OT						20 TR	750	652	87.1	87.1	
10 P	50.83	.58	1.1	1.2		21					
11 RR&DK	25.31	.23	0.9	1.0		22					

REMARKS
88.8 × 87.1 = 77.3
652 ÷ 750 = 87.1

ACG OR INSPECTOR: John Smith
CODE NO.: 6789
DATE INSP.: 5/9/92
ACG OR INSPECTOR'S GRADE: U.S. No. 2 LGBR MY 77-87

SUPERVISOR: Bob Jones
DATE SUPV.: 5/9/92
REVIEWED BY
DATE REVIEWED
SUPERVISOR'S GRADE: U.S. No. 2 LGBR MY 76-87
BOARD'S GRADE

FORM FGIS-911 (2-89) RICE SAMPLE TICKET USDA-FGIS
(Edition of 6-83 may be used.)

GRADES AND GRADE REQUIREMENTS FOR BROWN RICE FOR PROCESSING

Grading Factors	Grades U.S. Nos.				
	1	2	3	4	5
	Maximum number in 500 grams				
Paddy Kernels	20	-	-	-	-
Seeds and Heat-Damaged Kernels Total (Singly or Combined)	10	40	70	100	150
Heat-Damaged Kernels	1	2	4	8	15
Objectionable Seeds	2	10	20	35	50
	Maximum limit (percent)				
Paddy Kernels	-	2.0	2.0	2.0	2.0
Red Rice and Damaged Kernels (Singly or Combined)	1.0	2.0	4.0	8.0	15.0
Chalky Kernels 1/ 2/	2.0	4.0	6.0	8.0	15.0
Broken Kernels Removed by a 6 Plate or 6 Sieve 3/	1.0	2.0	3.0	4.0	6.0
Other Types 4/	1.0	2.0	5.0	10.0	10.0
Well-Milled Kernels	1.0	3.0	10.0	10.0	10.0

U.S. Sample grade shall be brown rice for processing which (a) does not meet the requirements for any of the grades from U.S. No. 1 to U.S. No. 5, inclusive; (b) contains more than 14.5 percent of moisture; (c) is musty or sour, or heating; (d) has any commercially objectionable foreign odor; (e) contains more than 0.2 percent of related material or more than 0.1 percent of unrelated material; (f) contains 2 or more live weevils or other live insects; or (g) is otherwise of distinctly low quality.

1/ For the special grade Parboiled brown rice for processing, see section 68.263(a).
2/ For the special grade Glutinous brown rice for processing, see section 68.263(c).
3/ Plates should be used for southern production rice and sieves should be used for western production rice, but any device or method which gives equivalent results may be used.
4/ These limits do not apply to Mixed Brown Rice for Processing.

CHAPTER 5

INSPECTION OF MILLED RICE

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Attachment 1 FGIS Form-911, "Rice Sample Ticket"
Attachment 2 Grades and Grade Requirements for Milled Rice
Attachment 3 Equipment and Chemicals for Enrichment Analyses
Attachment 4 Equipment and Chemicals for Total Oil and Free Fatty Acid Analyses
Attachment 5 Total Oil and Free Fatty Acid Worksheet

5.1 DEFINITION OF MILLED RICE

WHOLE OR BROKEN KERNELS OF RICE (ORYZA SATIVA L.) FROM WHICH THE HULLS AND AT LEAST THE OUTER BRAN LAYERS HAVE BEEN REMOVED AND WHICH CONTAIN NOT MORE THAN 10.0 PERCENT OF SEEDS, PADDY KERNELS, OR FOREIGN MATERIAL, EITHER SINGLY OR COMBINED.

5.2 GRADES AND GRADE REQUIREMENTS

The grades and grade requirements for all classes of milled rice are shown in the United States Standards for Rice (section 68.314) and in Attachment 2, "Grades and Grade Requirements for Milled Rice," to this chapter.

5.3 SPECIAL GRADES AND SPECIAL GRADE REQUIREMENTS

A. The special grades and special grade requirements for all classes of milled rice are shown in the United States Standards for Rice (section 68.315).

B. A special grade, when applicable, is supplemental to the grade assigned. Such special grades for milled rice are defined as follows:

1. Coated milled rice. Coated milled rice shall be rice which is coated, in whole or in part, with substances that are safe and suitable as defined in the regulations issued pursuant to the Federal Food, Drug, and Cosmetic Act as 21 CFR 130.3 (d).

2. Granulated brewers milled rice. Granulated brewers milled rice shall be milled rice which has been crushed or granulated so that 95.0 percent or more will pass through a 5 sieve, 70.0 percent or more will pass through a 4 sieve, and not more than 15.0 percent will pass through a 2 1/2 sieve.

3. Parboiled milled rice. Parboiled milled rice shall be milled rice in which the starch has been gelatinized by soaking, steaming, and drying. If the rice is:

a. Not distinctly colored by the parboiling process, the rice shall be considered "Parboiled Light";

b. Distinctly but not materially colored by the parboiling process, the rice shall be considered "Parboiled";

c. Materially colored by the parboiling process, the rice shall be considered "Parboiled Dark."

4. Undermilled milled rice. Undermilled milled rice shall be milled rice which is not equal to the milling requirements for "well-milled," "reasonably well milled," and "lightly milled" rice.

5. Glutinous milled rice. Special varieties of rice which contain more than 50 percent of chalky kernels.

6. Aromatic milled rice. Special varieties of rice that have a distinctive and characteristic aroma; e.g., basmati and jasmine rice.

5.4 WORK RECORD

Record the results of all tests and findings clearly and accurately on a laboratory ticket or similar form. This will be used as the source of the information reported on the inspection certificate. FGIS personnel shall use form FGIS-911, "Rice Sample Ticket," to record inspection results. Cooperator's shall use a similar form.

NOTE: For submitted sample inspections, results may be recorded on a form FGIS-932, "Rice Inspection Certificate - Submitted Sample Inspection," or similar form.

5.5 REPRESENTATIVE PORTION

A specified quantity of rice divided-out from the representative sample by means of an FGIS-approved device.

5.6 WORK SAMPLE

A representative portion of rice (approximate size - 1,000 grams) that is used to make all such determinations required for a particular class of rice.

5.7 FILE SAMPLE

A. A representative portion of rice (approximate size - 1,000 grams) that may be used in conjunction with the work sample, when needed, to determine the complete grade. File samples may also be used for monitoring, retest, and appeal inspection purposes.

B. Retain file samples in appropriate containers for the required retention period. After maintaining for the required period, dispose of the file samples in accordance with established procedures. See FGIS Instruction 917-13, "Uniform File Sample Retention System for Rice, Pulses, and Processed Products Inspected Under AMA," for additional information.

5.8 PERCENTAGES AND COUNTS

A. Percentages are determined upon the basis of weight and are rounded as follows:

1. When the figure to be rounded is followed by a figure greater than or equal to 5, round to the next higher figure; e.g., report 6.36 as 6.4, 0.35 as 0.4, and 2.45 as 2.5.

2. When the figure to be rounded is followed by a figure less than 5, retain the figure; e.g., report 8.34 as 8.3, and 1.22 as 1.2.

B. Record percentages as follows:

1. For broken kernels removed by a 5 plate in U.S. Nos. 1 and 2 milled rice and for objectionable seeds in U.S. No. 1 Brewers milled rice, to the nearest hundredth percent.

2. For all other factors, to the nearest tenth of percent.

C. Record counts, for all factors determined on the basis of count, to the nearest whole number.

5.9 LABORATORY SCALES

Weigh samples and portions of samples using the proper class of FGIS-approved laboratory scales, and record the results to the correct division size. Use the table below to determine the scale class and division size required for weighing particular sized samples.

Table 1 - Laboratory Scales

Portion Size	Scale Class	Maximum Division Size	Record Results to at Least the Nearest--
120 grams or less	Precision	0.01 gram	0.01 gram
Samples for moisture determinations	Precision or Moisture	0.1 gram	0.1 gram
More than 120 grams	Precision, Moisture, or General	1 gram	1 gram

NOTE: See chapter 2, Equipment Handbook, for additional information.

5.10
PRELIMINARY
EXAMINATION

A. The sampler must: (1) observe the uniformity of the rice as to type/class, quality, and condition; (2) make the determination for "Heating;" (3) draw the representative sample; and (3) report relevant information to the inspector.

B. The inspector must review the sampler's remarks/information. If the inspector has questions or doubts the representativeness of the sample, he or she must contact the sampler and obtain the needed information or make arrangements to obtain another sample.

5.11
BASIS OF
DETERMINATION

ALL DETERMINATIONS SHALL BE MADE ON THE BASIS OF THE ORIGINAL SAMPLE. MECHANICAL SIZING OF KERNELS SHALL BE ADJUSTED BY HANDPICKING, AS PRESCRIBED IN FGIS INSTRUCTIONS, OR BY ANY METHOD WHICH GIVES EQUIVALENT RESULTS.

BROKEN KERNELS SHALL BE DETERMINED BY THE USE OF EQUIPMENT AND PROCEDURES PRESCRIBED IN FGIS INSTRUCTIONS, OR BY ANY METHOD WHICH GIVES EQUIVALENT RESULTS.

NOTE 1: When rice that is offered for inspection as one lot is found to contain more than 10,000 containers or 1,000,000 pounds (bulk) of rice, the lot must be sampled on the basis of two or more (approximately) equal-sized sublots of 10,000 containers or 1,000,000 pounds or less. Inspect each sublot separately. (For additional information, see Chapter 7, "Roundlot Inspection Plan" and Chapter 8, "Warehouse-Lot Inspection Plan.")

NOTE 2: When rice that is offered for inspection as one lot is subsequently found to contain portions that are distinctly different in class/type, quality, or condition, the rice in each portion shall be inspected separately.

A. Follow a systematic grading procedure. The order of procedure varies with the class and quality of the rice and the tests that are required to determine the grade. A general order of procedure is as follows:

1. Review information on the sample ticket.

2. Examine the representative sample for odor and distinctly low quality.

3. Use an FGIS-approved divider to process the representative sample into three representative portions: (1) a work sample, (2) a file sample, and (3) a moisture portion.

NOTE: For specific information on the operation and maintenance of dividers, see chapter 3, Equipment Handbook.

4. Examine the work sample for test weight (if requested) and type.

5. Reduce the 1000 gram work sample to approximately 500 grams and examine the portion for:

Infestation
Paddy kernels (all classes except BMR)
Seeds (all classes except BMR)
Heat-damaged kernels (all classes except SMR and BMR)

6. Reduce the 500 gram portion to approximately 250 grams and examine the portion for:

Milling (degree) requirements Color

7. Divide-out from the 250 gram portion a 100 gram portion and a 50 gram portion.

8. Examine the 100 gram portion for foreign material (all classes except BMR).

9. Examine the 50 gram portion for:

Broken kernels removed by a 5 plate and a 6 plate, or that pass through a 6 sieve.
Class (for SHMR, SMR, and BMR)
30 sieve material

10. Reduce the 50 gram portion to approximately 25 grams and examine the portion for:

Broken kernels total
Chalky kernels
Class (whole kernels for LGMR, MGMR, and SHGMR)
Foreign material (for BMR)
Heat-damaged kernels, kernels damaged by heat, and/or parboiled kernels in nonparboiled rice (for SMR and BMR)
Other types (whole kernels, and whole and broken kernels)
Red rice and damaged kernels
Seeds and paddy kernels (for BMR) *
Ungelatinized kernels
Well-milled kernels

B. When the grade (or contract compliance) of a lot or sample is determined by a narrow margin (± 0.1 % or 1 count) on a single factor, another determination shall be made on another representative portion of equivalent size divided-out from the work sample or file sample. The factor result shall be based on the average of the two determinations.

5.12
MOISTURE

MOISTURE. WATER CONTENT IN MILLED RICE AS DETERMINED BY AN APPROVED DEVICE IN ACCORDANCE WITH PROCEDURES PRESCRIBED IN FGIS INSTRUCTIONS. FOR THE PURPOSE OF THIS PARAGRAPH, "APPROVED DEVICE" SHALL INCLUDE THE MOTOMCO MOISTURE METER AND ANY OTHER EQUIPMENT THAT IS APPROVED BY THE ADMINISTRATOR AS GIVING EQUIVALENT RESULTS.

A. Determine moisture on a representative portion of exactly 250 grams.

B. Refer to chapter 5 of the Moisture Handbook for information about determining moisture using the Motomco moisture meter.

C. Record the percent of moisture on the work record and the certificate to the nearest tenth percent. If the moisture content exceeds 15.0 percent, grade the rice "U.S. Sample grade."

5.13
TYPE

THERE ARE THREE TYPES OF MILLED RICE AS FOLLOWS: LONG GRAIN, MEDIUM GRAIN, SHORT GRAIN.

TYPE SHALL BE BASED ON THE LENGTH-WIDTH RATIO OF KERNELS OF RICE THAT ARE UNBROKEN AND THE WIDTH, THICKNESS, AND SHAPE OF KERNELS OF RICE THAT ARE BROKEN AS PRESCRIBED IN FGIS INSTRUCTIONS.

A. The length-width ratio limitations for milled rice are:

Long grain	Medium grain	Short grain
3.0 (or more) to 1	2.0 - 2.9 to 1	1.9 (or less) to 1

B. Type is usually determined by a cursory examination of the work sample as a whole.

C. When a detailed examination is necessary, determine type by measuring the length and width of 15 unbroken kernels taken at random from the work sample and determining their average length-width ratio.

1. Length is distance between the most distant tips of the kernel.

2. Width is the distance across the kernel at the widest point.

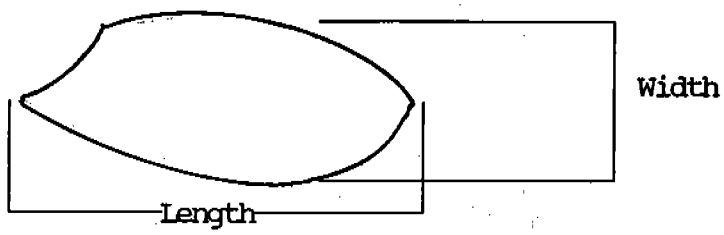

Figure 1. Measuring Milled Rice Kernels

5.14 CLASS

THERE ARE SEVEN CLASSES OF MILLED RICE. THE FOLLOWING FOUR CLASSES SHALL BE BASED ON THE PERCENTAGE OF WHOLE KERNELS AND TYPE OF RICE: LONG GRAIN MILLED RICE, MEDIUM GRAIN MILLED RICE, SHORT GRAIN MILLED RICE, MIXED MILLED RICE.

"LONG GRAIN MILLED RICE" SHALL CONSIST OF MILLED RICE WHICH CONTAINS MORE THAN 25.0 PERCENT OF WHOLE KERNELS OF MILLED RICE AND IN U.S. NOS. 1 THROUGH 4 NOT MORE THAN 10.0 PERCENT OF WHOLE OR BROKEN KERNELS OF MEDIUM OR SHORT GRAIN RICE. U.S. NO. 5 AND U.S. NO. 6 LONG GRAIN MILLED RICE SHALL CONTAIN NOT MORE THAN 10.0 PERCENT OF WHOLE KERNELS OF MEDIUM OR SHORT GRAIN RICE (BROKEN KERNELS DO NOT APPLY).

"MEDIUM GRAIN MILLED RICE" SHALL CONSIST OF MILLED RICE WHICH CONTAINS MORE THAN 25.0 PERCENT OF WHOLE KERNELS OF MILLED RICE AND IN U.S. NOS. 1 THROUGH 4 NOT MORE THAN 10.0 PERCENT OF WHOLE OR BROKEN KERNELS OF LONG GRAIN RICE OR WHOLE KERNELS OF SHORT GRAIN RICE. U.S. NO. 5 AND U.S. NO. 6 MEDIUM GRAIN MILLED RICE SHALL CONTAIN NOT MORE THAN 10.0 PERCENT OF WHOLE KERNELS OF LONG OR SHORT GRAIN MILLED RICE (BROKEN KERNELS DO NOT APPLY).

"SHORT GRAIN MILLED RICE" SHALL CONSIST OF MILLED RICE WHICH CONTAINS MORE THAN 25.0 PERCENT OF WHOLE KERNELS OF MILLED RICE AND IN U.S. NOS. 1 THROUGH 4 NOT MORE THAN 10.0 PERCENT OF WHOLE OR BROKEN KERNELS OF LONG GRAIN RICE OR WHOLE KERNELS OF MEDIUM GRAIN RICE. U.S. NO. 5 AND U.S. NO. 6 SHORT GRAIN MILLED RICE SHALL CONTAIN NOT MORE THAN 10.0 PERCENT OF WHOLE KERNELS OF LONG OR MEDIUM GRAIN MILLED RICE (BROKEN KERNELS DO NOT APPLY).

"MIXED MILLED RICE" SHALL CONSIST OF MILLED RICE WHICH CONTAINS MORE THAN 25.0 PERCENT OF WHOLE KERNELS OF MILLED RICE AND MORE THAN 10.0 PERCENT OF "OTHER TYPES" AS DEFINED IN PARAGRAPH (I) OF THIS SECTION. U.S. NO. 5 AND U.S. NO. 6 MIXED MILLED RICE SHALL CONTAIN MORE THAN 10.0 PERCENT OF WHOLE KERNELS OF "OTHER TYPES" (BROKEN KERNELS DO NOT APPLY).

THE FOLLOWING THREE CLASSES SHALL BE BASED ON THE PERCENTAGE OF WHOLE KERNELS AND OF BROKEN KERNELS OF DIFFERENT SIZE: SECOND HEAD MILLED RICE, SCREENINGS MILLED RICE, BREWERS MILLED RICE.

"SECOND HEAD MILLED RICE" SHALL CONSIST OF MILLED RICE WHICH, WHEN DETERMINED IN ACCORDANCE WITH SECTION 68.303, CONTAINS: (I) NOT MORE THAN; (A) 25.0 PERCENT OF WHOLE KERNELS, (B) 7.0 PERCENT OF BROKEN KERNELS REMOVED BY A 6 PLATE, (C) 0.4 PERCENT OF BROKEN KERNELS REMOVED BY A 5 PLATE, AND (D) 0.05 PERCENT OF BROKEN KERNELS PASSING THROUGH A 4 SIEVE (SOUTHERN PRODUCTION); OR (II) NOT MORE THAN; (A) 25.0 PERCENT OF WHOLE KERNELS, (B) 50.0 PERCENT OF BROKEN KERNELS PASSING THROUGH A 6 1/2 SIEVE, AND (C) 10.0 PERCENT OF BROKEN KERNELS PASSING THROUGH A 6 SIEVE (WESTERN PRODUCTION).

"SCREENINGS MILLED RICE" SHALL CONSIST OF MILLED RICE WHICH, WHEN DETERMINED IN ACCORDANCE WITH SECTION 68.303, CONTAINS: (I) NOT MORE THAN; (A) 25.0 PERCENT OF WHOLE KERNELS, (B) 10.0 PERCENT OF BROKEN KERNELS REMOVED BY A 5 PLATE, AND (C) 0.2 PERCENT OF BROKEN KERNELS PASSING THROUGH A 4 SIEVE (SOUTHERN PRODUCTION); OR (II) NOT MORE THAN; (A) 25.0 PERCENT OF WHOLE KERNELS, (B) 15.0 PERCENT OF BROKEN KERNELS PASSING THROUGH A 5 1/2 SIEVE; AND MORE THAN (C) 50.0 PERCENT OF BROKEN KERNELS PASSING THROUGH A 6 1/2 SIEVE, AND 10.0 PERCENT OF BROKEN KERNELS PASSING THROUGH A 6 SIEVE (WESTERN PRODUCTION).

"BREWERS MILLED RICE" SHALL CONSIST OF MILLED RICE WHICH, WHEN DETERMINED IN ACCORDANCE WITH SECTION 68.303, CONTAINS NOT MORE THAN 25.0 PERCENT OF WHOLE KERNELS AND WHICH DOES NOT MEET THE KERNEL-SIZE REQUIREMENTS FOR THE CLASS SECOND HEAD MILLED RICE OR SCREENINGS MILLED RICE.

A. Class is usually determined by a cursory examination of the work sample as a whole.

B. When a detailed examination is necessary to determine class (whole kernels) of long grain, medium grain, or short grain milled rice, make this determination on a representative portion of not less than 25 grams.

1. Record the percent of whole kernels on the work record to the nearest tenth percent.

2. If the rice contains 25 percent or less of whole kernels, consider the rice to be second head, screenings, or brewers milled rice.

C. When a detailed examination is necessary to determine class (other types) of long grain, medium grain, or short grain milled rice, make this determination on a representative portion of not less than 25 grams.

1. Record the percent of each type on the work record to the nearest tenth percent.

2. If the rice contains more than 10 percent of "other types," grade the rice, "Mixed milled rice," and record the percentages of whole kernels of each type of rice in order of predominance.

D. When a detailed examination is necessary to determine class of second head, screening, or brewers milled rice, make this determination on a representative portion of not less than 50 grams.

1. Southern Production.

a. Nest a 4 sieve in a bottom pan.

b. Place the sieve in a mechanical grain sizer and set the timer to 20. Put the rice in the center of the top sieve and actuate the sizer. (If a mechanical sizer is not available, hold the sieves and bottom pan level and using a steady motion, move the sieve from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation 20 times.)

c. Return the broken kernels that lodged in the perforations of the sieve to the portion that remains on the top of the sieve.

d. Place a 5 plate in the top carriage and a 6 plate in the bottom carriage of the sizing device.

e. Run the portion of rice that remained on top of the 4 sieve over the plates.

f. Hand adjust the broken kernels that passed through the 4 sieve, and the broken kernels that are removed by the 5 plate and 6 plate by removing any whole kernels, broken kernels that obviously do not belong in a particular separation, seeds, and foreign material.

g. Determine the percentage of broken kernels that passed through the 4 sieve and the percentage removed by the 5 plate and by the 6 plate.

2. Western production.

a. Nest a 6 1/2 sieve and a 6 sieve in a bottom pan; or a 6 1/2 sieve, 6 sieve, and a 5 1/2 sieve in a bottom pan, as deemed necessary.

b. Place the sieves in a mechanical grain sizer and set the timer to 20. Put the rice in the center of the top sieve and actuate the sizer. (If a mechanical sizer is not available, hold the sieves and bottom pan level and using a steady motion, move the sieve from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation 20 times.)

c. Return the broken kernels that lodged in the perforations of each sieve to the portion that remains on the top of each sieve.

d. Hand adjust the broken kernels that passed through the sieves by removing any whole kernels, broken kernels that obviously do not belong in a particular separation, seeds, and foreign material.

e. Determine the percentage of broken kernels that passed through the 5 1/2, 6, and 6 1/2 sieves.

3. Record the percent of each plate or sieve separation on the work record to the nearest tenth percent.

4. If the rice contains more than 25 percent of whole kernels, consider the rice to be long grain, medium grain, short grain or mixed milled rice.

5.15
ODOR

A. Determine odor on the basis of the lot as a whole or the representative sample as a whole.

1. Off-odors (i.e., musty, sour, and commercially objectionable foreign odor) are usually detected at the time of sampling.

a. If there is any question as to the odor when the sample is being taken, a part of the sample shall be put into an airtight container to preserve its condition for further examination in the laboratory.

b. Such portions shall be returned to the sample before other tests are made.

2. A musty odor shall be any odor that is earthy, moldy, or ground-like. Do not confuse a burlap bag odor with a musty odor.

3. A sour odor shall be any odor that is rancid, sharp, or acrid.

4. A commercially objectionable foreign odor shall be any odor that is not normal to rice and that, because of its presence, renders the rice unfit for normal commercial usage; e.g., fertilizer, hides, oil products, skunk, smoke, fire-burnt, and decaying animal and vegetable matter odors.

5. Fumigant or insecticide odors are not considered as commercially objectionable foreign odors, unless they are caused by a fumigant or insecticide that does not dissipate quickly. When a sample of rice contains a fumigant or insecticide odor that prohibits a true odor determination, the following guidelines shall apply:

a. The representative sample of rice shall be allowed to air-out under forced ventilation (a fume hood) in an open metal container (e.g., a pan) for up to 4 hours; and

b. If the fumigant or insecticide odor still prohibits the determination of the rice's true odor after 4 hours, the rice shall be considered as having a commercially objectionable foreign odor. If the rice is from an unplacarded railcar, notify your supervisor. Supervisors should report such instances to FGIS Headquarters.

NOTE: Aromatic (scented) rice shall not be considered as having a commercially objectionable foreign odor if it has an odor known to be common to such rice. Non-aromatic varieties of rice, which have a scented rice-like aroma, shall be considered to have a commercially objectionable foreign odor.

B. When rice is determined to be musty, sour, or have a commercially objectionable foreign odor, record the type of odor on the work record and in the Remarks section of the certificate, and grade the rice "U.S. Sample grade."

5.16
HEATING

A. Determine heating on the basis of the lot as whole.

1. When high temperature develops in rice as the result of excessive respiration, such rice is heating.

2. Heating rice usually gives off a sour or musty odor.

3. Care should be taken never to confuse rice that is warm due to storage in bins, cars, or other containers during hot weather with rice that is heating from excessive respiration.

B. When applicable, show the term, "Heating" on the work record and in the Remarks section of the certificate, and grade the rice "U.S. Sample grade."

5.17
DISTINCTLY
LOW QUALITY

A. Determine distinctly low quality on the basis of the lot as a whole or the representative sample as a whole.

B. Milled rice that is obviously affected by other unusual conditions which adversely affect the quality of the rice and which cannot be graded properly by use of the grading factors specified or defined in the standards shall be considered as being of distinctly low quality; e.g., rice found to contain large debris, stones, glass, metal fragments, bird droppings, rodent droppings, castor beans, crotalaria seeds, treated seeds, or toxic substances.

C. When applicable, show the statement "Distinctly low quality on account of (cause or reason)." on the work record and in the Remarks section of the certificate, and grade the rice "U.S. Sample grade."

5.18
INSECT
INFESTATION

NOTE: "Weevils" shall include coffee bean weevils, broadnosed grain weevils, rice weevils, granary weevils, maize weevils, and lesser grain borers. "Other insects" shall include ants, beetles, house flies, moths, meal worms, cockroaches, and other insects injurious to stored rice or carriers of disease.

A. Determine infestation on the basis of a representative portion of approximately 500 grams, the lot as a whole, and/or the component sample taken during continuous loading/unloading.

1. Examine the representative portion.

a. If no live or dead insects are found in the portion, make no further check of the sample for insects.

b. If two or more live or dead insects are found, consider the rice to be "U.S. Sample grade."

c. If one live or dead insect is found, divide out another representative portion of approximately 500 grams from the file sample. (Use the rest of the representative sample if the file sample is less than 500 grams.)

(1) If one or more live or dead insects are found in the second portion, consider the rice to be "U.S. Sample grade."

(2) If no live or dead insects are found in the second portion, do not consider the rice to be "U.S. Sample grade."

2. Examine the rice in the lot; i.e., the surface area of the lot and the area around the lot.

a. If no live or dead insects are found in, on, or about the lot, make no further check of the lot for insects.

b. If two or more live or dead insects are found, consider the rice to be "U.S. Sample grade."

3. Examine the component samples 1/ taken during continuous loading/unloading.

a. Divide-out from each component sample a representative portion of approximately 500 grams.

b. Examine the representative portion for live or dead insects.

(1) If no live or dead insects are found in the representative portion, make no further check of the component for insects.

(2) If two or more live or dead insects are found, consider the rice to be "U.S. Sample grade."

1/ As specified in Chapter 7, "Roundlot Inspection." For shiplots and bargelots, a component sample may not represent more than 500,000 pounds of rice and each sublot/lot must contain two or more approximately equal-sized components.

(3) If one live or dead insect is found, cut another representative portion of approximately 500 grams from the component sample.

(a) If, in the second portion, one or more live or dead insects are found, consider the rice to be "U.S. Sample grade."

(b) If, in the second portion, no live or dead insects are found, do not consider the rice to be "U.S. Sample grade," and make no further check of the component for insects.

(c) (Bulk rice only). If, in the second portion, no live or dead insects are found, but one or more insects had been found in a previously inspected component in this or another sublot, consider the rice that is represented by the component sample to be "U.S. Sample grade."

B. When applicable, show "U.S. Sample grade on account of (live or dead) insects" on the work record and in the Remarks section of the certificate, and grade the rice "U.S. Sample grade."

5.19
TEST WEIGHT
PER BUSHEL

NOTE: This factor is not provided for under the U.S. Standards for Milled Rice, but may be determined upon request.

A. Determine test weight per bushel on a representative portion of approximately 1,000 grams.

B. See chapter 1 of the Grain Inspection Handbook, Book II, for information about performing test weight per bushel determinations.

C. Record the test weight per bushel on the work record to the nearest tenth of a pound and show one of the following statements in the Remarks section of the certificate:

1. "Test weight per bushel of (amount) pounds."

2. "Test weight per bushel of (amount) pounds is approximately equivalent to (amount) kilograms per hectoliter." (Kilograms per hectoliter is determined by multiplying the test weight per bushel by 1.287.)

NOTE: Bulk density may be determined by dividing the test weight per bushel by 1.2445. Bulk density is the number of pounds in one cubic foot.

5.20 QUANTITATIVE ANALYSIS

A. Quantitative analysis provides an estimate of the quantity (percentage) of whole kernels, second head-sized kernels, screenings-sized kernels, and brewers-sized kernels in a lot or sample of milled rice.

NOTE: This factor is not provided for under the U.S. Standards for Milled Rice, but may be determined upon request.

B. The following definitions are applicable only to this determination.

1. Whole Kernels. Unbroken kernels of rice and broken kernels of rice that are at least three-fourths of an unbroken kernel.

2. Second Head Kernels. Broken kernels of rice and other material that remain on top of a 6 sieve.

3. Screenings Kernels. Broken kernels of rice and other material that pass through a 6 sieve but remain on top of a 5 1/2 sieve.

4. Brewers Kernels. Broken kernels of rice and other material that pass through a 5 1/2 sieve.

C. Perform a milling analysis on long grain, medium grain, short grain, and mixed milled rice as follows:

1. Determine the percent of "broken kernels (total)" on a representative portion of not less than 25 grams. Remove the broken kernels from the 25-gram portion using any device or method that will facilitate the separation of the broken kernels from the whole kernels.

2. Determine the percent of whole kernels by subtracting the percent of broken kernels from 100.0 %. For example:

100.0 % - 19.6 % TBK = 80.4 % WK

3. Calculate the adjusted base by dividing the percent of whole kernels in the sample by 100. For example:

80.4 % WK ÷ 100 = .80 adjusted base

4. Determine the percent of screenings kernels and brewers kernels on a representative portion of approximately 125 grams. *

a. Nest a 6 sieve on top of a 5 1/2 sieve in a bottom pan.

b. Place the sieves in a mechanical grain sizer and set the timer to 20.

c. Put the rice in the center of the top sieve and actuate the sizer.

NOTE: If a mechanical sizer is unavailable, hold the sieves and bottom pan level and, using a steady motion, move the sieves from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation 20 times.

d. Return the material remaining in the perforations of the sieve to the portion that remains on top of the sieve.

e. Consider all material that passed through the 6 sieve, but remains on top of the 5 1/2 sieve, as screenings kernels. Do not hand-adjust the separation.

f. Consider all material that passes through the 5 1/2 sieve as brewers kernels. Do not hand-adjust the separation.

5. Adjust the percent of screenings and brewers by multiplying the "actual" percent of screenings and brewers by the adjusted base. For example:

2.1 % SMR X .80 = 1.7 % SMR
1.3 % BMR X .80 = 1.0 % BMR

6. Determine the percent of second head kernels by adding the percent of screenings and brewers kernels together and then subtracting that total from the percent of "broken kernels (total)." For example:

19.6 % TBK - (1.7 % SMR + 1.0 % BMR) = 16.9 % SHMR

7. Record the percent of whole kernels, second head kernels, screenings kernels, and brewers kernels on the work record and the certificate to the nearest whole percent.

D. Perform a milling analysis on second head, screenings, and brewers milled rice as follows:

1. Determine the percent of whole kernels on a representative portion of not less than 25 grams. Remove the whole kernels from the 25-gram portion by hand-picking.

2. Calculate the adjusted base by subtracting the percent of whole kernels from 100 percent and then dividing the resultant by 100. For example:

(100 % - 13.1 % WK) ÷ 100 = .87 adjusted base

3. Determine the percent of screenings kernels and brewers kernels on a representative portion of approximately 125 grams.

a. Nest a 6 sieve on top of a 5 1/2 sieve in a bottom pan.

b. Place the sieves in a mechanical grain sizer and set the timer to 20.

c. Put the rice in the center of the top sieve and actuate the sizer.

NOTE: If a mechanical sizer is unavailable, hold the sieves and bottom pan level and, using a steady motion, move the sieves from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation 20 times.

d. Return the material remaining in the perforations of the sieve to the portion that remains on top of the sieve.

e. Consider all material that passed through the 6 sieve, but remains on top of the 5 1/2 sieve, as screenings kernels. Do not hand-adjust the separation.

f. Consider all material that passes through the 5 1/2 sieve as brewers kernels. Do not hand-adjust the separation.

4. Adjust the percent of screenings and brewers by multiplying the "actual" percent of screenings and brewers by the adjusted base. For example:

17.6 % SMR X .87 = 15.3 % SMR
71.6 % BMR X .87 = 62.3 % BMR

5. Determine the percent of second head kernels by adding the percent of whole kernels, screenings, and brewers kernels together and then subtracting the total from 100.0 %. For example:

100.0 % - (13.1 % WK + 15.3 % SMR + 62.3 % BMR) = 9.3 % SHMR

6. Record the percent of whole kernels, second head kernels, screenings kernels, and brewers kernels on the work record and the certificate to the nearest whole percent.

5.21
MILLING
REQUIREMENTS

THE DEGREE OF MILLING (MILLING REQUIREMENTS) FOR MILLED RICE; I.E., "WELL MILLED," "REASONABLY WELL MILLED," AND "LIGHTLY MILLED" SHALL BE EQUAL TO, OR BETTER THAN, THAT OF THE INTERPRETIVE LINE SAMPLES FOR SUCH RICE.

UNDERMILLED MILLED RICE. UNDERMILLED MILLED RICE SHALL BE MILLED RICE WHICH IS NOT EQUAL TO THE MILLING REQUIREMENTS FOR "WELL MILLED," "REASONABLY WELL MILLED," AND "LIGHTLY MILLED" RICE. GRADES U.S. NO. 1 AND U.S. NO. 2 SHALL CONTAIN NOT MORE THAN 2.0 PERCENT, GRADES U.S. 3 AND U.S. NO. 4 NOT MORE THAN 5.0 PERCENT, GRADE U.S. NO. 5 NOT MORE THAN 10.0 PERCENT, AND GRADE U.S. NO. 6 NOT MORE THAN 15.0 PERCENT OF WELL-MILLED KERNELS. GRADE U.S. NO. 5 SHALL CONTAIN NOT MORE THAN 10.0 PERCENT OF RED RICE AND DAMAGED KERNELS (SINGLY OR COMBINED) AND IN NO CASE MORE THAN 6.0 PERCENT OF DAMAGED KERNELS. NOTE: COLOR AND MILLING REQUIREMENTS ARE NOT APPLICABLE TO THE SPECIAL GRADE "UNDERMILLED MILLED RICE."

A. Determine milling degree on a representative portion of approximately 250 grams.

B. Record the milling degree on the work record and the certificate.

1. When rice is considered to be "Undermilled," determine the percent of well-milled kernels on a representative portion of approximately 25 grams (see section 5.32) and record the percent of well-milled kernels on the work record and the certificate to the nearest tenth percent.

2. Except as provided above, all grades and grade requirements in the U.S. Standards for Milled Rice shall apply to "Undermilled milled rice."

5.22
COLOR

A. Color is usually determined by a cursory examination.

B. When a detailed examination is necessary to determine color, make this determination on a representative portion of approximately 250 grams.

C. Describe the color of the rice using one of the following terms:

WHITE	SLIGHTLY GRAY	GRAY	DARK GRAY	
CREAMY	LIGHT GRAY	SLIGHTLY ROSY	ROSY	VERY ROSY

D. For parboiled milled rice, also describe the rice as either "not distinctly colored by the parboiling process," "distinctly, but not materially colored, by the parboiling process," or "materially colored by the parboiling process."

E. Record color on the work record and the certificate.

5.23
PADDY KERNELS

PADDY KERNELS. WHOLE OR BROKEN UNHULLED KERNELS OF RICE, WHOLE OR BROKEN KERNELS OF BROWN RICE, AND WHOLE OR BROKEN KERNELS OF MILLED RICE HAVING A PORTION OR PORTIONS OF THE HULL REMAINING WHICH COVER ONE-EIGHTH (1/8) OR MORE OF THE WHOLE OR BROKEN KERNELS.

A. Determine the number of paddy kernels on a representative portion of 500 grams (± 1 gram) for all classes, except brewers milled rice. *

1. Divide-out a representative portion of between 475 and 525 grams.

2. Add or remove kernels (by finger-pinching, not pouring) until the required portion is obtained.

3. Record the number of paddy kernels on the work record and the certificate. * *

B. For brewers milled rice, determine the percentage of paddy kernels on a representative portion of not less than 25 grams. Then, record the percent of paddy kernels on the work record and the certificate to the nearest tenth percent. * * * * *

C. If the rice contains 10 percent or more of paddy kernels, seeds, or foreign material, singly or combined, do not consider the rice to be milled rice.

5.24
SEEDS

SEEDS. WHOLE OR BROKEN SEEDS OF ANY PLANT OTHER THAN RICE.

OBJECTIONABLE SEEDS. SEEDS OTHER THAN RICE, EXCEPT SEEDS OF *ECHINOCHLOA CRUSGALLI* (COMMONLY KNOWN AS BARNYARD GRASS, WATERGRASS, AND JAPANESE MILLET).

A. Determine seeds on a representative portion of 500 grams (± 1 gram) for all classes, except brewers milled rice. *

1. Divide-out a representative portion of between 475 and 525 grams.

2. Add or remove kernels (by finger-pinching, not pouring) until the required portion is obtained.

3. Record the number of objectionable seeds and non-objectionable seeds on the work record. * *

B. For brewers milled rice, determine seeds on a representative portion of not less than 25 grams. Then, record the percent of objectionable seeds and non-objectionable seeds on the work record to the nearest hundredth percent.

C. For all classes, except screenings and brewers milled rice:

1. Add the number of objectionable seeds to the number of heat-damaged kernels and record the sum on the work record and the certificate.

2. Add the number of total seeds to the number of heat-damaged kernels and paddy kernels, and record the sum on the work record and the certificate.

D. For screenings milled rice:

1. Record the number of objectionable seeds on the certificate.

2. Add the number of total seeds to the number of paddy kernels, and record the sum on the work record and the certificate.

E. For brewers milled rice:

1. Record the percent of objectionable seeds on the certificate to the nearest tenth percent, except the percent of objectionable seeds in U.S. No. 1 Brewers milled rice should be expressed to the nearest hundredth percent.

2. Add the percent of total seeds to the percent of paddy kernels, and record the sum on the work record and the certificate to the nearest tenth percent.

F. If the rice contains 10 percent or more of paddy kernels, seeds, or foreign material, singly or combined, do not consider the rice to be milled rice.

5.25
HEAT-DAMAGED
KERNELS

HEAT-DAMAGED KERNELS. WHOLE OR BROKEN KERNELS OF RICE WHICH ARE MATERIALLY DISCOLORED AND DAMAGED AS A RESULT OF HEATING AND PARBOILED KERNELS IN NONPARBOILED RICE WHICH ARE AS DARK AS, OR DARKER IN COLOR THAN, THE INTERPRETIVE LINE FOR HEAT-DAMAGED KERNELS.

A. Determine the number of heat-damaged kernels on a representative portion of 500 grams (± 1 gram) for all classes, except screenings and brewers milled rice. (The U.S. Standards for Milled Rice do not provide for determining this factor on screenings and brewers milled rice.) *

1. Divide-out a representative portion of between 475 and 525 grams.

2. Add or remove kernels (by finger-pinching, not pouring) until the required portion is obtained.

B. Record the number of heat-damaged kernels on the work record.

NOTE: If it is determined, by general observation, that the 500 gram portion probably contains 75 or more heat-damaged kernels, divide the 500 gram portion into two portions: a 100 gram portion and a 400 gram portion. Then, examine the 100 gram portion for heat-damaged kernels. If the 100 gram portion contains 25 or more heat-damaged kernels, multiply the number of kernels found by 5 and record that number of heat-damaged kernels on the work record. But if the 100 gram portion contains less than 25 heat-damaged kernels, examine the 400 gram portion and add the number of heat-damaged kernels found in both portions together; then, record that number of heat-damaged kernels on the work record.

C. Add the number of heat-damaged kernels to the number of objectionable seeds and record the sum on the work record and the certificate.

D. Add the number of heat-damaged kernels to the number of total seeds and paddy kernels, and record the sum on the work record and the certificate.

5.26 HEAT-DAMAGED KERNELS, KERNELS DAMAGED BY HEAT, AND/OR PARBOILED KERNELS IN NONPARBOILED RICE

FOR THE CLASSES SCREENINGS AND BREWERS MILLED RICE, GRADES U.S. NO. 1 TO U.S. NO. 4, INCLUSIVE, SHALL CONTAIN NOT MORE THAN 3.0 PERCENT OF HEAT-DAMAGED KERNELS, KERNELS DAMAGED BY HEAT, AND/OR PARBOILED KERNELS IN NONPARBOILED RICE.

A. For screenings and brewers milled rice, determine the percent of "heat-damaged kernels, kernels damaged by heat, and/or parboiled kernels in nonparboiled rice," on a representative portion of not less than 25 grams. (The U.S. Standards for Milled Rice do not provide for determining this factor on classes other than screenings and brewers milled rice.)

B. Record the percent of "heat-damaged kernels, kernels damaged by heat, and/or parboiled kernels in nonparboiled rice," on the work record and the certificate to the nearest tenth percent.

5.27 RED RICE AND DAMAGED KERNELS

RED RICE. WHOLE OR BROKEN KERNELS OF RICE ON WHICH THERE IS AN APPRECIABLE AMOUNT OF RED BRAN.

DAMAGED KERNELS. WHOLE OR BROKEN KERNELS OF RICE WHICH ARE DISTINCTLY DISCOLORED OR DAMAGED BY WATER, INSECTS, HEAT OR ANY OTHER MEANS, AND PARBOILED KERNELS IN NONPARBOILED RICE. "HEAT-DAMAGED KERNELS" SHALL NOT FUNCTION AS DAMAGED KERNELS.

A. Determine red rice and damaged kernels on a representative portion of not less than 25 grams for all classes, except screenings and brewers milled rice.

B. For screenings and brewers milled rice, determine the percent of "heat-damaged kernels, kernels damaged by heat, and/or parboiled kernels in nonparboiled rice," on a representative portion of approximately 25 grams and determine "badly damaged or extremely red in appearance" on a representative portion of approximately 1000 grams.

C. Red rice is rice that has a streak of red bran one-half or more the length of the kernel, or two or more streaks that total one-half or more the length of the kernel. A kernel or a piece of kernel of rice that does not have sufficient red bran to be considered as red rice shall be considered as long grain, medium grain, or short grain rice, as appropriate.

D. The major types of damaged kernels are as follows:

1. Insect-Bored Kernels. Whole and broken kernels of rice that have been bored by insects. Kernels that are only slightly eaten by insects and are clean in appearance shall be considered as sound kernels.

2. Fungus-Damaged or "Pecky" Kernels. Whole and broken kernels of rice that have one or more black, brown, red, or other discolored spots or areas on them caused by fungus growth or insects.

3. Kernels Damaged by Heat. Whole and broken kernels of rice that have been discolored by heat but are lighter in color than the interpretive line for heat-damaged kernels.

4. Parboiled Rice in Nonparboiled Rice. Parboiled kernels in nonparboiled rice that are lighter in color than the interpretive line for heat-damaged kernels.

5. Other Damaged Kernels. Whole and broken kernels of rice that are distinctly discolored or damaged from causes other than those listed above shall be considered as damaged kernels. However, those whole and broken kernels that show sheller marks, but are otherwise not distinctly discolored or damaged, shall not function as damaged kernels.

E. For all classes, except screenings and brewers milled rice, record the percent of red rice and damaged kernels on the work record and the certificate to the nearest tenth percent.

F. For screenings and brewers milled rice, record the percent of "heat-damaged kernels, kernels damaged by heat, and/or parboiled kernels in nonparboiled rice," on the work record and the certificate to the nearest tenth percent.

NOTE: If screenings or brewers milled rice is determined to have a badly damaged or extremely red appearance, record the appearance of the rice on the work record and in the Remarks section of the certificate, and grade the rice "U.S. Sample grade."

5.28 CHALKY KERNELS

CHALKY KERNELS. WHOLE OR BROKEN KERNELS OF RICE WHICH ARE ONE-HALF OR MORE CHALKY.

A. Determine chalky kernels on a representative portion of not less than 25 grams for all classes, except brewers milled rice. (The U.S. Standards for Milled Rice do not provide for determining this factor on brewers rice.)

B. Record the percent of chalky kernels on the work record and the certificate to the nearest tenth percent.

5.29
BROKEN
KERNELS

BROKEN KERNELS. KERNELS OF RICE WHICH ARE LESS THAN THREE-FOURTHS OF WHOLE KERNELS.

A. Determine broken kernels on a representative portion of not less than 25 grams for all classes, except second head, screenings, and brewers milled rice. (The U.S. Standards for Milled Rice do not provide for determining this factor on second head, screenings, and brewers rice.)

B. Remove the broken kernels from the 25-gram portion using any device or method that will facilitate the separation of the broken kernels from the whole kernels.

C. Record the percent of broken kernels on the work record and the certificate to the nearest tenth percent.

5.30
BROKEN
KERNELS
REMOVED BY A
5 AND 6 PLATE
OR THROUGH A
6 SIEVE

5 PLATE. A LAMINATED METAL PLATE 0.142-INCH THICK, WITH A TOP LAMINA 0.051-INCH, PERFORATED WITH ROWS OF ROUND HOLES 0.0781 (5/64) INCH IN DIAMETER, 5/32 INCH FROM CENTER TO CENTER, WITH EACH ROW STAGGERED IN RELATION TO THE ADJACENT ROWS, AND A BOTTOM LAMINA 0.091-INCH THICK, WITHOUT PERFORATIONS.

6 PLATE. A LAMINATED METAL PLATE 0.142-INCH THICK, WITH A TOP LAMINA 0.051-INCH, PERFORATED WITH ROWS OF ROUND HOLES 0.0938 (6/64) INCH IN DIAMETER, 5/32 INCH FROM CENTER TO CENTER, WITH EACH ROW STAGGERED IN RELATION TO THE ADJACENT ROWS, AND A BOTTOM LAMINA 0.091-INCH THICK, WITHOUT PERFORATIONS.

6 SIEVE. A METAL SIEVE 0.032-INCH THICK, PERFORATED WITH ROWS OF ROUND HOLES 0.0938 (6/64) INCH IN DIAMETER, 5/32 INCH FROM CENTER TO CENTER, WITH EACH ROW STAGGERED IN RELATION TO THE ADJACENT ROWS.

A. Determine broken kernels removed by a 5 and 6 plate or a 6 sieve on a representative portion of not less than 50 grams for all classes, except second head, screenings and brewers milled rice. (The U.S. Standards for Milled Rice do not provide for determining this factor on second head, screenings, and brewers rice.)

NOTE: For U.S. No. 1 and 2 Milled Rice, determine broken kernels removed be a 5 plate on a representative portion of not less than 100 grams.

B. For southern production rice:

1. Place a 5 plate in the top carriage and a 6 plate in the bottom carriage of the rice sizing device.

2. Pour the 50-gram portion on the top plate. After the sample is poured, place the emptied triangular pan under the hopper to catch the rice that flows over the plates.

3. Press the starting switch. Allow the machine to run until the rice stops flowing over the plates into the triangular pan.

4. After the rice stops flowing and the machine is turned off, remove the plates and empty their contents into the rectangular container. Lightly tap the bottom of the plates to remove material retained in the perforations of each plate. Keep the material removed by each plate separate.

5. Hand adjust the material that lodges in the plates to remove any whole kernels, any brokens that obviously do not belong with the 5 or 6 plate brokens, any seeds, and any foreign material.

C. For western production rice:

Mechanical Sieving Method.

1. Mount a 6 sieve with a bottom pan on a mechanical sieve shaker.

2. Set the stroke counter for 20 strokes.

3. Follow the procedure for operating the mechanical sieve shaker described in chapter 1, Grain Inspection Handbook, Book II.

4. Return the broken kernels that remain in the perforations of the sieve to the portion that remains on the top of the sieve.

5. Hand adjust the material that passes through the 6 sieve to remove any whole kernels, any brokens that obviously do not belong with the 6 sieve brokens, any seeds, and any foreign material.

Hand Sieving Method.

1. Mount a 6 sieve on a bottom pan.

2. Pour the representative portion in the center of the sieve.

3. Hold the sieve level in both hands with elbows close to the body and the sieve perforations parallel to the direction of movement.

4. In a steady motion, move the sieve from left to right approximately 10 inches, and return from right to left.

5. Repeat the sieving operation 20 times.

6. Return the broken kernels that remain in the perforations of the sieve to the portion that remains on the top of the sieve.

7. Hand adjust the material that passes through the 6 sieve to remove any whole kernels, any brokens that obviously do not belong with the 6 sieve brokens, any seeds, and any foreign material.

D. Record the percent of broken kernels removed by the 5 plate and 6 plate (for southern production), and the percent of broken kernels that pass through the 6 sieve (for western production) on the work record and the certificate to the nearest tenth percent, except that the percent of broken kernels removed by the 5 plate in U.S. Nos. 1 and 2 Milled rice shall be recorded to the nearest hundredth percent.

5.31
30 SIEVE
MATERIAL

30 SIEVE. A WOVEN WIRE CLOTH SIEVE HAVING 0.0234-INCH OPENINGS, WITH A WIRE DIAMETER OF 0.0154-INCH, AND MEETING THE SPECIFICATIONS OF AMERICAN SOCIETY FOR TESTING AND MATERIALS DESIGNATION E-11-61, AS PRESCRIBED IN FGIS INSTRUCTIONS.

A. Determine 30 sieve material on a representative portion of not less than 50 grams for screenings or brewers milled rice. (The U.S. Standards for Milled Rice do not provide for determining this factor on factors other than screenings and brewers rice.)

B. Sieve the rice as follows:

1. Nest the 30 sieve on top of the bottom pan. Then, place the bottom pan and sieve combination on the orbital sieve shaker. Secure the sieve spring retainer.

2. Set the timer switch at exactly 60 seconds and pour the 50-gram sample on the sieve.

3. Place the sieve cover on top of the sieve and start the shaker.

4. After the shaker has stopped, remove the sieve cover and the sieve. Brush the material adhering to the underside of the sieve into the bottom pan.

5. Consider the brushed material and the material in the bottom pan as "30 sieve material."

NOTE: If an orbital sieve shaker is not available, a mechanical sieve shaker, which is set to 50, may be used.

C. Record the percent of 30 sieve material on the work record and the certificate to the nearest tenth percent.

FOR THE CLASSES SCREENINGS AND BREWERS MILLED RICE, GRADES U.S. NO. 1 TO U.S. NO. 4, INCLUSIVE, SHALL CONTAIN NOT MORE THAN 1.0 PERCENT OF MATERIAL PASSING THROUGH A 30 SIEVE.

5.32
OTHER TYPES

OTHER TYPES. (1) WHOLE KERNELS OF: (i) LONG GRAIN RICE IN MEDIUM OR SHORT GRAIN RICE, (ii) MEDIUM GRAIN RICE IN LONG OR SHORT GRAIN RICE, (iii) SHORT GRAIN RICE IN LONG OR MEDIUM GRAIN RICE, AND (2) BROKEN KERNELS OF: (i) LONG GRAIN RICE IN MEDIUM OR SHORT GRAIN RICE AND (ii) MEDIUM OR SHORT GRAIN RICE IN LONG GRAIN RICE, EXCEPT IN U.S. NO. 5 AND U.S. NO. 6 MILLED RICE. IN U.S. NO. 5 AND U.S. NO. 6 MILLED RICE, ONLY WHOLE KERNELS WILL APPLY.

NOTE: BROKEN KERNELS OF MEDIUM GRAIN RICE IN SHORT GRAIN RICE AND BROKEN KERNELS OF SHORT GRAIN RICE IN MEDIUM GRAIN RICE SHALL NOT BE CONSIDERED OTHER TYPES.

A. Determine other types on a representative portion of not less than 25 grams for all classes, except second head, screenings, and brewers milled rice. (The U.S. Standards for Milled Rice do not provide for determining this factor on second head, screenings, and brewers rice.)

B. Record the percent of other types on the work record and the certificate to the nearest tenth percent. If the amount of other types exceeds 10.0 percent, grade the rice, "Mixed milled rice."

NOTE: If "other types" is the only grading factor and the amount of "whole kernels-other types" is less than 5.1 percent and the amount of "whole and broken kernels-other types" is more than 5.0 %, show the following statement in the Remarks section of the certificate: "This rice contains (percent) broken kernels of (type) of milled rice."

5.33 WELL-MILLED KERNELS

WELL-MILLED KERNELS. WHOLE OR BROKEN KERNELS OF RICE FROM WHICH THE HULLS AND PRACTICALLY ALL OF THE GERMS AND THE BRAN LAYER HAVE BEEN REMOVED.

NOTE: THIS FACTOR IS DETERMINED ON AN INDIVIDUAL KERNEL BASIS AND APPLIES TO THE SPECIAL GRADE UNDERMILLED MILLED RICE ONLY.

A. Determine well-milled kernels on a representative portion of not less than 25 grams.

B. Record the percent of well-milled kernels on the work record and the certificate to the nearest tenth percent.

* 5.34 FOREIGN MATERIAL

FOREIGN MATERIAL. ALL MATTER OTHER THAN RICE AND SEEDS. HULLS, GERMS, AND BRAN WHICH HAVE SEPARATED FROM THE KERNELS OF RICE SHALL BE CONSIDERED FOREIGN MATERIAL.

A. Determine foreign material on a representative portion of not less than 100 grams for all classes, except brewers milled rice.

B. For brewers milled rice, determine foreign material on a representative portion of not less than 25 grams.

C. Record the percent of foreign material on the work record. If the amount of foreign material exceeds 0.1 percent, record the percent of foreign material on the certificate and grade the rice "U.S. Sample grade."

5.35 COATED MILLED RICE

COATED MILLED RICE. COATED MILLED RICE SHALL BE RICE WHICH IS COATED, IN WHOLE OR IN PART, WITH SUBSTANCES THAT ARE SAFE AND SUITABLE AS DEFINED IN THE REGULATION ISSUED PURSUANT TO THE FEDERAL FOOD, DRUG, AND COSMETIC ACT AT 21 CFR 130.3(d).

A. Determine coated milled rice on a representative portion of not less than 25 grams.

B. If the rice is considered to be covered with a commercially-accepted substance, consider the rice to be "Coated."

C. When applicable, show the term "Coated" on the work record and the certificate.

5.36 GRANULATED BREWERS MILLED RICE

GRANULATED BREWERS MILLED RICE. GRANULATED BREWERS MILLED RICE SHALL BE MILLED RICE WHICH HAS BEEN CRUSHED OR GRANULATED SO THAT 95.0 PERCENT OR MORE WILL PASS THROUGH A 5 SIEVE, 70.0 PERCENT OR MORE WILL PASS THROUGH A 4 SIEVE, AND NOT MORE THAN 15.0 PERCENT WILL PASS THROUGH A 2-1/2 SIEVE.

A. Determine granulated brewers milled rice on a representative portion of not less than 50 grams of brewers milled rice.

B. Sieve the rice as follows:

1. Nest a 5 sieve, a 4 sieve, and a 2-1/2 sieve on top of a bottom pan mounted on a mechanical sieve shaker.

2. Set the stroke counter for 20 strokes.

3. Follow the procedure for operating the mechanical sieve shaker described in Chapter 1, Grain Inspection Handbook, Book II.

4. Return the kernels that remain in the perforations of each sieve to the portion that remains on the top of that sieve.

5. Do not hand-adjust the material.

C. Record the percent of 5 sieve, 4 sieve, and 2-1/2 sieve material on the work record. When applicable, show the term "Granulated" on the work record and the certificate. If brewers milled rice contains more than 15 percent of broken kernels that will pass through a 2-1/2 sieve, grade the rice "U.S. Sample grade."

5.37 PARBOILED MILLED RICE/ UNGELATINIZED KERNELS

PARBOILED MILLED RICE SHALL BE MILLED RICE IN WHICH THE STARCH HAS BEEN GELATINIZED BY SOAKING, STEAMING, AND DRYING. GRADES U.S. NO. 1 TO U.S. NO. 6, INCLUSIVE, SHALL CONTAIN NOT MORE THAN 10.0 PERCENT OF UNGELATINIZED KERNELS. GRADES U.S. NO. 1 AND U.S. NO. 2 SHALL CONTAIN NOT MORE THAN 0.1 PERCENT, GRADES U.S. NO. 3 AND U.S. NO. 4 NOT MORE THAN 0.2 PERCENT, AND U.S. NO. 5 AND U.S. NO. 6 NOT MORE THAN 0.5 PERCENT OF NONPARBOILED RICE. IF THE RICE IS:

(1) NOT DISTINCTLY COLORED BY THE PARBOILING PROCESS, IT SHALL BE CONSIDERED "PARBOILED LIGHT;"

(2) DISTINCTLY BUT NOT MATERIALLY COLORED BY THE PARBOILING PROCESS, IT SHALL BE CONSIDERED "PARBOILED;"

(3) MATERIALLY COLORED BY THE PARBOILING PROCESS, IT SHALL BE CONSIDERED "PARBOILED DARK."

THE COLOR LEVELS FOR "PARBOILED LIGHT," "PARBOILED," AND "PARBOILED DARK" SHALL BE IN ACCORDANCE WITH THE INTERPRETIVE LINE SAMPLES FOR PARBOILED RICE.

NOTE: THE MAXIMUM LIMITS FOR "CHALKY KERNELS," "HEAT-DAMAGED KERNELS," "KERNELS DAMAGED BY HEAT," AND "COLOR REQUIREMENTS" IN SECTIONS 68.310, 68.311, 68.312, AND 68.313 ARE NOT APPLICABLE TO THE SPECIAL GRADE "PARBOILED MILLED RICE."

UNGELATINIZED KERNELS. WHOLE OR BROKEN KERNELS OF PARBOILED RICE WITH DISTINCT WHITE OR CHALKY AREAS DUE TO INCOMPLETE GELATINIZATION OF THE STARCH.

NOTE: Parboiled milled rice shall be milled rice in which at least 90 percent of the kernels are colored by the parboiling process.

A. When a detailed examination is necessary to determine color, make this determination on a representative portion of approximately 250 grams. Describe the rice as either:

1. "Parboiled light" if it is not distinctly colored by the parboiling process,"

2. "Parboiled" if it is distinctly, but not materially colored, by the parboiling process, or

3. "Parboiled dark" if it is materially colored by the parboiling process.

B. When a detailed examination is necessary to determine nonparboiled or ungelantinized kernels, make this determination on a representative portion of not less than 25 grams.

C. Record the color and the percent of ungelatinized kernels on the work record and the certificate to the nearest tenth percent. If the rice contains at least 90.0 percent parboiled kernels, consider the rice to be "parboiled" and show the special grade "Parboiled Light,""Parboiled," or "Parboiled Dark," as applicable, on the gradeline of the certificate.

NOTE: Except as specified, all grades and grade requirements in the U.S. Standards for Milled Rice apply to "Parboiled Milled Rice."

5.38 GLUTINOUS MILLED RICE/ NONCHALKY KERNELS

GLUTINOUS MILLED RICE SHALL BE SPECIAL VARIETIES OF RICE (ORYZA SATIVA L. GLUTINOSA) WHICH CONTAIN MORE THAN 50 PERCENT CHALKY KERNELS. FOR LONG GRAIN, MEDIUM GRAIN, AND SHORT GRAIN MILLED RICE, GRADE U.S. NO. 1 SHALL CONTAIN NOT MORE THAN 1.0 PERCENT OF NONCHALKY KERNELS, GRADE U.S. NO. 2 NOT MORE THAN 2.0 PERCENT OF NONCHALKY KERNELS, GRADE U.S. NO. 3 NOT MORE THAN 4.0 PERCENT OF NONCHALKY KERNELS, GRADE U.S. NO. 4 NOT MORE THAN 6.0 PERCENT OF NONCHALKY KERNELS, GRADE U.S. NO. 5 NOT MORE THAN 10.0 PERCENT OF NONCHALKY KERNELS, AND GRADE U.S. NO. 6 NOT MORE THAN 15.0 PERCENT OF NONCHALKY KERNELS.

FOR SECOND HEAD MILLED RICE, GRADE U.S. NO. 1 SHALL CONTAIN NOT MORE THAN 4.0 PERCENT OF NONCHALKY KERNELS, GRADE U.S. NO. 2 NOT MORE THAN 6.0 PERCENT OF NONCHALKY KERNELS, GRADE U.S. NO. 3 NOT MORE THAN 10.0 PERCENT OF NONCHALKY KERNELS, GRADE U.S. NO. 4 NOT MORE THAN 15.0 PERCENT OF NONCHALKY KERNELS, AND GRADE U.S. NO. 5 NOT MORE THAN 20.0 PERCENT OF NONCHALKY KERNELS.

FOR SCREENINGS MILLED RICE, THERE ARE NO GRADE LIMITS FOR PERCENT ON NONCHALKY KERNELS. FOR BREWERS MILLED RICE, THE SPECIAL GRADE "GLUTINOUS MILLED RICE" IS NOT APPLICABLE.

NOTE: THE MAXIMUM LIMITS FOR "CHALKY KERNELS" IN SECTIONS 68.310, 68.311, and 68.312 ARE NOT APPLICABLE TO THE SPECIAL GRADE "GLUTINOUS MILLED RICE."

A. Determine nonchalky kernels on a representative portion of not less than 25 grams.

B. Record the percent of nonchalky kernels on the work record and the certificate to the nearest tenth percent. If the rice is a glutinous variety and contains less than 50.0 percent nonchalky kernels, consider the rice to be "glutinous" and show the special grade "Glutinous," as applicable, on the gradeline of the certificate.

NOTE: Except as specified, all grades and grade requirements in the U.S. Standards for Milled Rice apply to "Glutinous Milled Rice."

5.39 AROMATIC MILLED RICE

AROMATIC MILLED RICE SHALL BE SPECIAL VARIETIES OF RICE (ORYZA SATIVA L. SCENTED) THAT HAVE A DISTINCTIVE AND CHARACTERISTIC AROMA; E.G., BASMATI AND JASMINE RICE.

A. Determine aromatic on the basis of the odor of the lot as a whole or the representative sample as a whole.

B. If the rice is an aromatic variety and has an odor common to such rice, consider the rice to be "aromatic" and show the special grade "Aromatic" on the gradeline of the certificate.

* 5.40 ENRICHED MILLED RICE

NOTE: This factor is not provided for under the U.S. Standards for Milled Rice, but may be determined upon request. When deemed necessary, official personnel may use one or more alternative procedures in conjunction with this enrichment test; e.g., "spot checking" the enrichment process, smelling or visually examining the rice for evidence of enrichment, conducting multiple tests, or sending "opinion" samples to the TSD-Commodity Testing Laboratory.

* CAUTION: Conduct this test in a well-ventilated area. A fume hood is not required when performing the test, but it should be used when preparing stock solutions.

REFERENCE: See Attachment 3, "Equipment and Chemicals for Enrichment Analyses" to this chapter.

A. Determine enrichment on a representative portion of approximately 50 grams. Enriched milled rice is milled rice in which there has been added a vitamin premix that contains thiamine, niacin, and iron.

B. Grind the sample for 15 to 30 seconds. Mix well.

C. Place approximately 1 gram of the sample to be tested in a porcelain spot plate cavity. Level-off and pack the sample with a spatula. Similarly, place 1 gram of standard "unenriched" rice in a cavity next to the test rice.

D. Add 3 drops of hydrogen peroxide with the drop bottle to the test rice and the standard rice, being careful not to let the liquid drain off. Allow it to soak in.

E. Put 3 drops of HCl 4N on top of the wetted area. Then, add 3 drops of KSCN solution to the wetted spot.

F. If the test rice begins to develop a light red color almost immediately and small dark red spots appear after about 10 minutes, consider the rice to be "Enriched." If no red color develops and the test rice looks like the standardized rice, consider the rice to be "Unenriched."

G. When applicable, show the statement, "This rice was found to be enriched," on the work record and certificate.

5.41 TOTAL OIL AND FREE FATTY ACID

NOTE: This factor is not provided for under the U.S. Standards for Milled Rice, but may be determined upon request.

A. Determine total oil and free fatty acid on a work sample of approximately 300 grams.

CAUTION: Conduct this test in a well-ventilated area.

REFERENCE: See Attachment 4, "Equipment and Chemicals for Total Oil and Free Fatty Acid Analyses," to this chapter.

B. Divide-out a 300-gram representative portion and determine the moisture content. Record this information on the Total Oil and Free Fatty Acid Worksheet (attachment 5).

C. Reduce the remainder of the work sample to no less than 15-grams. Grind the sample portion as follows: * *

1. Turn on the grinder and allow it to reach maximum RPM.

2. Adjust the feed gate to provide a feed rate of approximately 2 grams per second.

3. Pour the sample into the feed hopper and allow it to grind.

4. Press the plunger three to five times and tap above the clear plastic cyclone to clear the grinder of all loose flour.

5. Hold the plunger down, remove the sample jar, and cap it.

6. Shake and rotate the sample jar to loosen caked flour from the sample jar.

7. Lightly clean the grinder with a brush after each sample. If practicable, also vacuum the grinding chamber.

D. Extract the oil from the rice as follows:

NOTE: Prior to beginning the procedure, turn the analytical balance on and calibrate it by following the manufacturer's instructions and then verify its accuracy using a 10-gram, Class S weight.

1. Make sure the extraction beaker is clean and dry.

2. Clean and dry your hands or wear clean plastic or rubber gloves. This is to limit the transferring of dust and oil from hands to extraction beaker, filter paper, or extraction thimble.

3. Weigh 1/ the extraction beaker on an analytical balance to the nearest 0.0000 g and record the weight on the worksheet. Handle the extraction beaker only at the top, with your forefinger and thumb or with gloved hands. Handle the beaker as little as possible to limit transferring of oil from your hands to the beaker.

*
*

4. Place filter paper or a weighing dish on the analytical balance and tare-off its weight.

5. Mix the ground sample in the sample bottle with the spatula. Place 10 grams (± .02 grams) of ground sample on the filter paper or weighing dish and record the net weight on the worksheet.

6. Pour the sample into the extraction thimble and plug with nonabsorbent cotton; or place sample on filter paper, fold the filter paper tightly with the sample inside, and then place it in the extraction thimble.

NOTE: Before its initial use, wash the nonabsorbent cotton with petroleum ether.

7. Turn on the fan in the fume hood. Start the cold water running through the cooling chamber.

8. Place the thimble with the sample into the open-ended Goldfisch tube and lock it into place on the extractor 2/. To extend the life of the heating elements, run two, four, or six samples at a time. Turn off the heating elements not being used.

(Revised 5/1/97)

1/ When using an analytical balance, the balance's doors should be closed and the balance allowed to stabilize before recording the weight.

2/ The main power switch to the Goldfisch fat/oil extractor should be turned-off before: (1) raising or lowering the heating elements; (2) changing the heating selector switch; or (3) putting extraction beakers up or taking them down.

NOTE: Steps 9 through 19 shall be performed inside the fume hood by a technician who is wearing non-absorbant gloves and appropriate eye protection. Strict adherence to the following procedures are essential. *

9. Add approximately 50 ml of petroleum ether into the weighed extraction beaker. Cover one of the heating elements on the extractor with a heating element cover.

10. Attach the extraction beaker to the extractor with the attachment ring and tighten well. Remove the heating element cover.

11. Raise the heating element to the bottom of the beaker and extract for 2-1/2 hours at the standard heat setting (approximately 8). Begin the 2-1/2 hour period when the first drop comes through the open-end tube.

NOTE: The standard heat setting should yield approximately 150 drops per minute of petroleum ether from the bottom of the open-end tube, depending on the proximity of the heating element to the bottom of the beaker. Adjust the dial and/or height of the heating element to yield this amount.

12. After starting, check to see if petroleum ether is escaping from the system. When the petroleum ether starts to boil, the level of petroleum ether in the beaker will drop. This drop is because some of the petroleum ether is in a gaseous state. After the initial drop, if the level continues to drop, then there is a leak in the system. Lower the heating element, retighten the ring, raise the heating element, continue extracting, and recheck for escaping petroleum ether.

13. Check the petroleum ether for cloudiness. If cloudy, rice particles have infiltrated the petroleum ether. Stop the procedure and determine if the rice particles came from an improperly seated cotton plug, from a leaking thimble, or from rice particles on the outside of the thimble. Start the procedure over with a new sample portion and make the proper corrections.

14. Make sure that water condensation on the cooling chamber does not drip onto the heating element or drip into the beaker when it is released.

15. At the end of the extraction period, turn off and lower the heating element. Release vacuum in the beaker by pulling the tab on top of the extractor. Cover the heating element with a heating element cover. Release the beaker, remove the open-end tube with the sample and replace it with the closed-end tube, reattach the beaker, remove the heating element cover, raise the heating element, and heat the beaker to collect any excess petroleum ether.

16. Remove the thimble from the open-end tube. Place the thimble with the sample in the fume hood to dry. After drying, remove the filter paper with the rice (or cotton and rice) from thimble, save thimble and cotton for future extractions. Throw rice/filter away.

17. When the level of petroleum ether in the extraction beaker reaches about 1/8 inch, turn off and lower the heating element. Place the heating element cover over the heating element, release the vacuum, and release the beaker.

18. Remove and empty the closed-end tube into the used petroleum container or dispose of the used petroleum ether by letting it evaporate in the fume hood. Do not turn fume hood fan off until all petroleum ether is evaporated and sufficient air has been used to flush the fumes from fume hood exhaust system. *

19. Evaporate remaining ether in the extraction beaker by placing the beaker in the front part of the fume hood with the door to the fume hood lowered to a level just above the beaker's top. When the beaker appears to be free of ether, place it upright on the heating element cover that is on the element for a few seconds to assure that all remaining ether is removed. (Be careful not to allow oil to char.) Remove the extraction beaker from the element cover and let the beaker cool in the fume hood to room temperature.

20. Weigh the cool, dry extraction beaker and record the weight on the worksheet.

E. Determine the amount of free fatty acid as follows:

1. Using a crystallizing dish and a magnetic stirrer-hot plate, heat a water bath to 60-65 degrees C.

2. Prepare a titration solvent as follows:

a. Place 25 ml of alcohol, reagent--specially denatured anhydrous ethyl alcohol--in a 250-ml beaker.

b. Add 1 ml of phenolphthalein with the pipet to the alcohol.

c. Place the beaker in the hot water bath and warm the titration solvent. Add a stirring bar to the beaker and start it stirring.

d. Using the buret, titrate with 0.02 N Sodium Hydroxide (NaOH) slowly, one drop at a time, into the titration solvent until a faint pink color persists. *

NOTE: Larger amounts of titration solvent may be prepared provided the ratio is the same (for example, 75 ml alcohol to 3 ml of phenolphthalein). Unused solvent must be stored in a tightly-sealed container and used within two days.

3. Add 10 ml of the titration solvent with the pipet to the residue in the extraction beaker. Rinse the sides of the beaker while adding the titration solvent.

4. Place extraction beaker in a hot (60-65 degrees C) water bath and let the temperature stabilize, then add the stirring bar and start stirring.

5. Zero the buret with NaOH and titrate the sample until a faint pink color persists for at least 1 minute.

6. Determine the amount of NaOH titrated and record it on the work sheet. Record the amount to the nearest one hundredth of a milliliter. *

7. Empty the contents of extraction beaker down the drain with a large amount of water. Carefully wash the extraction beaker with soap and water making sure all oil residue is removed. Rinse the beaker with distilled water. Cover the beaker with a towel to help keep it clean and let it air dry.

8. Should the buret or stopcock become plugged with crystallized NaOH or foreign material, clean them with distilled water and let dry. If water is present in the buret, rinse it with NaOH before using.

F. Calculate the percent of total and free fatty acid as follows:

1. Percent of Total Oil, Moisture-Free Basis (TODB). *

(Wt. of Beaker with Oil Residue - Tare Wt. of Beaker) X 10 = % Total Oil *
(% Total Oil ÷ (100 - % Moisture)) X 100 = % TODB

EXAMPLE: (69.1003 - 69.0244) X 10 = 0.759 or 0.76 %
(0.759 ÷ (100 - 11.9)) X 100 = 0.862 or 0.86 %

2. Percent of Free Fatty Acid in Oil (FFA/O).

Normality of NaOH Titrate X ml of NaOH Used in Titrating X 28.2 ÷ (Weight of Beaker with Oil Residue - Tare Weight of Beaker) = % FFA/O

* EXAMPLE: 0.0202 X 3.25 X 28.2 ÷ 0.0759 = 24.4 or 24 %

3. Percent of Free Fatty Acid in Sample (FFA/S).

% TODB X % FFA/O ÷ 100 = % FFA/S

* EXAMPLE: 0.862 X 24.4 ÷ 100 = 0.212 or 0.21 %

G. Maintain a file sample of at least 300 grams of whole rice on each sample analyzed for TOFFA. Keep file samples in a refrigerator at approximately 40 degrees F.

5.42 INTERPRETIVE LINE SLIDES AND SAMPLES

A. The interpretive line slide (ILS) system assists inspectors in making subjective grading decisions. This system consists of a portable tabletop transparency viewer andphoto graphic slide transparencies. The viewer uses a precisely controlled light source of low intensity designed to provide a standard picture and to protect the slide. Therefore, only use the special viewer for ILS'. Other light sources, such as a regular slide projector, may provide a distorted picture and damage the ILS'. Use of such a projector is not prohibited; however, once used in this manner, the slides may not be used for official purposes.

Table 2
Currently Available Interpretative Line Slides

RICE	1.0	OBJECTIONABLE SEEDS
RICE	1.1	NON-OBJECTIONABLE SEEDS (CALIFORNIA)
RICE	1.2	NON-OBJECTIONABLE SEEDS (SOUTHERN)
RICE	2.0	HEAT DAMAGED KERNELS
RICE	2.1	KERNELS DAMAGED BY HEAT
RICE	2.7	KERNELS DAMAGED BY INSECTS (PECK)
RICE	6.1	PADDY KERNELS IN MILLED RICE (PARTIALLY UNHULLED)
RICE	7.0	SMUT DAMAGED KERNELS
RICE	9.0	RELATED MATERIAL
RICE	9.1	UNRELATED MATERIAL

B. Interpretive line samples are actual samples enclosed in clear plastic containers. Overexposure to direct light can result in the bleaching of these samples. Therefore, interpretative line samples should be stored in cool, dark places.

FGIS FORM-911, "RICE SAMPLE TICKET"

1 56201	CERTIFICATE NO. A-17647	TO BOARD	FIELD OFFICE Stuttgart
LOCATION Farmland Mill	QUANTITY 1282 - 50 Kilos Poly. Bags		
IDENTIFICATION SP-961711	MOVEMENT (Circle)		
SEAL BROKEN	01 IN / 02 (OUT) / 03 BULK / 04 EXPORT / 05 (CAR)		
SEAL APPLIED AG-222667-70	06 TRUCK / 07 LOCAL / 08 (BAGGED) / 09 SUB		
SAMPLER ME	DATE SAMPLED 5-2-92	LAB. NO.	CLASS LGMR

IDENTIFYING MARKS

U.S./Long Grain/Milled Rice/50 Kilos

FACTOR	GRAMS PORT.	GRAMS SEP.	ACG INSP.	SUPV.	BOARD	FACTOR	GRAMS PORT.	GRAMS SEP.	ACG INSP.	SUPV.	BOARD
01 C			CR	CR		12 TBK	25.71	4.35	16.9	15.9	
02 CH						13 TS-HT-P	500		22	22	
03 FM						14 4S					
04 HDF						15 5P/5½S					
05 HT/OBS	500		2.0	18		16 6P/6S					
06 M			11.9	11.8		17 6½S					
07 MD			WM	WM		18 30S					
08 NOBS						19 WK					
09 OT			6.5	7.2		20 TR					
10 P	500		2	4		21					
11 RR&DK	25.71	1.26	5.0	5.4		22					

REMARKS

ACG OR INSPECTOR Dave Boatman	CODE NO. 0123	DATE INSP. 5-2-92
ACG OR INSPECTOR'S GRADE U.S. No. 5 LGMR		
SUPERVISOR Tom Logan	DATE SUPV. 5-3-92	REVIEWED BY / DATE REVIEWED
SUPERVISOR'S GRADE U.S. No. 5 LGMR		BOARD'S GRADE

FORM FGIS-911 (2-89) RICE SAMPLE TICKET USDA-FGIS
(Edition of 6-83, may be used.)

(RESERVED)

GRADES AND GRADE REQUIREMENTS FOR MILLED RICE
Long Grain, Medium Grain, Short Grain, and Mixed Milled Rice

Grading Factors	Grades U.S. Nos.					
	1	2	3	4	5	6
	Maximum number in 500 grams					
Seeds, Heat-Damaged, and Paddy Kernels Total (Singly or Combined).....	2	4	7	20	30	75
Heat-Damaged Kernels and Objectionable Seeds (Singly or Combined).....	1	2	5	15	25	75
	Maximum limit (percent)					
Red Rice and Damaged Kernels (Singly or Combined) 5/ 6/.....	0.5	1.5	2.5	4.0	6.0	15.0
Chalky Kernels 1/ 2/ in Long Grain.....	1.0	2.0	4.0	6.0	10.0	15.0
in Medium/Short Grain	2.0	4.0	6.0	8.0	10.0	15.0
Broken Kernels - Total.....	4.0	7.0	15.0	25.0	35.0	50.0
- Removed by a 5 Plate 3/..	0.04	0.06	0.1	0.4	0.7	1.0
- Removed by a 6 Plate 3/..	0.1	0.2	0.8	2.0	3.0	4.0
- Removed by 6 Sieve 3/....	0.1	0.2	0.5	0.7	1.0	2.0
Other Types 4/ - Whole Kernels.....	-	-	-	-	10.0	10.0
- Whole and Broken Kernels.	1.0	2.0	3.0	5.0	-	-

	Minimum level	
	Color 1/	Milling Requirement 5/
U.S. No. 1	Shall be white or creamy.	Well Milled
U.S. No. 2	May be slightly gray.	Well Milled
U.S. No. 3	May be light gray.	Reasonably Well Milled
U.S. No. 4	May be gray or slightly rosy.	Reasonably Well Milled
U.S. No. 5	May be dark gray or rosy.	Lightly Milled
U.S. No. 6	May be dark gray or rosy.	Lightly Milled

U.S. Sample grade shall be milled rice of any of these classes which: (a) does not meet the requirements for any of the grades from U.S. No. 1 to U.S. No. 6, inclusive; (b) contains more than 15.0 percent of moisture; (c) is musty, or sour, or heating; (d) has any commercially objectionable foreign odor; (e) contains more than 0.1 percent of foreign material; (f) contains two or more live or dead weevils or other live insects, insect webbing, or insect refuse; or (g) is otherwise of distinctly low quality.

1/ For the special grade Parboiled milled rice, see section 68.315(c).
2/ For the special grade Glutinous milled rice, see section 68.315(e).
3/ Plates should be used for southern production rice and sieves should be used for western production rice, but any device or method which gives equivalent results may be used.
4/ These limits do not apply to the class Mixed Milled Rice.
5/ For the special grade Undermilled milled rice, see section 68.315(d).
6/ Grade U.S. No. 6 shall contain not more than 6.0 percent damaged kernels.

GRADES AND GRADE REQUIREMENTS FOR MILLED RICE
Second Head Milled Rice

Grading Factors	Grades U.S. Nos.				
	1	2	3	4	5
	Maximum number in 500 grams				
Seeds, Heat-Damaged, and Paddy Kernels Total (Singly or Combined).....	15	20	35	50	75
Heat-Damaged Kernels and Objectionable Seeds (Singly or Combined).....	5	10	15	25	40
	Maximum limit (percent)				
Red Rice and Damaged Kernels (Singly or Combined).....	1.0	2.0	3.0	5.0	10.0
Chalky Kernels 1/ 2/.....	4.0	6.0	10.0	15.0	20.0

Minimum level

	Color 1/	Milling Requirement 2/
U.S. No. 1	Shall be white or creamy.	Well Milled
U.S. No. 2	May be slightly gray.	Well Milled
U.S. No. 3	May be light gray.	Reasonably Well Milled
U.S. No. 4	May be gray or slightly rosy.	Reasonably Well Milled
U.S. No. 5	May be dark gray or rosy.	Lightly Milled

U.S. Sample grade shall be milled rice of this class which:
(a) does not meet the requirements for any of the grades from U.S. No. 1 to U.S. No. 5 inclusive;
(b) contains more than 15.0 percent of moisture;
(c) is musty, or sour, or heating;
(d) has any commercially objectionable foreign odor;
(e) contains more than 0.1 percent of foreign material;
(f) contains two or more live or dead weevils or other live insects, insect webbing, or insect refuse; or
(g) is otherwise of distinctly low quality.

1/ For the special grade Parboiled milled rice, see section 68.315(c).
2/ For the special grade Glutinous milled rice, see section 68.315(e).
3/ For the special grade Undermilled milled rice, see section 68.315(d).

GRADES AND GRADE REQUIREMENTS FOR MILLED RICE
Screenings Milled Rice

Grading Factors	Grades U.S. Nos. 4/5/				
	1	2	3	4	5
	Maximum number in 500 grams				
Paddy Kernels and Seeds Total (Singly or Combined).....	30	75	125	175	250
Objectionable Seeds.....	20	50	90	140	200
	Maximum limit (percent)				
Chalky Kernels 1/3/.....	5.0	8.0	12.0	20.0	30.0

Minimum level		
	Color 1/	Milling Requirement 2/
U.S. No. 1	Shall be white or creamy.	Well Milled
U.S. No. 2	May be slightly gray.	Well Milled
U.S. No. 3	May be light gray or slightly rosy.	Reasonably Well Milled
U.S. No. 4	May be gray or rosy.	Reasonably Well Milled
U.S. No. 5	May be dark gray or very rosy.	Lightly Milled

U.S. Sample grade shall be milled rice of this class which:
(a) does not meet the requirements for any of the grades from U.S. No. 1 to U.S. No. 5 inclusive;
(b) contains more than 15.0 percent of moisture;
(c) is musty, or sour, or heating;
(d) has any commercially objectionable foreign odor;
(e) has a badly damaged or extremely red appearance;
(f) contains more than 0.1 percent of foreign material;
(g) contains two or more live or dead weevils or other live insects, insect webbing, or insect refuse; or
(h) is otherwise of distinctly low quality.

1/ For the special grade Parboiled milled rice, see section 68.315(c).
2/ For the special grade Undermilled mlled rice, see section 68.315(d).
3/ For the special grade Glutinous milled rice, see section 68.315(e).
4/ Grades U.S. No. 1 to U.S. No. 4, inclusive, shall contain not more than 3.0 percent of heat-damaged kernels, kernels damaged by heat and parboiled kernels in nonparboiled rice.
5/ Grades U.S. No. 1 to U.S. No. 4, inclusive, shall contain not more than 1.0 percent of material passing through a 30 sieve.

GRADES AND GRADE REQUIREMENTS FOR MILLED RICE
Brewers Milled Rice

Grading Factors	Grades U.S. Nos. 3/4/				
	1	2	3	4	5
	Maximum limit (percent)				
Paddy Kernels and Seeds Total (Singly or Combined)	0.5	1.0	1.5	3.0	5.0
Objectionable Seeds	0.05	0.1	0.2	0.4	1.5

Minimum level

Color 1/	Milling Requirement 2/
U.S. No. 1 Shall be white or creamy.	Well Milled
U.S. No. 2 May be slightly gray.	Well Milled
U.S. No. 3 May be light gray or slightly rosy.	Reasonably Well Milled
U.S. No. 4 May be gray or rosy.	Reasonably Well Milled
U.S. No. 5 May be dark gray or very rosy.	Lightly Milled

U.S. Sample grade shall be milled rice of this class which:
(a) does not meet the requirements for any of the grades from U.S. No. 1 to U.S. No. 5 inclusive;
(b) contains more than 15.0 percent of moisture;
(c) is musty, or sour, or heating;
(d) has any commercially objectionable foreign odor;
(e) has a badly damaged or extremely red appearance;
(f) contains more than 0.1 percent of foreign material;
(g) contains more than 15.0 percent of broken kernels that will pass through a 2 1/2 sieve;
(h) contains two or more live or dead weevils or other live insects, insect webbing, or insect refuse; or
(i) is otherwise of distinctly low quality.

1/ For the special grade Parboiled milled rice, see section 68.315(c).
2/ For the special grade Undermilled mlled rice, see section 68.315(d).
3/ Grades U.S. No. 1 to U.S. No. 4, inclusive, shall contain not more than 3.0 percent of heat-damaged kernels, kernels damaged by heat and parboiled kernels in nonparboiled rice.
4/ Grades U.S. No. 1 to U.S. No. 4, inclusive, shall contain not more than 1.0 percent of material passing through a 30 sieve. This limit does not apply to the special grade Granulated brewers milled rice.

EQUIPMENT AND CHEMICALS FOR ENRICHMENT ANALYSES

Safety Equipment.

1. Safety goggles for conducting test, full-face protection shield for mixing solutions.

2. Plastic or rubber apron and gloves.

3. Eye wash facilities (portable eye wash bottles are not acceptable--See FGIS Instruction 370-4).

Laboratory Equipment.

1. Spatula (Plastic) - with 3-inch blade (1 each).

2. Porcelain spot plate (4 inches X 4 inches) with concave depression, white (1 each).

3. Grinder (Moulnex or equivalent) (1 each).

4. 25-ml graduated cylinder (Nalgene) (1 each).

5. 250-ml graduated cylinder (Nalgene) (1 each).

6. Storage bottles, 32-oz. capacity with caps (Nalgene) (3 each).

7. Small funnels (Nalgene) (1 each).

8. Polyethylene drop bottles (4-oz. capacity) (3 each).

Chemicals. 1/

1. 1-pound - Potassium thicyanate (KSCN), reagent crystals.

2. 1 pint - Hydrochloric acid (HCl) 37 % reagent grade in safe-kote container. *

3. 500-ml bottle - 3 % hydrogen peroxide laboratory grade.

Stock Solutions.

CAUTION: Prepare solutions in a well-ventilated area.

1/ A Material Safety Data Sheet must be on hand for each chemical.

1. KSCN 10 %.

   a. Weigh 50 grams of KSCN crystals on a FGIS precision-class scale.

   b. Transfer the crystals to a 32-oz. Nalgene storage bottle.

   c. Add 500 ml of water measured in the 250-ml graduated cylinder.

   d. Shake until crystals are dissolved. Label the storage bottle "10 % KSCN" with date of preparation.

* 2. HCl 4N.

   a. Measure 417 ml of water into a 32-oz. Nalgene storage bottle.

* b. Add 166 ml of the 37 % HCl to the water slowly. Some heat may be generated. <u>DO NOT ADD THE WATER TO THE ACID</u>.

* c. Screw on the top and shake to mix. Label the storage bottle "HCl - 4N" with date of preparation.

3. 3 percent Hydrogen peroxide. Use as purchased.

<u>Handling</u>.

Put approximately 100 ml of each of the stock solutions into separate polyethlene drop bottles.

EQUIPMENT AND CHEMICALS FOR TOTAL OIL AND FREE FATTY ACID ANALYSES

Safety Equipment.

1. Safety goggles; Impact and Chemical Splash Goggles.
2. Plastic or rubber gloves; Powder Vinyl Gloves.
3. Plastic or rubber apron (e.g laboratory smock).
4. Fire blanket.
5. Fire extinguishers; Class BC CO_2 extinguisher.
6. Eye wash station.
7. Laboratory safety signs; No Smoking, No Eating, Authorized Personnel Only, and any other appropriate signs.

Laboratory Equipment.

1. Explosion-proof fume hood.
2. Goldfisch fat/oil extractor.
3. Analytical balance with ± 0.1 mg division size, with 10-gram NIST-class S weight.
4. Magnetic stirrer-hot plate.
5. Stirring bar (dia. 3 mm, L 12.7 mm).
6. Stir bar retriever (L 31 cm).
7. Beakers, glass, graduated, 250-ml capacity.
8. Cylinder, glass, graduated, 100-ml capacity.
9. Buret (either a KIMAX Class A auomatic, precision bore, three-way stopcock wih PTFE plug, 5-ml capacity; or a Brinkman Digital, 25-ml capacity). *
10. Support stand.
11. Single-buret clamp.
12. Scoopula spatula.
13. Kimwipe tissues.

14. Crystallizing dish (dia. 190 mm, depth 100 mm).

15. Beaker brush.

16. Dust brush (for dusting balance).

17. Carboy with spigot; Nalgene Rectangular Polyethylene with Quick-Action Spigot; 5 gallon capacity.

18. Bulb-type safety pipet filler.

19. Pipet, Nalgene unbreakable, 10-ml capacity.

20. Filter; Whatman Qual. Grade Circles; Whatman 2 filter (15.0 cm).

21. Udy cyclone sample mill with 1 mm screen.

22. Thermometer; - 20 degrees to + 110 degrees Celsius Scale.

23. Chemical storage cabinet.

24. Extraction Thimbles; Whatman Pure Cellulose Thimbles (22 mm x 80 mm).

25. Filling funnel; Nalgene polypropylene; (top dia. 65 mm, stem length 25 mm, stem dia. 15 mm).

26. Nalgene polypropylene wash bottle (500 ml).

27. Nonabsorbent cotton.

Chemicals. 1/

1. Petroleum ether 30 degrees - 60 degrees C. (ACS)

NOTE: After breaking a container's seal, store the container under forced ventilation (an activated fume hood). Store unopened containers in the chemical storage cabinet. Write the date that petroleum ether is received in the laboratory on each container. Petroleum ether that has been on hand over a year should be disposed of. Keep no more than 7 liters of petroleum ether on hand.

* 2. Sodium hydroxide (NaOH) solution 0.02 N.

NOTE: Replace NaOH solution with a fresh batch every 3 months.

3. 0.3% Phenolphthalein in ethanol.

1/ A Material Safety Data Sheet must be on hand for each chemical.

4. Alchohol, reagent grade--specially denatured anhydrous ethyl alcohol.

Grinder Maintenance.

1. Clean grinders after every 20 samples are ground. To clean, uplug the grinder, then remove the lid and dust all parts, including the cover, impeller, grinding ring screen, separator, cyclone, and filter assembly. Dust all other acessible surfaces.

2. Replace the grinding ring and screen after approximately 8,000 samples have been ground. Always replace the grinding ring and screen at the same time.

3. Adjust the feed gate on the grinder to allow a flow rate of approximately 2 grams per second. The grinder motor should not be allowed to "drag," or run at a reduced RPM when a sample is introduced. If motor drag occurs and cannot be eliminated by setting the feed rate properly or replacing the belts, service is required.

4. When one belt must be replaced, replace the other belt as well. Never replace only one of the two belts. After replacing the belts, make certain the round, plastic sleeve that houses the motor is positioned properly. The air vents at the base of the sleeve must be toward the back of the grinder; the air vents on the upper end encircle it.

(RESERVED)

TOTAL OIL AND FREE FATTY ACID WORKSHEET

Field Office: Houston	Date: 5/1/93	Technician: BS		
Sample Number	1			
	100.0	100.0	100.0	100.0
% Moisture in Sample	-11.9	-	-	-
Moisture Conversion	88.1			
Weight of Ground Sample	9.98			
Weight of Beaker and Oil	69.1003			
Weight of Beaker	-69.0244	-	-	-
Weight of Oil	.0759			
	X 10	X 10	X 10	X 10
% Total Oil	.759			
Moisture Conversion	÷ 88.1	÷	÷	÷
	X 100	X 100	X 100	X 100
% Total Oil, Moisture-Free Basis	.861			
% Total Oil, Moisture-Free Basis (Rounded)	.86			
Ending ml of NaOH	2.65			
Beginning ml of NaOH	-2.00	-	-	-
ml of OH	.65			
Normality of NaOH	.1003			
	X 28.2	X 28.2	X 28.2	X 28.2
Weight of Oil	÷ .0759	÷	÷	÷
% FFA in Oil	24.2			
% FFA in Oil (Rounded)	24			
% Total Oil Moisture-Free Basis	X .86	X	X	X
	÷ 100	÷ 100	÷ 100	÷ 100
% FFA in Sample	.206			
% FFA in Sample (Rounded)	.21			

CHAPTER 6

CERTIFICATION

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Attachment 1 Form FGIS-956, "Rice Inspection Services Certificate" (Lot Inspection Certificate)

Attachment 2 Form FGIS-932, "Rice Inspection Certificate - Submitted Sample Inspection"

Attachment 3 Form FGIS-993, "Commodity Inspection Certificate" (Lot Inspection Certificate)

Attachment 4 Form FGIS-994, "Commodity Certificate" (Submitted Sample Inspection Certificate)

6.1 GENERAL

A. Official certificates issued and not superseded under the Act and the regulations are receivable by all offices and all courts of the United States as prima facie evidence of the truth of the statements stated thereon.

B. A certificate shall be issued for each lot or submitted sample inspection of rice whether for kind, class, grade, factor analysis, equal-to-type, milling yield, other quality designations as defined in the standards or instructions, or for any other approved services performed.

C. The information shown on the certificate shall be taken from the work record and the application for service.

D. Cooperators may use FGIS forms and certificates or their own forms and certificates. All forms and certificates must be approved by FGIS prior to use.

6.2 LOT INSPECTION CERTIFICATE

A. A lot inspection certificate shall be issued to show quality and other service results for an identified lot of rice based on a sample drawn by official personnel. An inspection for quality may include kind, class, grade, factor analysis, equal-to-type, milling yield, or any other quality designation as defined in the standards or instructions. Other services that may be shown on the certificate are: checkweighing, checkloading, checkcounting, condition of food containers, plant approval, and observation of loading.

B. An <u>unqualified</u> lot inspection certificate shall not be issued as representing an identified lot unless the entire lot is accessible for sampling and a representative sample can be obtained.

C. If only part of a lot is accessible for sampling, a lot inspection certificate may be issued based on a representative sample obtained from the accessible portion, provided that the certificate is <u>qualified</u> by printing or stamping the words "PARTIAL INSPECTION" thereon (see section 6.5).

6.3 SUBMITTED SAMPLE INSPECTION CERTIFICATE

A. A submitted sample inspection certificate shall be issued to show the results of an inspection for quality of rice based on a sample submitted by an applicant. An inspection for quality may include kind, class, grade, factor analysis, equal-to-type, milling yield, or any other quality designation as defined in the standards or instructions.

B. Each submitted sample inspection certificate shall clearly state that the results of the inspection apply only to the sample described by the certificate and not to the lot from which the sample may have been taken.

C. A submitted sample may be identified by the applicant by sample number, producer's name, letters of the alphabet, or any other identification, including a lot or carrier identifier. If a submitted sample is not adequately identified, the inspector may assign a number to the sample or request the applicant to assign a number or other identifier to the sample.

6.4 DIVIDED-LOT CERTIFICATE

A. Divided-lot certificates are multiple certificates issued for specified quantities which comprise a lot for which an original lot inspection certificate has been issued, surrendered, and voided.

B. When rice is offered for inspection and is certificated as a single lot, the applicant may exchange the lot certificate for two or more divided-lot certificates.

C. Requests for divided-lot certificates shall be made, in writing, to the office that issued the outstanding certificate by the applicant who made the initial request.

D. Divided-lot certificates must be issued within 5 business days of the outstanding certificate date and before the lot's identity has been lost. FGIS field office managers may, on a case-by-case basis, waive these requirements, when necessary to facilitate trade.

E. Requests for divided-lot certificates must show:

1. The rice quantity to be shown on each divided-lot certificate.

2. Name and address of each consignee, if any.

3. Load order number, purchase authorization number, reference number, contract number, letter of credit identification, or similar identification required for each individual consignee.

F. Prior to issuing a divided-lot certificate, the original inspection certificate must be in the custody of the cooperator or FGIS field office and be marked "VOID-SURRENDERED FOR DIVIDED-LOT CERTIFICATES."

G. If official personnel determine that the condition of the affected rice has changed since the original inspection, the request for divided-lot certificates shall be dismissed.

H. Show the same information, inspection date, and statements on each divided-lot certificate, including approved statements, that were shown on the superseded certificate. Additionally, show on each divided-lot certificate the following:

1. On the original and all copies, show the completed statement "This rice is part of an undivided lot of (number of pounds or sacks, as warranted)."

2. On the original, show the term "Divided-Lot Original," and on the copies, show the term "Divided-Lot Copy." (When using form FGIS-956, show the term "Divided-Lot Original" in the space identified as "OTHER" under "TYPE OF INSPECTION.")

3. The same serial number as shown on the superseded certificate with a consecutively numbered suffix (for example, 1764-1, 1764-2, 1764-3, etc.). Inspection certificates have preprinted serial numbers. The preprinted number must be "X'd" out and replaced with the superseded certificate number and the serially numbered suffix.

4. The rice quantity requested on the application. No divided-lot certificate shall be issued which shows, individually or collectively, a rice quantity in excess of the quantity shown on the superseded original certificate.

5. At the request of the applicant, a separate consignee, load order number, purchase authorization number, reference number, contract number, letter of credit identification, or similar identification may be shown on each divided-lot certificate. This information must be furnished by the applicant, in writing, and identical information must be shown on the superseded certificate or on a letterhead document attached to the superseded certificate.

6. The markings on packaged rice containers will be shown according to procedures in section 6.13 of this chapter. The markings shown on the superseded certificate must be shown on each divided-lot certificate with the number of containers for each marking.

I. If checkweighing is performed as part of the original inspection, the estimated average gross, tare, and net weights determined during the original service shall be used to determine the estimated total gross, tare, and net weights to be shown on the divided-lot certificate.

J. After divided-lot certificates have been issued, further dividing or combining is prohibited except with the approval of the FGIS Administrator. These limitations do not apply when a corrected certificate must be issued.

6.5 PARTIAL INSPECTION CERTIFICATE

A. There may be circumstances when the entire lot is not accessible or a representative sample cannot be obtained. In such instances, official personnel will issue the inspection certificate stating the estimated quantity of the rice in the accessible portion and that the inspection is limited to the accessible portion. Conspicuously show in the heading of the inspection certificate the words "PARTIAL INSPECTION."

B. For bulk rice in bins and shipholds that is sampled by a 12-foot bulk trier that does not reach the bottom of the lot, a partial inspection certificate shall be issued. Show the following statement "Top _____ feet sampled. Bottom not sampled." in the Remarks section of the certificate.

*
*
*
*
*
*

NOTE: Do not issue a partial inspection certificate for bulk rice in hopper cars or barges that are sampled by a 12-foot bulk trier that does not reach the bottom of lot. But, when deemed necessary, the statement "Top _____ feet sampled. Bottom not sampled." may be shown in the Remarks section of the certificate.

C. If bulk or sacked rice is offered for inspection at rest in a container and is loaded in such a manner that it is possible to secure only a door-probe, shallow-probe, door-sack-probe, or surface-sack-probe sample(s) of the lot or the rice is not trimmed or otherwise does not have a reasonably level surface, the carrier or container will be considered to be "heavily loaded" and a partial inspection certificate issued.

1. If a partial inspection is made, the rice shall be sampled as thoroughly as possible with an approved trier. The inspection certificate issued shall have the words "PARTIAL INSPECTION" conspicuously shown in the heading of the certificate.

2. In addition, the certificate shall show the type of sample(s) obtained. The type of sample(s) shall be described as "door-probe," "shallow-probe," "door-sack-probe," or "surface-sack-probe" samples; and, in the case of packaged rice (including sacked rice), the approximate number of containers accessible for sampling and the approximate number of containers in the lot shall be shown in the space provided for quantity on the certificate; e.g., "800/100-pound polypropylene sacks, part of an undivided lot of 1,250 sacks."

3. For the purpose of this handbook, the following terms shall have the following meanings:

a. Door-probe sample. A sample taken with an approved trier from a bulk rice lot which is loaded so close to the top of the carrier or container that it is possible to insert the trier only in the rice in the vicinity of the door or hatch of the carrier or area in the container in which the rice is located.

b. Shallow-probe sample. A sample taken with an approved trier from a bulk rice lot which is loaded so close to the top of the carrier or container that it is possible to insert the trier in the rice at the prescribed locations but only at an angle greater than the angle prescribed in the handbook.

c. Door-sack-probe sample. A sample taken with an approved trier from a sacked rice lot which is loaded so close to the top of the carrier that it is possible to insert the trier only in the rice sacks in the vicinity of the door or hatch of the carrier or area in the container in which the sacks are located.

d. Surface-sack-probe sample. A sample taken with an approved trier from a sacked rice lot which is so loaded or placed that it is possible to insert the trier only in the rice in the sacks in the upper portion, sides, or ends of the lot.

6.6
CORRECTED
CERTIFICATE

A. The accuracy of the statements and information shown on official certificates must be verified by the individual whose name or signature, or both, is shown on the official certificate or by the authorized agent who affixed the name or signature, or both. Errors found during this process will be corrected according to this section. The term "errors" includes errors of commission or omission and are not limited to errors of commission or omission attributed to official personnel. Such errors may be attributed to the applicant for inspection.

B. Only official personnel or their authorized agents may make corrections, erasures, additions, or other changes to official certificates.

C. No corrections, erasures, additions, or other changes may be made which involve identification, quality, or quantity.

D. If errors are found prior to issuance, the errors may be corrected by either:

1. Issuing a new certificate (the incorrect certificate shall be marked "VOID") or

2. Making corrections subject to the following requirements:

a. The corrections shall be neat and legible.

b. The corrections shall be initialed by the individual who corrects the certificate.

c. The corrections and initials are shown on the original and all copies.

E. If errors are found on an official certificate at any time up to a maximum of 1 year after issuance, the errors shall be corrected by obtaining the incorrect certificate and replacing it with a corrected certificate. When the incorrect certificate cannot be obtained, a corrected certificate may be issued superseding the incorrect one.

1. Written or verbal notice of error shall be issued to the applicant and respondents.

2. The original of the incorrect certificate shall, if possible, be obtained and clearly marked "VOID."

3. The original and the copies of the corrected certificate shall be issued to the same applicant and respondents who received the certificate found incorrect.

4. The corrected certificate shall show the identical information and statements as shown on the incorrect certificate except:

a. The correct statement or information shall be shown instead of the incorrect or omitted statement or information.

b. The corrected original certificate shall show the term "Corrected Original" and the corrected copies shall show the term "Corrected Copy."

c. The original and the copies shall show, in the space provided for remarks, the following completed statement: "This certificate is corrected as to (reason for correction) and supersedes Certificate No. (superseded certificate number), dated (date of superseded certificate)."

d. If the incorrect certificate cannot be obtained, the statement "The superseded certificate identified herein has not been surrendered." shall be clearly shown in the space provided for remarks. Official personnel shall exercise other such precautions as may be necessary to prevent the fraudulent and unauthorized use of the superseded certificate.

e. A new serial number shall be shown.

5. No corrected certificate shall be issued for a certificate which has been superseded or altered in any manner other than as prescribed in this section without approval of the appropriate FGIS field office manager.

6. The provisions of this section shall be applicable to all types and levels of inspections.

6.7 DUPLICATE CERTIFICATE

A. Upon request, a duplicate certificate may be issued for a lost or destroyed official certificate.

B. Requests for duplicate certificates shall be filed:

1. In writing, in English.

2. By the applicant who requested the service covered by the lost or destroyed certificate.

3. With the office that issued the initial certificate.

4. With a statement by the applicant that the original certificate has been lost or destroyed; if lost, that diligent effort has been made to find it without success.

C. The same information and statements, including approved statements, that were shown on the lost or destroyed certificate shall be shown on the duplicate certificate. Duplicate certificates shall show:

1. The term "Duplicate Original" and the copies shall show "Duplicate Copy."

2. The original and the copies shall show, in the space provided for remarks, the following completed statement: "This duplicate certificate is issued in lieu of a (lost or destroyed, as applicable) certificate."

3. The serial number shall be "X'ed" out and the lost or destroyed certificate serial number typed on the certificate.

D. Duplicate certificates shall be issued as promptly as possible.

E. Duplicate certificates shall not be issued for certificates that have been superseded or issued in any manner other than prescribed in this section unless otherwise approved by the appropriate FGIS field office manager.

F. The provisions of this section shall be applicable to all levels of certificates.

6.8 MULTIPLE GRADE CERTIFICATE

A. When rice is offered for inspection as one lot and is subsequently found to contain portions that are distinctly different in class/type, quality, or condition, the rice in each portion shall be sampled, inspected, and graded separately, but the results shall be recorded on one certificate.

B. The certificate shall include the approximate quantity or weight of each portion, the location of each portion in the carrier, and the grade and factor information on the rice in each portion.

1. Enter an estimate of the quantity of the larger portion and the grade of that portion on the certificate first, followed by an estimate of the remainder of the lot and the grade assigned to that portion. For hopper cars, include the identification of the compartment(s).

2. Factor information shall be entered in the proper sequence and must be related to a particular portion and its position in the carrier.

6.9 INSPECTION DATE INFORMATION

A. The inspection date (or date of issuance or date of service) is the day on which the inspection is completed, as shown in the detailed work records. In the case of lot inspections where the analysis, for good reason, is not performed or not completed until the day following the sampling, the certificate may be dated either the day the lot was sampled or the following day when the inspection was completed.

NOTE: If multiple services are performed, the date shown on the certificate should usually be the day the last service was performed.

B. A uniform lot which requires more than 1 day to sample may be certificated as one lot, provided no undue delay occurs in completion of the lot.

1. There must be a reasonably continuous operation taking into consideration weather and other conditions which might interfere in the completion of the lot.

2. If reasonably continuous inspection service is not maintained, one lot inspection certificate shall be issued for the portion inspected prior to the break in inspection service; and one lot inspection certificate shall be issued for the portion inspected after the break in inspection service (or after each additional break).

3. "Reasonably continuous inspection service" may include inactive periods of not more than 88 consecutive hours. For roundlot or warehouselot inspection plan purposes, at least one block or sublot must be inspected during the prescribed time period. The 88-hour limit may be extended at the discretion of the appropriate FGIS field office or federal-state office manager. *

C. Divided-lot certificates shall be dated the same date as shown on the original certificate.

6.10 REMARKS INFORMATION

A. The space provided for remarks is for showing information which will facilitate marketing. No statement may be shown which is known to be false or misleading. Remarks may include information, such as warehouse receipt numbers, loan numbers, load order numbers, container markings, seal numbers, and approved statements.

B. The reverse of certificates may be used for showing pertinent information and approved statements.

If used, show the statement "(see reverse)" or "(continued on reverse)" conspicuously on the front of the certificate. On the reverse of the certificate, show "(Continuation of (applicable space continued from))."

NOTE: Requests for special statements which are substantially different from approved statements or which are not approved shall be referred to the appropriate FGIS field office manager for approval.

6.11 SHIPPER AND CONSIGNEE INFORMATION

Rice certificate forms do not have a preprinted space for showing the name and address of a shipper or consignee. This information may be shown in the space provided for remarks. Showing this information is not mandatory, it shall only be shown when requested.

NOTE: When divided-lot inspection certificates are requested with different consignees for each divided-lot certificate, all consignees must be shown on the surrendered original certificate.

6.12 CARRIER OR CONTAINER INFORMATION

A. Carrier, container, and seal identification may be shown on lot inspection certificates and on submitted sample inspection certificates.

B. Care should be taken to ensure that the proper identification information is recorded.

C. For lot inspections, official personnel shall obtain identification information personally. Do not transcribe the information from the application or other documents supplied by the applicant or others.

D. Obtain identifying information as follows:

1. Oceangoing vessel identification shall be taken from the vessel hull or obtained from the vessel master or representative.

2. Barge identification shall be taken from the hull, not from removable tops.

3. Railcar identification shall be taken from the side of the car, not from the ends.

NOTE: In certain instances, it may be necessary to separately certificate the rice in one or more compartments of a hopper car because of different class, quality, or condition. In such instances, the first bay or compartment at the car's brake end shall be identified as "B-1," and the remaining compartments or bays being numbered consecutively towards the car's nonbrake end. A statement identifying the compartment shall be shown after the car initials and number and shall be followed by the seal identification applied to the compartment.

4. Truck (without trailer(s)) identification may be taken from a State license plate or other truck identification. In the case of a truck which cannot be sealed, the truck identification need not be shown. If a truck cannot be sealed and if requested by the applicant, the truck may be identified by other identification, such as load number, scale ticket number, or other information which will facilitate the identification of individual trucks.

5. Truck trailer identification may be taken from a State license plate on the trailer or other trailer identification. In the case of a trailer which cannot be sealed, the trailer identification need not be shown. If a trailer cannot be sealed and if requested by the applicant, the trailer may be identified by other identification, such as load number, scale ticket number, or other information which will facilitate the identification of individual trailers.

6. Container (ocean containers, containerized unit loads, or piggy-back loads) identification shall be taken from the front of the container. The identification number consists of four letters followed by five or six numbers. The last letter or number after the number which is separated by a dash, blank space, or surrounded by a box may be disregarded. For example, if SEAU12345-9 is printed on the container, the identification would be SEAU12345 unless the applicant requested that the "-9" be shown.

7. Storage bin identification may be taken from information shown on the bin or from other reliable sources; e.g., warehouse receipt number.

8. Warehouse lot identification shall be taken from the schematic layout of the warehouse or from other reliable sources; e.g., warehouse receipt number.

6.13 CONTAINER MARKINGS INFORMATION

Most packaged rice has identifying marks on the containers. These marks are required to be shown on the rice inspection certificate if the marks indicate a different quality of rice than what is actually in the container. All other times, the marking may be shown upon request of the applicant. Show such markings on certificates as follows:

A. Uniform Markings.

1. When container markings are uniform for an identified rice lot, then all markings may be shown on the certificate.

2. However, much of the markings shown on the containers is information which identifies the container manufacturer or some container specification and does not serve any useful purpose in regard to identifying marks. Such information, unless requested by the applicant, need not be shown as identifying marks on the certificate.

3. Markings are usually shown in lines one above the other substantially as follows:

RICE
PRODUCT OF U.S.A.
EXTRA FANCY
LONG GRAIN
888
CDS, INC.
STUTTGART, AR

4. Space permitting, such markings may be shown on the certificate as shown above but are usually shown with slash marks indicating the end of each line of markings as follows:

RICE/PRODUCT OF U.S.A./EXTRA FANCY/LONG GRAIN/888/
CDS, INC./STUTTGART, AR

B. Nonuniform Markings.

1. On some occasions, an identified rice lot will have varied markings shown on the containers. Such markings are usually the result of the use of "leftover" containers accumulated and used by a shipper at the end of a shipping season.

2. When such marks are found and the applicant does not request that such marks be shown, the statement "No Common Marks" may be shown in the space provided for remarks on the certificate.

3. If the applicant requests that such varied markings be shown, the applicant has the responsibility of separating the containers by the various markings so that the number of containers of each marking can be determined or the applicant can furnish the count.

C. Nonuniform Markings - With Uniform Sublot Markings.

1. There are occasions when several sublots, with uniform markings within each sublot but varying markings from each other, will be accumulated in warehouses and designated as one overall lot.

2. In such instances, a record will be kept of the number of sacks of each set of uniform markings contained within the overall lot; and such information may be shown in the space provided for remarks on the certificate.

EXAMPLE: An identified warehouse lot consisting of 10 separate cars (1,200 100-pound sacks each) was unloaded on a warehouse floor. Six of the carlots have one set of uniform markings and four of the carlots have another set of uniform markings. The certificate (in regard to markings) would be issued substantially as follows:

7,200 sacks marked: RICE/Product of U.S.A./Jones Rice Co./Eunice, LA/(Reverse) LARENCO MARQUES

4,800 sacks marked: RICE/Product of U.S.A./Smith Rice Inc./Houston, TX/(Reverse) LARENCO MARQUES

D. Tag Markings. When containers are tagged with identifying markings, the tag information may be shown in the space provided for remarks on the certificate substantially as follows:

Tag Markings: EXPORT/RICE/SOUTH AFRICA/LONG GRAIN

E. Contract Specification Markings. An applicant may request that the markings be checked only for compliance with contract specifications. In such cases, show in the Remarks section one of the following statements:

"Bag markings as specified by (contract number, agency, or other pertinent information)."

or

"Bag markings not as specified by (contract number, agency, or other pertinent information) because (reason; e.g., code number omitted or letter size incorrect)."

F. Registered Trademark Markings.

1. Many rice companies, exporters, and shippers have registered trademarks (brand names) for rice packaged by or for them. Such markings may contain art work, such as an eagle, crossed rifles, a plantation home, and many other markings which frequently are not necessary, practicable, or requested by the applicant.

2. When such instances occur and all of the brand name information is not needed or requested by the applicant, the brand name may only be shown in parenthesis followed, if necessary, by any export marks shown on the reverse of the sack substantially as follows:

(Eagle Brand) (Reverse) XYC/RICE/SOUTH AFRICA/LONG GRAIN

6.14 LOCATION INFORMATION

A. The space identified as "LOCATION" is provided to show the city and State where an inspection is performed. The place of inspection (e.g., rice mill, warehouse, or wharf) may also be shown.

B. Applicants for inspection may request that the place of inspection not be shown. This request is frequently made by rice exporters or their representatives who may enter into purchase contracts with several rice facilities to fulfill a sales contract commitment for a larger export cargo shipment. In such instances, the place of inspection is not needed by the applicant, would not facilitate efficient and orderly marketing of the rice, and is not required to be shown. However, the place, city, and State where the inspection was performed must be shown on all inspection work records.

6.15 QUANTITY INFORMATION

A. On lot inspection certificates, the space identified as "QUANTITY" is provided to show the quantity of rice in the lot that is inspected.

1. The rice lot quantity may be stated in terms of carlot, trucklot, trailerlot, or in pounds, or by container type and capacity and whether the rice is in bulk or packaged.

NOTE: The statement of quantity serves as a part of the lot identity and is not to be construed as a certificate of weight or quantity, except when the applicant requests that a lot of sacked rice be checkloaded, checkweighed, or checkcounted and the certificate so states.

2. Typical statements of quantity are as follows:

1,000 100-pound new, double polypropylene sacks
1,000 50-kilogram new jute sacks
1,000 110.23-pound sacks (50 kilograms) or (50 kilos)
55,000 100-pound sacks
1 carlot (bulk)
1,000,000 pounds (bulk)
1,100 60-pound cases of 6/10-pound cellophane bags
2 bargelots (bulk) 1,760,000 pounds
875 48-pound paper balers (24/2-pound poly. bags)
1,000 30-pound cases of 30/1-pound polyethylene bags
8,400 99.3-pound sacks (100 pound gross)

B. On submitted sample inspection certificates, the space provided for quantity must be used to show the approximate sample quantity in terms of weight or volume. No submitted sample inspection certificate shall be issued which shows, directly or indirectly, the quantity of rice in the lot from which the sample may have been taken.

6.16 FACTOR INFORMATION

A. Each official certificate shall show the class, grade, and any other quality designation according to the U.S. Standards for Rice, all factor information requested by the applicant, and all grade determining factors for rice graded below U.S. No. 1. (The milling degree must also be shown for graded milled rice.)

NOTE: A factor shall be considered to be a quantified physical or chemical property identified in official standards, specifications, information abstracts, contracts, or other documents whose measurement describes a specific quality of a commodity.

B. Factor information shall be shown on the certificate in alphabetical or numerical order, as warranted.

1. Show factor information on lot inspection certificates by typing the full factor title--no abbreviations--followed by the applicable designation (the percentage, the count, or other quality descriptions).

2. Show factor information on submitted sample inspection certificates by typing either the full factor title or the factor abbreviation (or code), followed by the applicable designation (the percentage, the count, or other quality descriptions). The meaning of each abbreviation used shall be preprinted on the reverse of the submitted sample inspection certificate.

6.17 GRADE DESIGNATIONS

A. Show the grade designation for all types and classes of rice in the following order:

1. The letters "U.S.";

2. The number of the grade or the words "Sample grade," as warranted;

3. The words "or better" when applicable and requested by the applicant prior to inspection;

a. Applicants for inspection may obtain Option 1 or Option 2 certification by requesting it on the application for inspection. The request must be filed prior to the beginning of the inspection.

NOTE: If no request for either option is submitted prior to the beginning of inspection, certification shall be Option 1.

b. Under Option 1, rice offered for inspection is certificated as a specific grade; e.g., "U.S. No. 2 Long Grain Rough Rice."

c. Under Option 2, rice offered for inspection would be certificated as being a specific grade "or better;" e.g., "U.S. No. 3 or better Long Grain Rough Rice."

4. The class;

5. Each applicable special grade; and

6. For rough rice, a statement of the milling yield.

B. For Mixed rough rice, after showing any applicable special grade(s), show the percentage of whole kernels of each type in the order of predominance, the percentage of large broken kernels of each type in the order of predominance, the percentage of material removed by the No. 6 sieve or the No. 6 sizing plate, and when applicable, the percentage of seeds.

NOTE: Large broken kernels other than long grain, in Mixed rough rice, shall be certificated as "medium or short grain."

C. For Mixed brown rice for processing, after showing any applicable special grade(s), show the percentage of whole kernels of each type in the order of predominance, and when applicable, the percentage of broken kernels of each type in the order of predominance, and the percentage of seeds, related material, and unrelated material.

NOTE: Broken kernels other than long grain, in Mixed brown rice for processing, shall be certificated as "medium or short grain."

D. For Mixed milled rice, after showing any applicable special grade(s), show the percentage of whole kernels of each type in the order of predominance, and when applicable, the percentage of broken kernels of each type in the order of predominance, and the percentage of seeds and foreign material.

NOTE: Broken kernels other than long grain, in Mixed milled rice, shall be certificated as "medium or short grain."

6.18 APPROVED STATEMENTS

A. The following statements may be shown on official inspection certificates when deemed appropriate. The wording of these statements may be modified provided the meaning is not altered and the statements are approved by the appropriate FGIS field office or federal-state office manager. These statements, when used, shall be shown in the Remarks section of the certificate unless otherwise stated.

NOTE: Any information requested by the applicant for inspection which is known to be false or misleading shall not be shown.

B. General Statements.

1. "This (kind of rice) meets the specifications of the United States Standards for Rice which were in effect (date) for (grade)." (Approved for use during the 6-month period following a standards change.)

2. "Moisture content (exceeds/less than) (maximum or minimum conversion chart figure)."

3. "Milling yield (percentage of whole kernels)% - Total rice (percentage)%."

or

"Milling yield: Whole kernels (percentage)% - Total rice (percentage)%."

or

"Milling yield: Whole kernels of milled rice (percentage)% - Total milled rice (whole and broken kernels) (percentage)%."

4. "This rice was observed being fumigated with (quantity of fumigant used) of (type of fumigant) after it was loaded into the carrier but was not sampled and examined after fumigation." The word "approximately" may be added to the statement if the exact amount of fumigant cannot be verified.

5. "The carrier openings were observed being taped and sealed for fumigation."

6. "Inspection for quality, checkweighing, and checkcounting was performed on (date). The inspection for condition was performed prior to loading. This rice lot was observed being loaded into holds (hold numbers) of the (name of vessel) on (all dates rice was loaded)."

7. "This rice meets the length/width ratio requirements (length/width ratio) for (type)."

8. "Length/width ratio is (length/width ratio)."

9. "The average kernel (length or width), based on 15 whole kernels selected at random from a representative portion of the lot, measured (measurement in mm or cm)"

10. "This rice does not contain live or dead weevils or other insects, insect webbing, or insect refuse."

11. If an inspection service is requested on a rice sample or lot that does not meet the definition of Rough Rice, Brown Rice for Processing, or Milled Rice, show the following statement in the space provided for grade designation:

"Not Standardized Rice."

or

"Not Standardized Rice: Does not meet the United States Standards for Rough Rice, Brown Rice for Processing, or Milled Rice."

If requested, the following statement may be shown in the Remarks section: "This rice consists of paddy kernels (percentage)%, brown rice kernels (percentage)%, and milled rice kernels (percentage)%."

12. "This rice is not musty, not sour, and does not have a commercially objectionable foreign odor."

13. "The carrier was sprayed with (type of insecticide) prior to loading."

14. "Checkcounted on dock prior to loading aboard a vessel."

15. "Official personnel witnessed the loading of this rice into the container(s) and the sealing of the container(s)."

16. "This rice meets applicant's specification of maximum (requirement) objectionable seeds." 1/

17. The following statement may be shown in the space provided for quantity for bulk shipments. "(weight) pounds bulk." or "(weight) kilos bulk."

18. When contracts require a lesser percentage of a factor than the maximum allowed by the contracted grade, the contract limit may be shown on the second line in the grade designation space. The actual factor results will be shown in the factor results section.

"Maximum (percentage)% Total Broken Kernels." 2/

19. "Total oil, moisture-free basis (percentage)%; free fatty acid in oil (percentage)%; and free fatty acid in sample (percentage)%."

20. "This rice contains (percentage)% broken kernels of (type) milled rice."

21. "FGIS identity preserved code number: (number)."

22. The following miscellaneous information may be entered in the Remarks section of certificates: contract number, load order, reference number, purchase authorization number, and letter of credit identification.

1/ This same statement may also be used to show other factor information.
2/ This statement may be used by substituting other contract limit factors.

23. "Test weight (number) pounds."

or

"Test weight per bushel of (number) pounds is approximately equivalent to (number) kilograms per hectoliter."

NOTE: Kilograms per hectoliter may be determined by: (1) Multiplying the test weight per bushel times 1.287 or dividing the test weight per bushel by .777 and (2) showing the results to the nearest tenth of a kilogram.

24. "(Number) torn and obviously under filled sacks included in shipment but were not used to determine average weights."

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25. "The U.S.D.A. designation 'Rough Rice' is equivalent to the generally-accepted international designation 'Paddy Rice'."

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26. "This is a certificate of analysis stating qualitative characteristics of rice."

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27. "This rice loaded on board the (name of vessel) has not been officially analyzed for the presence of radioactivity. However, rice produced in the United States shows levels of radiation at or near normal background levels and far below those considered harmful and, therefore, may be sold freely without any restriction in the United States and is safe for all countries importing U.S. products."

*

28. "This rice was packed under USDA observaton."

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*

29. "This rice may contain some kernels that are externally covered with an excess of an FDA-approved (safe for human consumption) food grade dye applied in excess to the outside of some bags."

C. Milled Rice Statements.

1. "This rice meets the United States Standards for Milled Rice (White Rice)."

2. "This rice was found to be enriched."

3. "This rice consists of whole kernels (percentage)%, second head (percentage)%, screenings (percentage)%, and brewers (percentage)%."

4. "The quality factors of this rice are equal to or better than the grade requirements of (grade)."

5. "This rice meets the United States Standards for Milled Rice, is intended for use as a edible product, and is of the type normally consumed in the United States." *

D. Brown Rice for Processing Statement.

"This rice, after being milled to a well milled degree under laboratory conditions, meets the grade requirements of U.S. No. (grade) Milled Rice." The statement "except for the factor (name)" may be added to the statement, if applicable.

E. Checkweighing Statements. Refer to the FGIS Weighing Handbook and the FGIS Processed Commodity Handbook.

F. Facility Examination Statements.

"The bulk loading facility was examined on (date) at (military time) and found to be clean, dry, free of insect infestation, and suitable to maintain the quality of the (type of rice)."

or

"The bulk loading facility was examined on (date) at (military time) and found not suitable to maintain the quality of the (type of rice)."

G. Observation of Loading Statements.

1. "The (type of rice) contained in barges (barge number(s)) was observed being loaded into (hold number(s)) of the (name of ship) on (date)."

NOTE: In order for the vessel name and the stowage space to be shown, a stowage examination must be performed. If a stowage examination is not performed, the vessel's name shall not be shown.

2. "The (type of rice) contained in (barge number(s)) was observed being loaded into a vessel on (date)."

3. "This rice lot was observed being loaded into (hold number(s)) of the (name of ship) on (all dates rice was loaded)."

H. Applicant's Declaration Statements. Applicants frequently request statements and information be shown on certificates that official personnel cannot verify as true. When requested and known not to be false or misleading, the statements may be shown singly or in combination substantially as follows:

1. "Applicant states that the variety of this rice is (variety)."

2. "Applicant states that this rice was grown in the State of (State)."

3. "Applicant states that this rice is from the crop year (crop year)."

4. "Applicant states that this is first crop rice."

5. "Applicant states that this rice is a product of the soil and industry of the United States."

6.19 AUTHORIZATION TO AFFIX NAMES

A. Official personnel's name or signature, or both, may be affixed to official certificates which are prepared from work records signed or initialed by the person whose name will be shown. The agent affixing the name or signature, or both, must:

1. Be employed by a cooperator or FGIS;

2. Have been designated to affix names or signatures, or both; and

3. Hold a power of attorney from the person whose name or signature, or both, will be affixed. The power of attorney shall be on file with the employing cooperator or FGIS, as appropriate.

B. When a name or signature, or both, is affixed by an authorized agent, the word "By" and the initials of the agent shall appear directly below or following the name or signature of the person.

EXAMPLE: "Walter Jacobs by nc."

6.20 VOIDED CERTIFICATE

Each official certificate which is rendered useless through clerical error or by being superseded by another certificate shall be conspicuously marked "VOID." If a certificate is rendered useless through clerical error, the original of the certificate shall be retained by the office. If a certificate is superseded, the original of the superseded certificate shall be filed, if surrendered, with the copy of the superseded certificate.

6.21
CERTIFICATE
DISTRIBUTION

A. The original and one copy of each certificate shall be distributed to the applicant or the applicant's order. In addition, one copy of each certificate shall be filed with the office providing the inspection; and, if the inspection is performed by a cooperator, one copy shall be forwarded to the appropriate field office. If requested by the applicant prior to issuance of the certificate, additional copies--not to exceed a total of three copies--shall be furnished at no extra charge.

B. In addition to the aforementioned distribution requirements, one copy of each appeal certificate shall be distributed to each interested person of record or the interested person's agent and to the cooperator or FGIS field office that issued the superseded certificate.

C. When more copies of a certificate are requested than can be furnished from one numbered set, copies may be made by using a copying machine or using the copies of another set by voiding the original and writing across it the reason for voiding; for example: "Extra copies requested by applicant for Certificate No. L-2222." An additional fee for extra copies shall be charged according to the applicable fee schedule.

D. For shipments of rice purchased by the Agricultural Stabilization and Conservation Service (ASCS), also send one copy to:

USDA, ASCS, KCCO
Processed Commodities Division
P.O. Box 419205
Kansas City, Missouri 64141-0205

Attention: DOB (for domestic shipments)

or

Attention: EOB (for export shipments)

(RESERVED)

Attachment 1
RICE INSPECTION HANDBOOK
Chapter 6
Certification
5/1/97

FORM FGIS-956, "RICE INSPECTION SERVICES CERTIFICATE"
(LOT INSPECTION CERTIFICATE)

OMB NO. 0580-0013

ORIGINAL

(1) _____ (ISSUED AT)

U.S. DEPARTMENT OF AGRICULTURE
FEDERAL GRAIN INSPECTION SERVICE

RICE INSPECTION SERVICES CERTIFICATE

F (2) _____ (DATE OF ISSUANCE)

TYPE OF INSPECTION (3)
a. ☐ ORIGINAL ☐ APPEAL
☐ BOARD APPEAL
b. ☐ LOT ☐ MULTIPLE LOT
☐ SPECIAL ☐ OTHER (Specify) _____

METHOD OF SAMPLING (4)

SERVICE PERFORMED (See Parts II, III, or IV for Results) (5)
☐ QUALITY INSPECTION ☐ CONDITION INSPECTION ☐ OTHER (Specify) _____ (See Part IV for Results)

PART 1 - IDENTIFICATION (Use reverse if necessary; indicate PART 1)

QUANTITY (6)

LOCATION (7)

MARKINGS (8)

IDENTIFICATION	SEAL NUMBER	DATE SAMPLED	QUANTITY	IDENTIFICATION	SEAL NUMBERS	DATE SAMPLED	QUANTITY
(9)							

PART II - RESULTS OF INSPECTION FOR QUALITY (Use reverse if necessary; indicate PART II)

GRADE DESIGNATION, CLASS, OR KIND (10)

PART III - CONDITION INSPECTION (Use reverse if necessary; indicate PART III) (11)

CONDITION OF CONTAINERS
☐ GOOD ☐ OTHER (See below)

CONDITION OF COMMODITY
☐ GOOD ☐ OTHER (See below)

CONDITION OF CARRIER
☐ GOOD ☐ OTHER (See below)

PART IV - SPECIAL INSPECTION SERVICES, SPECIAL STATEMENTS, FACTOR INFO., OR REMARKS (Use reverse if necessary; indicate PART IV)

(12)

I CERTIFY THAT THE SERVICES SPECIFIED ABOVE WERE PERFORMED WITH THE RESULTS STATED.

NAME AND SIGNATURE OF INSPECTOR (13)

This certificate is issued under the authority of the Agricultural Marketing Act of 1946, as amended (7 U.S.C. 1621 et seq.) and the regulations thereunder (7 CFR 868.1 et seq.) and is receivable in all courts of the United States as prima facie evidence of the truth of the statements therein contained. This certificate does not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act, or other Federal laws.
WARNING Sec. 203(h) of the Agricultural Marketing Act of 1946 provides that anyone who shall knowingly falsely make, issue, alter, forge, or counterfeit any official certificate, or aid, assist, or be a party to such actions, is subject to a fine of not more than $1,000 or imprisonment for not more than 1 year, or both.
The conduct of all services and the licensing of inspection/grading/sampling personnel under the regulations governing such services shall be accomplished without discrimination as to race, color, religion, sex, national origin, age, or handicap.

FORM FGIS-956 (MAY 96)

INSTRUCTIONS FOR COMPLETING FORM FGIS-956,
"RICE INSPECTION SERVICES CERTIFICATE"
(LOT INSPECTION CERTIFICATE)

(1) Show the city and state of the field office that is issuing the certificate; e.g., Crowley, Louisana.

(2) Show the inspection date.

(3) Place an "X" in the space provided to indicate the level of inspection service. If the inspection is a retest, type "RETEST" in the space.

(4) Show the sampling method; e.g., hand trier, ladle, or Ellis cup. Be specific. *

(5) Place an "X" in the space provided to indicate the type of inspection service. "OTHER" shall include origin inspections and registered-type inspections, and corrected and duplicate certificates.

(6) Show the quantity of rice in the lot.

(7) Show the location (place name, city, and state) of the rice.

(8) Show the container markings.

(9) Show the identification of the carriers into which the lot was loaded, unloaded, or stored, the carrier seal number(s), the date(s) the carrier was sampled, and the quantity of rice in each carrier.

(10) Show the grade designation.

(11) Place an "X" in the space provided to indicate the condition of the containers, commodity, or carrier, as applicable. If an "X" is placed in any of the spaces, the word, "SPECIAL," must be "X'ed" in the TYPE OF INSPECTION box and, "CONDITION INSPECTION," must be "X'ed" in the SERVICE PERFORMED box.

(12) Show the results of all special services, factor determinations requested by the applicant, and all grade determining factors. Also, show necessary remarks and approved statements which have been requested by the applicant.

(13) Show the inspector's name or signature, or both, who performed the service.

Attachment 2
RICE INSPECTION HANDBOOK
Chapter 6
Certification
5/1/97

FORM FGIS-932, "RICE INSPECTION CERTIFICATE" (SUBMITTED SAMPLE INSPECTION)

FORM FGIS-932 (6-89) ORIGINAL

UNITED STATES DEPARTMENT OF AGRICULTURE
FEDERAL GRAIN INSPECTION SERVICE

RICE INSPECTION CERTIFICATE
SUBMITTED SAMPLE INSPECTION

H -

Please refer to this certificate by its number, including the lettered prefix, if any, and date.

(1) (ISSUED AT) (2) (DATE OF SERVICE)

I certify that I am licensed or authorized under the Agricultural Marketing Act of 1946 to inspect the kind of rice covered by this certificate and that on the above date the following identified rice was inspected under the Act, with the following results:

☐ ORIGINAL INSPECTION (3) ☐ APPEAL INSPECTION ☐ BOARD APPEAL INSPECTION

PART I - IDENTIFICATION OF SAMPLE

IDENTIFICATION OF SAMPLE (4)	QUANTITY OF SAMPLE AND KIND OF CONTAINER (5)	SAMPLE SUBMITTED BY (6)

The sample identification and inspection results shown on this certificate are assigned only to the quantity of rice in the sample indicated and not to any identified carrier, container, or lot from which the sample of rice may have been taken.

PART II - INSPECTION RESULTS

GRADE DESIGNATION OR CLASS, KIND, AND/OR SPECIAL GRADE

(7)

PART III - FACTOR INFORMATION

(8)

PART IV - SPECIAL INSPECTION SERVICES, SPECIAL STATEMENTS, OR REMARKS

(9)

(See reverse side for abbreviations.)

APPLICANT NO. (If applicable) (10)	NAME OR SIGNATURE (11)

This certificate is issued under the authority of the Agricultural Marketing Act of 1946, as amended (7 U.S.C. 1621 et seq.) and the regulations thereunder (7 CFR 868.1 et seq.) and is receivable in all courts of the United States as prima facie evidence of the truth of the statements therein contained. This certificate does not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act, or other Federal laws.
WARNING Sec. 203(h) of the Agricultural Marketing Act of 1946 provides that anyone who shall knowingly falsely make, issue, alter, forge, or counterfeit any official certificate, or aid, assist, or be a party to such actions, is subject to a fine of not more than $1,000 or imprisonment for not more than 1 year, or both.

NOT OFFICIALLY SAMPLED

INSTRUCTIONS FOR COMPLETING FORM FGIS-932,
"RICE INSPECTION CERTIFICATE - SUBMITTED SAMPLE INSPECTION"

(1) Show the name of the city and state of the field office or cooperator's office issuing the certificate; e.g., Crowley, Louisiana.

(2) Show the inspection date.

(3) Show the type of inspection.

(4) Show the submitted sample identification. *

(5) Show the approximate quantity of the sample submitted in terms of volume or weight, and the kind of container it was submitted in.

(6) Show the applicant's name and complete address.

(7) Show the grade designation.

(8) Show the results of all factor determinations requested by the applicant and all grade determining factors.

(9) Show necessary remarks and approved statements requested by the applicant.

(10) Show the applicant number.

(11) Show the inspector's name or signature, or both, who performed the service.

FORM FGIS-993, "COMMODITY INSPECTION CERTIFICATE" (LOT INSPECTION CERTIFICATE)

OMB NO 0580-0013 EXPIRATION DATE 6/30/94
(For additional OMB information see reverse.)

U S DEPARTMENT OF AGRICULTURE
FEDERAL GRAIN INSPECTION SERVICE

ORIGINAL
NOT NEGOTIABLE

A -

COMMODITY INSPECTION CERTIFICATE

1

DATE OF ISSUANCE	ISSUED AT	LEVEL OF INSPECTION
2	3	4

APPLICANT	LOCATION OF COMMODITY
5	6

IDENTIFICATION	QUANTITY AND CONTAINER
7	8

9

I CERTIFY THAT THE SERVICES SPECIFIED ABOVE WERE PERFORMED WITH THE RESULTS STATED.	INSPECTOR
	10

This certificate is issued under the authority of the Agricultural Marketing Act of 1946, as amended (7 U. S. C. 1621 et seq.), and the regulations thereunder (7 CFR 68.1 et seq.), and is receivable in all courts of the United States as prima facie evidence of the truth of the statements therein contained. This certificate does not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act, or other Federal laws.
WARNING: Sec. 203(h) of the Agricultural Marketing Act of 1946 provides that anyone who shall knowingly falsely make, issue, alter, forge, or counterfeit any official certificate, or aid, assist, or be a party to such actions, is subject to a fine of not more than $1,000 or imprisonment for not more than 1 year, or both.
The conduct of all services and the licensing of inspection/grading/sampling personnel under the regulations governing such services shall be accomplished without discrimination as to race, color, religion, sex, national origin, age, or handicap

† OHM FGIS-993 (1-92) Replaces Form FGIS-993 (6-91) which may be used

INSTRUCTIONS FOR COMPLETING FORM FGIS-993,
"COMMODITY INSPECTION CERTIFICATE"
(LOT INSPECTION CERTIFICATE)

(1) Enter the words, "RICE LOT INSPECTION."

(2) Enter the inspection date.

(3) Enter the name of the city and State of the field office or cooperator's office issuing the certificate; e.g., Stuttgart, Arkansas.

(4) Enter the type of inspection performed; i.e., original, retest, appeal, or Board appeal.

(5) Enter the applicant's name, city, and State.

(6) Enter the location (place name, city, and State) of the rice. If this information is the same as that shown in block 5, the term "Same" may be entered.

(7) Enter the lot's identification.

(8) Enter the quantity of rice in the lot.

(9) When applicable, enter the grade designation.

Enter the inspection results and the results of all factor determinations.

When necessary, enter the term "REMARKS" followed by any required or approved statements.

Enter the words "END OF RESULTS" on the left-hand side of the certificate directly under the last line of remarks.

(10) Enter the name or signature, or both, of the person who issued the certificate and, if affixed by an authorized agent, the word, "By" and the agent's initials.

Attachment 4
RICE INSPECTION HANDBOOK
Chapter 6
Certification
5/1/97

FORM FGIS 994, "COMMODITY CERTIFICATE" (SUBMITTED SAMPLE INSPECTION CERTIFICATE)

U.S. DEPARTMENT OF AGRICULTURE
FEDERAL GRAIN INSPECTION SERVICE

ORIGINAL
NOT NEGOTIABLE

A-

COMMODITY CERTIFICATE

SUBMITTED SAMPLE INSPECTION

DATE OF ISSUANCE (1)	ISSUED AT (2)	LEVEL OF INSPECTION (3)
COMMODITY (4)	QUANTITY IN SAMPLE (5)	
IDENTIFICATION OF SAMPLE (6)	SAMPLE SUBMITTED BY (7)	

(8)

NOT OFFICIALLY SAMPLED

I CERTIFY THAT THE SERVICES SPECIFIED ABOVE WERE PERFORMED WITH THE RESULTS STATED.	INSPECTOR (9)

This certificate is issued under the authority of the Agricultural Marketing Act of 1946, as amended (7 U.S.C. 1621 et seq.) and the regulations thereunder (7 CFR 868.1 et seq.) and is receivable in all courts of the United States as prima facie evidence of the truth of the statements therein contained. This certificate does not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act, or other Federal laws.
WARNING Sec. 203(h) of the Agricultural Marketing Act of 1946 provides that anyone who shall knowingly falsely make, issue, alter, forge, or counterfeit any official certificate, or aid, assist, or be a party to such actions, is subject to a fine of not more than $1,000 or imprisonment for not more than 1 year, or both.
The conduct of all services and the licensing of inspection/grading/sampling personnel under the regulations governing such services shall be accomplished without discrimination as to race, color, religion, sex, national origin, age, or handicap.

FORM FGIS 994

INSTRUCTIONS FOR COMPLETING FORM FGIS-994,
"COMMODITY CERTIFICATE"
(SUBMITTED SAMPLE INSPECTION CERTIFICATE)

(1) Enter the inspection date.

(2) Enter the name of the city and State of the field office or cooperator's office issuing the certificate; e.g., Beaumont, Texas.

(3) Enter the type of inspection performed; i.e., original, retest, appeal, or Board appeal.

(4) Enter the class of the rice.

(5) Enter the approximate quantity of the sample submitted in terms of volume or weight, and the kind of container it was submitted in. * * *

(6) Enter the submitted sample's identification.

(7) Enter the applicant's name, city, and State.

(8) When applicable, enter the grade designation.

Enter the inspection results and the results of all factor determinations.

When necessary, enter the term "REMARKS" followed by any required or approved statements.

Enter the words "END OF RESULTS" on the left-hand side of the certificate directly under the last line of remarks.

(9) Enter the name or signature, or both, of the person who issued the certificate and, if affixed by an authorized agent, the word, "By" and the agent's initials.

CHAPTER 7

ROUNDLOT INSPECTION PLAN

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Attachment 1 Roundlot Tolerances
Attachment 2 Examples of Run Rule Applications and Corrective Action

7.1 GENERAL INFORMATION

A. A roundlot is a single lot of bulk or sacked rice that is comprised of multiple units. Roundlots are usually loaded aboard, or unloaded from, two or more carriers. However, a lot of rice loaded aboard a single barge or ship may also be considered a roundlot.

B. The roundlot inspection plan provides for sampling and inspecting roundlots of rice.

1. Rice inspected under this plan is examined for both uniformity in quality and compliance with grade, factor, and/or contract requirements. (Roundlots may be inspected for grade, grade and special factors, or factors only.) *

2. This plan utilizes established tolerances (i.e., statistically pre-determined limits) for accepting those occasional portions of a lot that, due to known sampling and grading variations, may grade below the desired lot quality.

7.2 APPLICATION FOR INSPECTION

Prior to loading or unloading the lot, the applicant must submit a form FGIS-955, "Application for Inspection under the Agricultural Marketing Act of 1946," or an appropriate Federal cooperator's form.

1. The application shall declare: (1) the contract requirements (i.e., contract grade, factor limits, and/or other specifications); (2) the approximate quantity of rice in the lot; (3) the sublot size; (4) "Option 1" or "Option 2" certification; and (5) any other needed information. *

2. The application must be signed.

7.3 COMPONENTS AND SUBLOTS

A. A component is a portion of a sublot; e.g., one compartment of a hopper car.

1. Generally, there should be no less than two components in every sublot. *

2. All components in the lot shall be uniform in size; i.e., the largest sized component not more than 5 percent larger than the smallest component.

3. Component size shall be established by the official inspection personnel and may not be changed once loading or unloading has begun.

B. A sublot is a portion of the overall lot; e.g., one railcar in a unit train.

1. Except for the last sublot, all sublots in the lot should be reasonably uniform in size; i.e., the largest sized sublot not more than 25 percent larger than the smallest sublot - excluding the last sublot.

2. The last sublot should not amount to less than 5 percent of the average size of the sublots in the lot.

3. Sublot size must be established by the applicant for inspection and may not be changed once loading or unloading has begun without the approval of the field office or federal-state manager.

C. Components and sublots shall comply with the size restrictions in Table 1.

TABLE 1. COMPONENT AND SUBLOT SIZE

Carriers	Maximum Component Size	Maximum Sublot Size
* Ships	300,000 pounds	1,000,000 pounds or One standard barge
* Standard Barges	300,000 pounds	One barge
Lash Barges (400-500 tons)	30,000 pounds	One barge
Hopper Cars	30,000 pounds or One compartment	One car
Box Cars	50,000 pounds	One car
* Trucks	20,000 pounds or One truck	Four trucks

NOTE: When two packers are fed from one bin and are used for sacking rice for two different boxcars simultaneously, four component samples representing approximately 60,000 pounds each, when uniform, may be combined and graded as one sublot sample representing the two carriers provided, that each component sample is obtained proportionally from each packing line.

(Revised 5/1/97)

7.4
UNIFORMITY
CRITERIA

A. During the loading or unloading of a lot, draw a sample from each component according to the procedures in Chapter 2 of this handbook.

1. When bulk rice is sampled with a compartmented trier, consider each probe as one component sample.

2. When sacked rice is sampled, each component shall be approximately equal in size and should be taken from not less than eight sacks.

a. If the rice is sampled in a boxcar, use an X probing pattern across the face of a tier and randomly space the sampling during the loading or unloading.

b. When the rice is sampled on-line, randomly space the sampling during the loading or unloading.

B. Visually examine each component sample for uniformity of quality 1/; i.e., no factors appear to exceed the grade/contract requirements by more than the grade limit or the established roundlot tolerance (see attachment 1).

NOTE: Don't examine component samples for milling yield.

C. If the component sample appears to be uniform in quality, combine the sample with other uniform component samples to form a sublot sample.

D. When the component sample appears to be <u>not uniform</u> in quality, analyze the sample for the potentially nonuniform factor(s).

1. <u>For factors that have roundlot tolerances</u>, make only one determination.

a. If the results do not exceed the roundlot tolerance, consider the component as being uniform in quality and combine the component sample with other uniform component samples to form a sublot sample. Do not record the component factor results on the log or form FGIS-911.

b. When the results exceed the roundlot tolerance, declare the rice represented by that component sample to be a material portion and certificate it as a separate lot or as a portion of a multiple grade lot, as appropriate.

1/ Re Chapters 3, 4, and 5 for insect infestation.

2. For all other factors, make two determinations.

a. If the results of either determination are within the grade/contract requirement, consider the component as being uniform in quality and combine the component sample with other uniform component samples to form a sublot sample. Do not record the component factor results on the log or form FGIS-911.

b. If the results of both determinations exceed the grade/contract requirement, declare the rice represented by that component sample to be a material portion and certificate it as a separate lot or as a portion of a multiple grade lot, as appropriate.

E. Analyze each sublot sample for all contract and grade determining factors, and record the results on the log or form FGIS-911.

NOTE: For a factor's average results to be shown on the roundlot inspection certificate, all sublots must be analyzed for that factor and the sublot results must be properly recorded on the log or form FGIS-911.

1. For factors that have roundlot tolerances, make **only** one determination.

a. If the results do not exceed the grade/contract requirement, consider the sublot as being "within contract."

b. If the results exceed the roundlot tolerance, declare the rice represented by that sublot sample to be a material portion, certificate it as a separate lot or as a portion of a multiple grade lot, as appropriate, and line through the factor results on the log or form FGIS-911.

c. If the results exceed the grade/contract requirement, but not the roundlot tolerance, consider the sublot as "within contract;" provided that, the run rule is not subsequently violated (see section 7.5).

NOTE: If the applicant requests "average milling yield," do not apply roundlot tolerances to the results.

2. For all other factors, make one determination.

a. If the results do not exceed the grade/contract requirement, consider the sublot as being "within contract."

b. If the results exceed the grade/contract requirement, make another determination and average the results of the two determinations.

(1) If the average meets the grade/contract requirement, consider the sublot as being "within contract."

(2) If the average does not meet the grade/contract requirement, declare the rice represented by that sublot sample to be a material portion, certificate it as a separate lot or as a portion of a multiple grade lot, as appropriate, and line through the factor results on the log or form FGIS-911.

7.5
RUN RULE

A. When a sublot exceeds the grade/contract requirement for a factor, but not the roundlot tolerance, average that sublots' factor results with the factor results of the next four consecutive sublots from the same source. 1/

1. If the average results are equal to or better than the grade/contract requirements for all factors, consider the first sublot to be "within contract."

2. If the average results are not equal to or better than the grade/contract requirements for all factors, consider all five sublots as a material portion and certificate them as a separate lot, unless corrective action is taken. Corrective action consists of:

a. Withdrawing (unloading) one or more of the five sublots included in the average,

b. Separately certificating the withdrawn sublot(s), and

c. After withdrawal, reapplying the run rule. When a sublot(s) is withdrawn, the run rule shall be reapplied as if the withdrawn sublot(s) had never been offered for inspection.

1/ A "source" may be: (a) Rice moving from the warehouse floor to one carrier, (b) One packer that is used for sacking rice for one carrier, (c) Two packers fed from two different bins, but used for sacking rice for one carrier, (d) Two packers fed from the same bin, but used for sacking rice for two different carriers simultaneously, (e) Each belt delivering bulk rice to a carrier, (f) Each spout receiving rice from different belts or shipping bins. Consider all other systems as "multiple sources" and sample/grade the rice from each packer as a "source."

NOTE: Do not apply the run rule if there are less than five sublots in the entire lot or less than four sublots remaining in the lot after a "run" has started.

7.6 TIME LIMITATIONS

If reasonably continuous inspection service is not maintained, a roundlot inspection certificate shall be issued for that portion of the lot inspected prior to the break in inspection service or after each additional break in inspection service.

1. "Reasonably continuous inspection service" can include inactive periods of not more than 88 consecutive hours.

* 2. To be considered "reasonably continuous
* service," at least one sublot must be loaded during any
* 88 hour period. The 88-hour limit may be extended at the
* discretion of the appropriate FGIS or federal-state
* office manager.

7.7 REVIEW INSPECTIONS

When a sublot's factor results exceed either the grade/contract requirements or the roundlot tolerance, the applicant may request an appeal inspection on that sublot; provided that, the applicant withdraws the sublot from the lot.

1. The roundlot tolerances cannot be applied to a single sublot.

2. If the appeal inspection determines that the sublot meets the grade/contract requirements, the sublot cannot be re-entered in the original lot unless the applicant requests an appeal inspection on all of the other sublots in that lot.

7.8 MATHEMATICAL OR WEIGHTED AVERAGE

After completing the inspection of all sublots, calculate the factor information to be shown on the certificate(s) by one of the following methods:

1. Mathematical Average Method. If the lot is composed of 10 or more "reasonably uniform" 1/ sublots or any number of "uniform" 2/ sublots, mathematically average the sublot factor results (excluding any sublot(s) to be certificated as a separate lot).

(Revised 5/1/97)

1/ The term "reasonably uniform" means that the largest sized sublot is not more than 25 percent larger than the size of the smallest sublot (excluding the first and last sublots) in the lot.

2/ The term "uniform" means that the sublots are one standard size or are within 5 percent of the standard.

2. Weighted Average Method. For all other lots, average the sublot factor results (excluding any sublot(s) to be certificated as a separate lot) in the following manner:

a. Multiply each sublot factor result by the quantity of rice (sacks or pounds) in the sublot.

For example:

Sublot	Quantity		Factor Results		Product
Sublot No. 1	1,200 sacks	x	19.6	=	23,520
Sublot No. 2	869 sacks	x	18.9	=	16,424
Sublot No. 3	1,163 sacks	x	20.8	=	24,190
Sublot No. 4	1,006 sacks	x	19.3	=	19,416
	4,238 sacks				83,550

b. Total the products for each factor column. (In the above example, the total is 83,550.)

c. Divide each totaled product by the total quantity; e.g., 83,550 ÷ 4,238 = 19.71 or 19.7 % total broken kernels.

Note: For subjective factors (e.g., milling degree), show on the certificate the lowest quality determined for one or more sublots.

7.9 CERTIFICATION

A. If the mathematical or weighted average of all factors in the lot are within contract requirements, issue one certificate.

B. When the average of all factors are not within contract requirements, issue separate certificates for each individual sublot. Two or more sublots failing to meet the same contract requirement may be combined and certificated together as a separate lot. Sublots that fail to meet different contract requirements shall be certificated as separate lots.

NOTE: If there are less than five sublots in the lot or less than four sublots remaining in a lot after a "run" has started, and the average of the overall lot is not within contract requirements, the applicant may request one certificate for the entire lot with the grade of the lot determined by the average sublot results.

*
*
*
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*
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*
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*
*
*

C. If the applicant requests "average milling yield," show the average sublot milling yield results for the entire lot and include the following statement in the Remarks section of the certificate: "Sublot milling yield results ranged from (show the lowest percent of total rice and the lowest percent of whole kernels) percent to (show the highest percent of total rice and the highest percent of whole kernels) percent." (This statement may be modified, as necessary, so as to clearly indicate the actual range of total rice and whole kernels results in the lot.)

D. Issue an inspection certificate for each roundlot inspection. Show the following information on each certificate:

1. The identification and sampling date for each carrier,

*
*

2. The date on which the last official service was completed is the "inspection date",

3. The average results for each of the factors determined during inspection, and

4. The lowest results for subjective quality factors (e.g., milling degree and color) that were determined for one or more sublots.

(Revised 5/1/97)

ROUNDLOT TOLERANCES

A. Rough Rice.

1. Milling yield (total).

   3.0 percent of contract requirement.

2. Milling yield (whole kernels).

   4.0 percent of contract requirement.

3. Seeds and heat-damaged kernels.

   a. Total (singly or combined).

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	4	3
U.S. No. 2	7	4
U.S. No. 3	10	5
U.S. No. 4	27	6
U.S. No. 5	37	8
U.S. No. 6	75	12

   b. Heat-damaged kernels and objectionable seeds.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	3	3
U.S. No. 2	5	4
U.S. No. 3	8	4
U.S. No. 4	22	7
U.S. No. 5	32	8
U.S. No. 6	75	12

   c. Heat-damaged kernels.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	1	1
U.S. No. 2	2	2
U.S. No. 3	5	4
U.S. No. 4	15	6
U.S. No. 5	25	7
U.S. No. 6	75	13

4. Red rice and damaged kernels (singly or combined).

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.5	0.6
U.S. No. 2	1.5	0.9
U.S. No. 3	2.5	1.1
U.S. No. 4	4.0	1.5
U.S. No. 5	6.0	1.5
U.S. No. 6	15.0 1/	2.5 1/

5. Other types.

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.5
U.S. No. 2	2.0	0.7
U.S. No. 3	3.0	0.8
U.S. No. 4	5.0	1.1
U.S. No. 5	10.0	1.5
U.S. No. 6	10.0	1.5

B. Brown Rice for Processing.

1. Milling yield (total). 2.0 percent of contract requirement.

2. Milling yield (whole kernels). 3.0 percent of contract requirement.

* 3. Paddy kernels.

*

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	20 (count)	7
U.S. Nos. 2 - 5	2.0 %	1.0 %

* 4. Seeds and heat-damaged kernels.

a. Total (singly or combined).

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	10	5
U.S. No. 2	40	10
U.S. No. 3	70	13
U.S. No. 4	100	16
U.S. No. 5	150	17

1/ U.S. No. 6 Rough rice shall contain not more than 6.0 percent damaged kernels. The tolerance for damaged kernels (singly) is 1.5 percent.

b. Heat-damaged kernels.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	1	1
U.S. No. 2	2	2
U.S. No. 3	4	3
U.S. No. 4	8	4
U.S. No. 5	15	6

c. Objectionable seeds.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	2	2
U.S. No. 2	10	5
U.S. No. 3	20	7
U.S. No. 4	35	10
U.S. No. 5	50	12

5. Red rice and damaged kernels (singly or combined). *

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.7
U.S. No. 2	2.0	1.0
U.S. No. 3	4.0	1.5
U.S. No. 4	8.0	2.0
U.S. No. 5	15.0	2.5

6. Total broken kernels. *

Contract Requirement (%)	Tolerance (%)
1.0 - 5.0	1.0
5.1 - 10.0	1.2
10.1 - 15.0	1.5
15.1 - 25.0	2.0
25.1 - 35.0	2.4

7. Other types. *

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.5
U.S. No. 2	2.0	0.7
U.S. No. 3	5.0	1.1
U.S. No. 4	10.0	1.5
U.S. No. 5	10.0	1.5

* 8. Well-milled kernels.

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.5
U.S. No. 2	3.0	0.8
U.S. No. 3	10.0	1.5
U.S. No. 4	10.0	1.5
U.S. No. 5	10.0	1.5

C. Milled Rice.

1. Seeds, heat-damaged, and paddy kernels (singly or combined).

a. Total.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	2	2
U.S. No. 2	4	3
U.S. No. 3	7	4
U.S. No. 4	20	7
U.S. No. 5	30	8
U.S. No. 6	75	13

b. Heat-damaged kernels and objectionable seeds.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	1	1
U.S. No. 2	2	2
U.S. No. 3	5	4
U.S. No. 4	15	6
U.S. No. 5	25	7
U.S. No. 6	75	13

2. Red rice and damaged kernels (singly or combined).

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.5	0.6
U.S. No. 2	1.5	0.9
U.S. No. 3	2.5	1.1
U.S. No. 4	4.0	1.5
U.S. No. 5	6.0	1.5
U.S. No. 6	15.0 1/	2.5 1/

1/ U.S. No. 6 Milled rice shall contain not more than 6.0 percent damaged kernels. The tolerance for damaged kernels (singly) is 1.5 percent.

3. Total broken kernels.

Contract Specification (%)	Tolerance (%)
1.0 - 4.0	1.0
4.1 - 7.0	1.2
7.1 - 15.0	1.8
15.1 - 27.0	2.0
27.1 - 35.0	2.4
35.1 - 50.0	2.5

4. Other types.

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.5
U.S. No. 2	2.0	0.7
U.S. No. 3	3.0	0.8
U.S. No. 4	5.0	1.1
U.S. No. 5	10.0	1.5
U.S. No. 6	10.0	1.5

D. Brewers Milled Rice.

1. Total paddy kernels and seeds.

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.5	0.04
U.S. No. 2	1.0	0.10
U.S. No. 3	1.5	0.20
U.S. No. 4	3.0	0.20
U.S. No. 5	5.0	0.20

2. Objectionable seeds.

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.05	0.02
U.S. No. 2	0.1	0.10
U.S. No. 3	0.2	0.10
U.S. No. 4	0.4	0.20
U.S. No. 5	1.5	0.20

E. Second-Head Milled Rice.

1. Seeds, heat-damaged, and paddy kernels (singly or combined).

a. Total (singly or combined).

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	15	6
U.S. No. 2	20	7
U.S. No. 3	35	8
U.S. No. 4	50	10
U.S. No. 5	75	12

b. Heat-damaged kernels and objectionable seeds (singly or combined).

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	5	4
U.S. No. 2	10	5
U.S. No. 3	15	6
U.S. No. 4	25	7
U.S. No. 5	40	9

2. Red rice and damaged kernels (singly or combined).

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.7
U.S. No. 2	2.0	1.0
U.S. No. 3	3.0	1.2
U.S. No. 4	5.0	1.5
U.S. No. 5	10.0	2.0

F. Special Contract Limit. When the contract requires a factor limit that differs from the grade limit set in the U.S. Standards for Rice, use the tolerance established for the next higher quality grade.

EXAMPLE: A contract for U.S. No. 3 Long Grain Brown Rice for Processing limits the percentage of damaged kernels (DK) to a maximum of 1.5 %. The grade limit for a U.S. No. 1 for red rice and damaged kernels is 1.0 %, with a tolerance of 0.7 %. The grade limit for a U.S. No. 2 is 2.0 %, with a tolerance of 1.0 %. Use the tolerance for a U.S. No. 1 for red rice and damaged kernels (0.7 %), establishing the maximum DK for sublots graded under this contract at 2.2 %.

EXAMPLES OF RUN RULE APPLICATIONS AND CORRECTIVE ACTION

EXAMPLE 1.

The declared grade of the lot is U.S. No. 5 Long Grain Milled Rice, maximum 20.0 percent total broken kernels (TBK). The sublot results for TBK are:

Sublot No. 1 - 21.3 %	Sublot No. 5 - 19.6 %
Sublot No. 2 - 20.0 %	Sublot No. 6 - 18.5 %
Sublot No. 3 - 21.9 %	Sublot No. 7 - 19.0 %
Sublot No. 4 - 19.9 %	

Explanation. Sublot 1 exceeds the contract requirement for TBK but not the tolerance. Therefore, the TBK results for sublots 1 - 5 are averaged. The average TBK result is 20.5 %. Since this exceeds the contract requirement, sublots 1 - 5 are declared a material portion. To correct the material portion, the applicant elects to withdraw sublot 1. After withdrawing sublot 1, the run rule is reapplied with sublot 6 replacing sublot 1. The new average (sublots 2 - 6) is less than 20.0 %.

After withdrawing sublot 1, the roundlot continues as if there had been no run, except that the next potential run begins with sublot 3 (21.9 %). When the next four consecutive sublots (sublots 4 - 7) are averaged with sublot 3, the result is less than 20.0 %, so the rice is considered to be within contract requirements.

NOTE: In this example, either sublot 1 or sublot 3 can be withdrawn from the roundlot in order to meet the contract requirement of 20.0 % or less. When a sublot is withdrawn, the run rule is reapplied as if the withdrawn lot had never been offered for roundlot inspection.

EXAMPLE 2.

The declared grade of the lot is U.S. No. 5 Long Grain Milled Rice, maximum 20.0 percent total broken kernels (TBK). The sublot results for TBK are:

Sublot No. 1 - 22.0 %	Sublot No. 7 - 19.6 %
Sublot No. 2 - 21.8 %	Sublot No. 8 - 18.6 %
Sublot No. 3 - 20.3 %	Sublot No. 9 - 19.6 %
Sublot No. 4 - 19.8 %	Sublot No. 10 - 21.7 %
Sublot No. 5 - 19.3 %	Sublot No. 11 - 20.4 %
Sublot No. 6 - 19.6 %	

Explanation. Sublot 1 exceeds the contract requirement for TBK but not the tolerance. Therefore, the TBK results for sublot 1 are averaged with the TBK results for sublots 2 - 5. The average result is over 20.0 %. Since this exceeds the contract requirement, sublots 1 - 5 are declared a material portion. To correct the material portion, the applicant elects to withdraw sublot 1 and sublot 2. Withdrawal of only one of the two sublots would not have been sufficient to lower the average of the five sublot group to 20.0% or less.

After withdrawing sublots 1 and 2, the roundlot continues as if there had been no run, except that the next potential run begins with sublot 3 (20.3 %). When the next four consecutive sublots (sublots 4 - 7) are averaged with sublot 3, the result is less than 20.0 %, so the rice is considered to be within contract requirements.

EXAMPLE 3.

The declared grade of the lot is U.S. No. 2 Long Grain Milled Rice. The sublot results for OBS and HT are:

Sublot No. 1	- 3	Sublot No. 6	- 3
Sublot No. 2	- 2	Sublot No. 7	- 2
Sublot No. 3	- 3	Sublot No. 8	- 3
Sublot No. 4	- 2	Sublot No. 9	- 3
Sublot No. 5	- 2	Sublot No. 10	- 2
Average	2.4 = 2	Average	2.6 = 3

Explanation. Sublot 1 exceeds the contract requirement for OBS and HT but not the tolerance. Therefore, the results for sublots 1 - 5 are averaged and yield an average result of 2.2, which rounds to 2. Since this does not exceed the contract requirement, sublots 1 - 5 are not considered to be a material portion.

Sublot 6 exceeds the contract requirement for OBS and HT but not the tolerance. Therefore, the results for sublots 6 - 10 are averaged and yield an average result of 2.6, which rounds to 3. Since this exceeds the contract requirement, sublots 6 - 10 are considered a material portion.

NOTE: To determine results for a run for factors determined by count, add the factor results for five consecutive sublots beginning with a sublot which does not meet the contract requirements. Determine the average for these sublots then round to the nearest whole number according to established rounding procedures.

CHAPTER 8

IDENTITY-PRESERVED INSPECTION PLAN

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8.1 GENERAL INFORMATION

The identity-preserved (IP) inspection plan provides for the certification of sacked rice lots at one location based on results determined at another location.

1. Accordingly, a lot of sacked rice is specifically identified, sampled, inspected (and, when requested, checkweighed), and certificated at an origin location. Then, after the lot has been shipped to another location (destination), its identity and condition is verified.

2. If the identification and condition of the lot has not changed, a new certificate is issued. This certificate shows the grade, class, factor results, and other information that were determined at origin, along with the carrier identification and similar information determined at destination.

8.2 RESPONSIBILITIES

A. Applicant at Origin. The applicant shall:

1. Complete an application for service.

a. Show "IP Inspection" in the space provided for "TYPE OF INSPECTION."

b. Show the method that will be used to identify the lot and the applicable sack code number or carrier seal number in the Remarks section; e.g., "Lot identified by coding sacks - sack code number H123."

c. Show the destination of the lot in the Remarks section.

2. File the application with official personnel at origin prior to or at the time of the service.

3. Provide for the proper identification of the lot and maintain the lot so that its identify is preserved.

4. Mail the original certificates and any other pertinent documents to the applicant at destination.

NOTE: For shipments where destination services may be requested before the origin certificate can be delivered to the applicant at destination, the applicant at origin should surrender the original certificates to the official personnel at origin and request that the pertinent information and identification codes be transmitted to the official personnel at destination via telemail or telephone.

B. Official Personnel at Origin. Official personnel shall:

1. Ensure that the lot is properly identified and the identity is maintained.

2. Sample and inspect the lot, and perform all the requested services in accordance with the applicable procedures.

3. Issue an official certificate in accordance with the applicable procedures.

C. Applicant at Destination. The applicant shall:

1. Complete an application for service.

a. Show "IP Inspection" in the space provided for "TYPE OF INSPECTION."

b. Show the method that was used at origin to identify the lot and the applicable sack code number or carrier seal number in the Remarks section; e.g., "Lot identified by coding sacks - sack code number H123."

2. File the application, the original certificate for the origin inspection, and any other pertinent documents, with official personnel at the destination office prior to or at the time of the requested service. Note on the application the amount of rice to be shipped.

3. For lots identified only by carrier seal numbers, ensure that official personnel are present prior to breaking the seals and unloading the carriers. If such a lot is to be stored in a warehouse or similar facility at destination prior to final shipment, apply a code, or arrange for official personnel to apply a code, to the sacks during the unloading operation.

D. Official Personnel at Destination. Official personnel shall:

1. Review the origin certificate, application for service, and any other pertinent documents.

2. Verify the identification and the condition of the lot, and, when necessary, apply or witness the application of a sack code to the sacks during the unloading operation.

3. Perform all other requested services in accordance with the applicable procedures.

4. Issue an official certificate(s) in accordance with the applicable procedures.

8.3 LOT IDENTIFICATION

A. General. The applicant at origin shall provide specific identify to the lot by either coding the sacks in the lot or sealing the carriers into which the lot is loaded.

B. Coding Sacks.

1. When coding is used, the applicant at origin shall apply or arrange for official personnel to apply a special and unique code number to no less than 25 percent of the sacks in each carrier or sublot.

2. Each code number shall consist of four or more alphanumeric digits. The first digit will be the letter identifying the field office from the list below. The remaining digits will be assigned according to procedures adopted by the field office manager or Federal cooperator manager, in cooperation with the shipper. *

B - Beaumont	J - Jonesboro	N - New Madrid
C - Crowley	L - Lake Charles	S - Sacramento
G - Greenville	M - Memphis	T - Stuttgart
H - League City		

*

3. The code number shall be applied with either a hand roller stamp, commercial coder, coded tags sewn in seams, or any other FGIS-approved method.

a. Official personnel shall maintain full control of hand roller stamps, commercial coders, or any other similar equipment.

b. The roller for a commercial coder must have removable digits so that the code can be changed for each lot.

4. Official personnel shall record the code number on the work record and the certificate.

NOTE: If coded sacks are subsequently loaded aboard carriers, official personnel shall observe the sacks being loaded into the carriers, witness the carriers being sealed, and issue an observation of loading certificate with the carrier identification and seal numbers listed.

C. Sealing Carriers. When sealing is used, official personnel shall observe the sacks being loaded into the carriers, witness the carriers being sealed, and record the carrier identification and seal numbers on the work record and certificate.

8.4 ORIGIN SERVICES

A. Sampling, Inspection, and Other Services. Official personnel shall:

1. Sample, inspect, and perform all other requested services on the lot in accordance with the applicable procedures.

2. If a component/sublot does not meet contract requirements, direct its removal from the lot and certificate it separately. Ensure that all coded sacks in such components/sublots have their code numbers obliterated or are emptied.

B. Certification.

1. Official personnel shall certificate the lot in accordance with the applicable procedures and record the IP code applied in the Remarks section as follows: "FGIS IDENTITY PRESERVED CODE NUMBER: (number)." A separate code number must be used for each lot.

2. Divided-lot certificates shall not be issued at origin.

8.5 DESTINATION SERVICES

A. Identification and Condition Verification. Official personnel shall:

1. Determine, by checking sack code numbers or carrier seal numbers, if the lot is the same as that identified on the origin certificate. If the identification of the lot cannot be verified, the IP inspection shall be cancelled.

2. For lots identified only by carrier seal numbers, observe the breaking of the seals. If such a lot is to be stored in a warehouse or similar facility prior to final shipment, apply or witness the application of a sack code to the sacks during the unloading operation.

3. Examine the outside of all visible sacks in each pallet or barge for animal filth, wetness, infestation, and large holes. Rice in a barge or ship may be examined while still in the barge, on the deck of a ship, or in the shiphold; provided that, a significant number of sacks are accessible for examination.

a. If animal filth, wetness, or large holes are found on the outside of the sacks, direct the applicant to remove the sacks from the lot and subtract the number of sacks removed from the lot. If the sacks are not removed, cancel the IP inspection on that portion of the lot that contains the affected sacks.

b. If insect infestation is found only on the outside of the sacks, allow the applicant to fumigate the lot and request a condition examination. If the subsequent condition examination determines that the rice in the sacks is free of live or dead insect, the lot may still be certificated under the IP plan. If the sacks are not fumigated, cancel the IP inspection on that portion of the lot that contains the affected sacks.

NOTE: Do not sample fumigated rice until after: (1) the time period specified by the manufacturer for the efffective use of the fumigant, (2) the rice has been adequately aerated, and (3) a gas-free certificate has been issued by a licensed fumigator.

4. Draw a sample from approximately 1 percent of the sacks in each component or carrier. Examine each sample separately.

a. If the sample is out-of-condition, direct the applicant to remove the affected sacks from the lot and subtract the number of sacks removed from the lot. If the sacks are not removed, cancel the IP inspection on that portion of the lot that contains the affected sacks.

b. If the sample appears to be of a lower quality than the contract requirement, analyze the sample. If the sample exceeds the "new sample" tolerance (see Appendix 1) for any factor, cancel the IP inspection on that portion of the lot that contains the affected sacks.

NOTE: The applicant may request a warehouse-lot inspection on any portion of a lot which is out-of-condition or off-grade (exceeds the "new sample" tolerance).

5. Perform any other services requested, such as checkcounting and observation of loading.

6. Fully describe on the work record and certificate any off-grade/out-of-condition portion of a lot so that sacks from that portion will not be subsequently included with another lot without being inspected.

NOTE: Issue condition examination certificates for (a) sacks that were removed from the lot; (b) sacks that were not removed from the lot which have animal filth, wetness, or large holes on the outside of the sacks, or which contain rice that is infested, out-of-condition, or of a lower quality than the contract requirement; and (c) sacks that required a second examination subsequent to fumigation.

B. Certification. Official personnel shall:

1. If the identification and condition of the lot is determined to be the same as that shown on the origin certificate, mark the certificate issued at origin "VOID" and issue a new (destination) certificate.

2. On each destination certificate, show the grade designation, class, kind, factor results, and other service-related information (e.g., checkweighing) taken from the origin certificate. Show all other information, such as identification of carrier, place of issuance, date, quantity, and location, as determined at destination. Do not show the IP code on the destination certificate.

3. When a lot inspected under the IP plan is loaded aboard two or more carriers, issue a separate destination certificate for each portion of the lot, by carrier; provided, it has not been more than 30 days since the first destination certificate was issued.

a. Do not issue destination certificates on any remaining portion of a lot after the expiration of the 30-day period.

b. Show on each destination certificate the amount the applicant requests; provided, the amount does not exceed the total amount covered by the origin certificate.

c. Attach and file the superseded origin certificate with a copy of the first destination certificate issued.

d. Document destination certificate numbers on the work records.

4. Allow applicants to switch from option 1 to option 2 certification. When two or more certificates are combined, the lowest quality grade will prevail on the destination certificate.

5. Allow lots inspected under the IP plan to be combined with other lots of like grade and kind that were inspected under the IP plan or under the Warehouse-Inspection Plan.

a. Once certificates are combined, no further combining may be performed.

b. Factor results and other information shall be based on the weighted average of the results shown on the origin certificates.

(1) Multiply the number of sacks recorded on each origin certificate by the factor results shown on each certificate.

(2) Divide the total product by the total quantity of sacks.

(3) Follow the same procedure for other percentages, count factors, and checkweights. In cases where a percentage or count factor does not appear on all origin certificates, the weighted average shall be based on those certificates which show the factor. For subjective factors, such as milling degree and color, show the factor which represents the lowest quality grade shown on the origin certificate(s).

FOR EXAMPLE:

Origin Certs.	Quality		Factor - Total Broken Kernels		Product
Certificate 1	26,250 sacks	X	19.6	=	514,500
Certificate 2	48,750 sacks	X	18.9	=	921,375
Certificate 3	23,350 sacks	X	19.3	=	450,655 *
Certificate 4	56,700 sacks	X	19.9	=	1,128,330
Certificate 5	46,250 sacks	X	20.0	=	925,000
Certificate 6	35,000 sacks	X	19.7	=	689,500
Total	241,300 sacks				4,622,360 *

4,622,360 divided by 241,300 = 19.18 or 19.2 percent TBK. *

(RESERVED)

CHAPTER 9

WAREHOUSE-LOT INSPECTION PLAN

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Attachment 1 Warehouse-Lot Tolerance Tables

9.1 GENERAL INFORMATION

A. A warehouse-lot is a multiple-unit lot of sacked rice, including rice in containers and "tote" bags, or bulk rice in bins, that is at rest in a warehouse, mill, or similar structure.

B. The warehouse-lot inspection plan provides for sampling and inspecting warehouse-lots of rice as a single lot.

1. Rice inspected under this plan is examined for both uniformity in quality and compliance with grade/ contract requirements.

2. This plan utilizes established tolerances (i.e., statistically pre-determined limits) for accepting those occasional portions of a lot that, due to known sampling and grading variations, may grade below the desired lot quality.

9.2 APPLICATION FOR INSPECTION

Prior to beginning the inspection, the applicant must submit a form FGIS-955, "Application for Inspection under the Agricultural Marketing Act of 1946," or an appropriate Federal cooperator's form.

1. The application shall declare: (1) the contract requirements (contract grade and other specifications); (2) the approximate quantity of rice in the lot; (3) "Option 1" or "Option 2" certification; and (4) any other needed information.

2. The application must be signed.

9.3 COMPONENTS, BLOCKS, AND SUBLOTS

A. A component is a portion of a block; e.g., 2,000 sacks in a 4,000 sack block.

1. There shall be no less than two components in every block.

2. All components in the lot shall be reasonably uniform in size; i.e., the largest sized component not more than 25 percent larger than the smallest component.

3. Component size shall be established by the official inspection personnel and may not be changed once the inspection has begun.

B. A block is a portion of a sublot consisting of 4,000 to 8,000 sacks of rice, or an equivalent amount in pounds of bulk rice. Component size and composition shall be established by the official inspection personnel and may not be changed once the inspection has begun.

C. A sublot is a portion of the overall lot consisting of one or more blocks.

1. Except for the last sublot, all sublots in the lot must be reasonably uniform in size; i.e., the largest sized sublot not more than 25 percent larger than the smallest sublot - excluding the last sublot.

2. Sublot size shall be established by the official inspection personnel and may not be changed once the inspection has begun.

D. Use the following table (Table 1) when determining the quantity of rice to include in a component, and when determining the number of components in a block, blocks in a sublot, and sublots in a lot.

TABLE 1 - COMPONENTS, BLOCKS, AND SUBLOTS

SACKS (CWT) 1/ IN THE LOT	COMPONENTS 2/ IN THE BLOCK	BLOCKS IN THE SUBLOT	SUBLOTS IN THE LOT
1 - 6,000	2 - 6	1	1
6,001 - 18,000	6 - 18	2 - 3	2
18,001 - 36,000	18 - 36	4 - 6	3
36,001 - 78,000	36 - 78	7 - 13	4
78,001 - 150,000	78 - 150	14 - 25	5
150,001 - 300,000	150 - 300	26 - 50	6
300,001 - 600,000	300 - 600	51 - 100	7
600,001 or more	Add one for each 1,000 bags over 600,000	Add one for each 6,000 bags over 600,000	8

1/ For bulk lots, equivalent amount in hundredweight or pounds.
2/ When a bulk trier is used, consider each probe as a component sample.

E. After determining the number of components, blocks, and sublots in the lot, identify the rice that will actually comprise each of the blocks.

1. Review the size and physical layout of the lot.

2. Randomly select a storage area (section, bay, or doorway).

3. Then, begin physically grouping the rice into blocks and the blocks into sublots; e.g., ex-railcar lot UP 1234 is identified as component 1, components 1, 2, 3, and 4 are grouped together as block 1, and blocks 1 and 2 are combined to form sublot 1.

F. For sacked rice, determine which blocks must be made fully accessible; i.e., a minimum of one side of each pallet in a block is completely exposed so that a sample may be drawn from any sack facing that side.

1. **For new applicants**, all pallets in each block must be made fully accessible for inspection until 15 consecutive blocks are inspected without noting any non-uniformity.

2. **For all other applicants**, approximately one-fifth of the blocks must be made fully accessible; provided that, if any non-uniformity is noted in a component, block, or sublot, then all pallets in each of the next 15 consecutive blocks must be made fully accessible.

NOTE: When some sacks are non-uniform because of water damage, bird droppings, or similar conditions, and these sacks are removed from the lot, the applicant shall not be required to make the next 15 blocks fully accessible.

3. For each lot inspected, a minimum of one block must be made fully accessible.

4. Use a random number table that has been assigned to the specific applicant to determine which blocks must be made fully accessible.

a. Divide the number of blocks in the lot by five and select that number of random numbers. Select one additional number if there is a remainder after dividing; e.g., if there are 19 blocks in lot, select 4 random numbers.

b. When a number selected from the random number table is greater than the number of blocks in the lot, select another number.

c. The numbers selected from the table represent the intervals between blocks that must be made fully accessible.

FOR EXAMPLE: A lot has 20 blocks. Four random numbers are selected: 5, 8, 3, and 6. By using these numbers to plot the intervals between selected blocks, it is determined that blocks 5, 13, and 16 must be made fully accessible.

Block #'s...	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Random #'s..	1	2	3	4	5	1	2	3	4	5	6	7	8	1	2	3	1	2	3	4 5 6

9.4 UNIFORMITY CRITERIA

A. Draw a sample from each component according to the procedures in Chapter 2 of this handbook.

1. When bulk rice is sampled with a compartmented trier, consider each probe as one component sample.

2. Each component shall be approximately equal in size.

a. If the component being sampled is part of a block that must be made fully accessible, a minimum of one sack from each pallet must be sampled.

b. If the component being sampled is part of a block that is not required to be made fully accessible, a minimum of one sack from each pallet **that is accessible** must be sampled.

NOTE: The top pallets of block's selected to be made fully successful must also be examined for condition.

B. Visually examine each component sample for uniformity of quality; i.e., no factors appear to exceed the grade/contract requirements by more than the grade/contract limit or the established warehouse-lot tolerance (see attachment 1).

NOTE: Do not examine component samples for milling yield.

C. If the component sample appears to be uniform in quality, combine the sample with other uniform component samples to form a block sample.

D. When the component sample appears to be not uniform in quality, analyze the sample for the potentially nonuniform factor(s).

1. For factors that have warehouse-lot tolerances, make **only** one determination.

a. If the results do not exceed the warehouse-lot tolerance, consider the component as being uniform in quality and combine the component sample with other uniform component samples to form a block sample. Do not record the component factor results on the log or form FGIS-911.

b. When the results exceed the warehouse-lot tolerance, declare the rice represented by that component sample to be a material portion and certificate it as a separate lot. When this occurs, the next 15 consecutive blocks must be made fully accessible.

2. For all other factors, make two determinations.

a. If the results of either determination are within the grade/contract requirement, consider the component as being uniform in quality and combine the component sample with other uniform component samples to form a block sample. Do not record the component factor results on the log or form FGIS-911.

b. If the results of both determinations exceed the grade/contract requirement, declare the rice represented by that component sample to be a material portion and certificate it as a separate lot. Show the average results of the determination on the certificate. When this occurs, the next 15 consecutive blocks must be made fully accessible.

E. Visually examine each block sample for uniformity of quality; i.e., no factors appear to exceed the grade/contract requirements by more than the grade/contract limit or the established warehouse-lot tolerance (see attachment 1).

NOTE: Do not examine block samples for milling yield.

F. If the block sample appears to be uniform in quality, combine the sample with other uniform block samples to form a sublot sample.

NOTE: Since the size of blocks may vary by as much as 4,000 sacks, combine block samples in proportion to their size. For example, if 40 percent of the sacks in the sublot are from block 1, then 40 percent of the sublot sample should be taken from the block 1 sample.

G. When the block sample appears to be <u>not uniform</u> in quality, analyze the sample for the potentially nonuniform factor(s).

1. <u>For factors that have warehouse-lot tolerances</u>, make **only** one determination.

a. If the results do not exceed the warehouse-lot tolerance, consider the block as being uniform in quality and combine the block sample with other uniform block samples to form a sublot sample. Do not record the block factor results on the log or form FGIS-911.

b. When the results exceed the warehouse-lot tolerance, declare the rice represented by that block sample to be a material portion and certificate it as a separate lot. When this occurs, the next 15 consecutive blocks must be made fully accessible.

2. <u>For all other factors</u>, make two determinations.

a. If the results of either determination are within the grade/contract requirement, consider the block as being uniform in quality and combine the block sample with other uniform component samples to form a sublot sample. Do not record the component factor results on the log or form FGIS-911.

b. If the results of both determinations exceed the grade/contract requirement, declare the rice represented by that component sample to be a material portion and certificate it as a separate lot. Show the average results of the determination on the certificate. When this occurs, the next 15 consecutive blocks must be made fully accessible.

H. Analyze each sublot sample for all contract and grade determining factors, and record the results on the log or form FGIS-911.

NOTE: For a factor's average results to be shown on the warehouse-lot inspection certificate, all sublots must be analyzed for that factor and the sublot results must be properly recorded on the log or form FGIS-911.

1. <u>For factors that have warehouse-lot tolerances</u>, make **only** one determination.

a. If the results do not exceed the warehouse-lot tolerances, consider the sublot as being "within contract."

b. If the results exceed the warehouse-lot tolerance, declare the rice represented by that sublot sample to be a material portion, certificate it as a separate lot, and line through the factor results on the log or form FGIS-911. When this occurs, the next 15 consecutive blocks must be made fully accessible.

NOTE: If the applicant requests "average milling yield," do not apply warehouse-lot tolerances to the results.

2. For all other factors, make two determinations.

a. If the results of either determination are within the grade/contract requirement, consider the sublot as "within contract."

b. If the results of both determinations exceed the grade/contract requirement, declare the rice represented by that component sample to be a material portion, certificate it as a separate lot, and line through the factor results on the log or work record. Show the average results of the determination on the certificate. When this occurs, the next 15 consecutive blocks must be made fully accessible.

9.5 CORRECTING NON-UNIFORMITY

When non-uniformity of quality is noted within an identified lot, the action required to correct the non-uniformity will vary. Inspection personnel must exercise good reasoning and judgement when at warehouse locations. Questionable or unusual situations shall be discussed with supervisory personnel before taking final action.

NOTE: Whenever non-uniform sacks are found in a lot, inspectors must observe and verify that the affected sacks are removed from the lot and conspicuously marked as rejected.

A. When a component sample is found to be non-uniform in quality, other component samples taken from the block shall be carefully examined before requiring that all pallets in the next 15 consecutive blocks be made fully accessible.

1. If the non-uniformity is limited to only a small number of sacks in the component, the non-uniform sacks shall be removed from the lot and separately certificated.

2. In such circumstances, it would not be necessary to require the next 15 blocks to be made fully accessible. However, if the non-uniformity is prevalent throughout one or more components, accessibility of the next 15 blocks is required.

B. When a component is found to be non-uniform because of conditions such as water damage or bird droppings, the non-uniform sacks shall be removed from the lot and separately certificated. In such circumstances, it would not be necessary to require the next 15 blocks to be made fully accessible. However, the top sacks of the next 15 blocks shall be carefully inspected to insure that all such damaged sacks are found and removed.

C. When insect infestation is found in a component sample of a block that is not fully accessible, the inspector shall record the incident and continue with the inspection.

1. If, by sampling consecutive blocks--fully accessible or not, the inspector continues to find infestation, there would be no need to require that the next 15 blocks be made fully accessible.

2. If the infestation is not prevalent in one or more components of a block, the inspector may require one or more of the next 15 blocks be made accessible to determine the extent of the infestation.

3. If flying moths are found on or about the a block, there would be no need to require that the next 15 blocks be made fully accessible. The other blocks should, however, be carefully examined for such infestation.

4. Sacked rice stored in warehouses sometimes becomes infested with larvae, moths and weevils. Often the entire lot is not infested, but only a portion of the lot. Applicants may request that official inspection personnel inspect and segregate the infested rice from the rice that would be acceptable for shipment. Accordingly, the rice may be inspected on a pallet-by-pallet basis, but not on a sack-by-sack basis. The following example illustrates the procedure to be used.

Step 1 — The applicant requests an inspection of 100,000 bags of rice on pallets in a warehouse.

Step 2 — The warehouse-lot inspection plan is followed, and the rice submitted for inspection is divided into appropriate blocks.

Step 3 — The plan calls for 5 sublots, each sublot containing 20,000 bags.

Step 4 The plan permits the inspector to have 20 blocks for the entire lot. Each block will consist of 5,000 bags.

Step 5 Each block will have 5 components of 1,000 bags each. (100 components in the total lot.)

Step 6 The inspector finds a component sample representing 1,000 bags not uniform in quality because of dead insects in the sample or on the bags.

Step 7 The 4,000 bags that were found uniform in quality are considered as an accepted block, and the sample representing the 4,000 bags will be composited with the sublot sample.

Step 8 The 1,000 bags of Sample grade rice will be separately certificated and the Food and Drug Administration will be contacted in accordance with FGIS Instruction 906-2, "Implementation of the FGIS-FDA Memorandum of Understanding."

Step 9 Notify the applicant of the above action.

Step 10 The applicant requests FGIS to perform a pallet-by-pallet inspection to separate the infested pallets from the acceptable pallets.

Step 11 FGIS informs FDA of the applicant's request, and, if FDA has no objections, FGIS will perform a pallet-by-pallet inspection.

Step 12 The applicant will make each pallet accessible to the inspector for inspection.

Step 13 Each pallet will be treated as a single lot inspection and will first be inspected for condition. The minimum number of bags sampled will be in accordance with Chapter 2. More bags may be sampled at the discretion of the inspector, and an individual bag may be sampled more than one time.

Suspected infested areas that can be viewed through the translucent bag material may be sampled to determine if these areas are insects, seeds, or foreign material. Some pallets may be rejected without sampling by a visual examination if webbing, insects, or insect refuse is present on the outside of the bags or is viewed through the bag material. Samples taken shall be sieved to determine if insects are present--one insect per pallet will be sufficient to consider the pallet Sample grade.

NOTE: Samples taken from suspected areas will contain more seeds and foreign material than representative samples. Samples taken at this time are to determine condition only and shall be discarded after sieving.

Step 14 — If the pallets examined for condition are found not to be acceptable, they may be included with other pallets of the same condition. Failing pallets may be certificated as one lot. A portion of the bags on all four sides of the rejected pallet are to be marked with a felt tip marker, chalk, roller stamp, or other suitable means of identification.

Step 15 — Pallets found to be in an acceptable condition (no infestation) are to be immediately sampled for quality. Samples are to be taken in accordance with the procedures in Chapter 2 of this handbook. This sample will be sieved for infestation. (One insect per pallet will be sufficient to consider the pallet Sample grade, as a number of pallets will be combined to constitute a lot.) If no infestation is found, this sample will be composited with other samples of the same quality to make a lot sample.

Step 16 — Issue two separate certificates at the conclusion of the inspection. One certificate representing the pallets found acceptable, one certificate representing the pallets found unacceptable. Show the quality of the rice and condition of the containers on each certificate.

Step 17 — Notify FDA of the location and amount of rice that meets the defect action level.

Step 18 — No further inspection may be performed until the rice is released by FDA.

9.6 TIME LIMITATIONS

If reasonably continuous inspection service is not maintained, a warehouse-lot inspection certificate shall be issue for that portion of the lot inspected prior to the break in inspection service or after each additional break in inspection service.

1. "Reasonably continuous inspection service" can include inactive periods of not more than 88 consecutive hours.

2. To be considered "reasonably continuous service," at least one block must be inspected during any 88 hour period.

9.7 REVIEW INSPECTIONS

The applicant may request an appeal inspection on any sublot; provided, the applicant withdraws the sublot from the lot.

1. The warehouse-lot tolerances cannot be applied to a single sublot.

2. If the appeal inspection determines that the sublot meets grade/contract requirements, the sublot cannot be re-entered in the original lot unless the applicant requests an appeal inspection on all of the other sublots in that lot.

9.8 MATHEMATICAL OR WEIGHTED AVERAGE

After completing the inspection of all sublots, calculate the factor information to be shown on the certificate(s) by one of the following methods:

1. Mathematical Average Method. If the lot is composed of 10 or more "reasonably uniform" 1/ sublots or any number of "uniform" 2/ sublots, mathematically average the sublot factor results (excluding any sublot(s) to be certificated as a separate lot).

2. Weighted Average Method. For all other lots, average the sublot factor results (excluding any sublot(s) to be certificated as a separate lot) in the following manner:

a. Multiply each sublot factor result by the quantity of rice (sacks or pounds) in the sublot. For example:

Sublot	Quantity		Factor to be Weighted (Total Broken Kernels)		Product
Sublot No. 1	18,750 sacks	x	19.6	=	3,675,000
Sublot No. 2	18,750 sacks	x	18.9	=	3,543,750
Sublot No. 3	18,750 sacks	x	20.8	=	3,900,000
Sublot No. 4	21,250 sacks	x	19.3	=	4,101,250
TOTAL	77,500 sacks				15,220,000

1/ The term "reasonably uniform" means that the largest sized sublot is not more than 25 percent larger than the size of the smallest sublot (excluding the first and last sublots) in the lot.

2/ The term "uniform" means that the components are one standard size or are within 5 percent of the standard.

b. Total the products for each factor column. (In the above example, the total is 15,220,550.)

c. Divide each totaled product by the total quantity; e.g., 15,220,550 ÷ 77,500 = 19.63 or 19.6 % total broken kernels.

Note: For subjective factors (e.g., milling degree), show on the certificate the lowest quality determined for one or more sublots.

9.9 CERTIFICATION

A. If the mathematical or weighted average of all factors in the lot are within contract requirements, issue one certificate.

B. When the average of all factors are not within contract requirements, issue separate certificates for each individual sublot. Two or more sublots failing to meet the same contract requirement may be combined and certificated together as a separate lot. Sublots that fail to meet different contract requirements shall be certificated as separate lots.

C. If the applicant requests "average milling yield," show the average sublot milling yield results for the entire lot and include the following statement in the Remarks section of the certificate: "Sublot milling yield results ranged from (lowest) percent to (highest) percent."

D. Issue an inspection certificate for each warehouse-lot inspection. Show the following information on each certificate:

1. The identification and sampling date(s),

2. The date that the last sublot was graded as the inspection date,

3. The average results for each of the factors determined during inspection, and

4. The lowest results for subjective quality factors (e.g., milling degree and color) that were determined for one or more sublots.

WAREHOUSE-LOT TOLERANCES

A. Rough Rice.

1. Milling yield (total).

   3.0 percent of contract requirement.

2. Milling yield (whole kernels).

   4.0 percent of contract requirement.

3. Seeds and heat-damaged kernels.

   a. Total (singly or combined).

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	4	3
U.S. No. 2	7	4
U.S. No. 3	10	5
U.S. No. 4	27	6
U.S. No. 5	37	8
U.S. No. 6	75	12

   b. Heat-damaged kernels and objectionable seeds.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	3	3
U.S. No. 2	5	4
U.S. No. 3	8	4
U.S. No. 4	22	7
U.S. No. 5	32	8
U.S. No. 6	75	12

   c. Heat-damaged kernels.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	1	1
U.S. No. 2	2	2
U.S. No. 3	5	4
U.S. No. 4	15	6
U.S. No. 5	25	7
U.S. No. 6	75	13

4. Red rice and damaged kernels (singly or combined).

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.5	0.6
U.S. No. 2	1.5	0.9
U.S. No. 3	2.5	1.1
U.S. No. 4	4.0	1.5
U.S. No. 5	6.0	1.5
U.S. No. 6	15.0 1/	2.5 1/

5. Other types.

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.5
U.S. No. 2	2.0	0.7
U.S. No. 3	3.0	0.8
U.S. No. 4	5.0	1.1
U.S. No. 5	10.0	1.5
U.S. No. 6	10.0	1.5

B. Brown Rice for Processing.

1. Milling yield (total). 2.0 percent of contract requirement.

2. Milling yield (whole kernels). 3.0 percent of contract requirement.

* 3. Paddy kernels.

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U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	20 (count)	7
U.S. Nos. 2 - 5	2.0 %	1.0 %

4. Seeds and heat-damaged kernels.

a. Total (singly or combined).

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	10	5
U.S. No. 2	40	10
U.S. No. 3	70	13
U.S. No. 4	100	16
U.S. No. 5	150	17

1/ U.S. No. 6 Rough rice shall contain not more than 6.0 percent damaged kernels. The tolerance for damaged kernels (singly) is 1.5 percent.

b. Heat-damaged kernels.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	1	1
U.S. No. 2	2	2
U.S. No. 3	4	3
U.S. No. 4	8	4
U.S. No. 5	15	6

c. Objectionable seeds.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	2	2
U.S. No. 2	10	5
U.S. No. 3	20	7
U.S. No. 4	35	10
U.S. No. 5	50	12

5. Red rice and damaged kernels (singly or combined). *

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.7
U.S. No. 2	2.0	1.0
U.S. No. 3	4.0	1.5
U.S. No. 4	8.0	2.0
U.S. No. 5	15.0	2.5

6. Total broken kernels. *

Contract Requirement (%)	Tolerance (%)
1.0 - 5.0	1.0
5.1 - 10.0	1.2
10.1 - 15.0	1.5
15.1 - 25.0	2.0
25.1 - 35.0	2.4

7. Other types. *

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.5
U.S. No. 2	2.0	0.7
U.S. No. 3	5.0	1.1
U.S. No. 4	10.0	1.5
U.S. No. 5	10.0	1.5

* 8. Well-milled kernels.

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.5
U.S. No. 2	3.0	0.8
U.S. No. 3	10.0	1.5
U.S. No. 4	10.0	1.5
U.S. No. 5	10.0	1.5

C. Milled Rice.

1. Seeds, heat-damaged, and paddy kernels (singly or combined).

a. Total.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	2	2
U.S. No. 2	4	3
U.S. No. 3	7	4
U.S. No. 4	20	7
U.S. No. 5	30	8
U.S. No. 6	75	13

b. Heat-damaged kernels and objectionable seeds.

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	1	1
U.S. No. 2	2	2
U.S. No. 3	5	4
U.S. No. 4	15	6
U.S. No. 5	25	7
U.S. No. 6	75	13

2. Red rice and damaged kernels (singly or combined).

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.5	0.6
U.S. No. 2	1.5	0.9
U.S. No. 3	2.5	1.1
U.S. No. 4	4.0	1.5
U.S. No. 5	6.0	1.5
U.S. No. 6	15.0 1/	2.5 1/

1/ U.S. No. 6 Milled rice shall contain not more than 6.0 percent damaged kernels. The tolerance for damaged kernels (singly) is 1.5 percent.

3. Total broken kernels.

Contract Specification (%)	Tolerance (%)
1.0 - 4.0	1.0
4.1 - 7.0	1.2
7.1 - 15.0	1.8
15.1 - 27.0	2.0
27.1 - 35.0	2.4
35.1 - 50.0	2.5

4. Other types.

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.5
U.S. No. 2	2.0	0.7
U.S. No. 3	3.0	0.8
U.S. No. 4	5.0	1.1
U.S. No. 5	10.0	1.5
U.S. No. 6	10.0	1.5

D. Brewers Milled Rice.

1. Total paddy kernels and seeds.

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.5	0.04
U.S. No. 2	1.0	0.10
U.S. No. 3	1.5	0.20
U.S. No. 4	3.0	0.20
U.S. No. 5	5.0	0.20

2. Objectionable seeds.

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.05	0.02
U.S. No. 2	0.1	0.10
U.S. No. 3	0.2	0.10
U.S. No. 4	0.4	0.20
U.S. No. 5	1.5	0.20

E. Second-Head Milled Rice.

1. Seeds, heat-damaged, and paddy kernels (singly or combined).

a. Total (singly or combined).

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	15	6
U.S. No. 2	20	7
U.S. No. 3	35	8
U.S. No. 4	50	10
U.S. No. 5	75	12

b. Heat-damaged kernels and objectionable seeds (singly or combined).

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	5	4
U.S. No. 2	10	5
U.S. No. 3	15	6
U.S. No. 4	25	7
U.S. No. 5	40	9

2. Red rice and damaged kernels (singly or combined).

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.7
U.S. No. 2	2.0	1.0
U.S. No. 3	3.0	1.2
U.S. No. 4	5.0	1.5
U.S. No. 5	10.0	2.0

F. Special Contract Limit. When the contract requires a factor limit that differs from the grade limit set in the U.S. Standards for Rice, use the tolerance established for the next higher quality grade.

EXAMPLE: A contract for U.S. No. 3 Long Grain Brown Rice for Processing limits the percentage of damaged kernels (DK) to a maximum of 1.5 percent. The grade limit for U.S. No. 1 for red rice and damaged kernels is 1.0 percent, with a tolerance of 0.7 percent. The grade limit for U.S. No. 2 is 2.0 percent, with a tolerance of 1.0 percent. Use the tolerance for U.S. No. 1 for red rice and damaged kernels (0.7 percent), establishing the maximum DK for sublots graded under this contract at 2.2 percent.

CHAPTER 10

GOVERNMENT CONTRACTS

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PART I - DPSC INSPECTIONS

10.1 INTRODUCTION TO DPSC INSPECTIONS

A. FGIS is responsible for the inspection, certification, and acceptance of rice for the Defense Personnel Supply Center (DPSC).

B. To determine contract compliance:

1. official personnel must carefully study and apply the appropriate Federal Specifications, Military Specifications, and DPSC Articles;

2. official personnel must ascertain that all contract provisions have been met; and

3. then, official personnel must affix their signatures to a properly completed form DD-250 "Material Inspection and Receiving Report." This affirms that the lot, including nonfood components, is acceptable for DPSC. The signed form DD-250 is the basis on which DPSC accepts the shipment and pays the vendor.

10.2 DEFINITIONS

Administrative Contracting Officer (ACO). Department of Defense (DOD) officer, who along with PCO, originates and administers DPSC contracts.

Acceptable Quality Level (AQL). Maximum percent defectives or maximum number of defects per hundred units that, for purposes of inspection, can be considered satisfactory as a process average.

Certificate of Conformance (COC). A document submitted by the contractor to official personnel stating that items used in a particular contract meet contract specifications. A COC is required on all nonfood components, whether samples of the nonfood component are sent to the Clothing and Textile Laboratory (C&T) or not. The contractor may also furnish a COC for enrichment, when enrichment is required.

Clothing and Textile Laboratory (C&T). The DOD laboratory responsibile for testing samples of nonfood components used in DPSC purchases.

Commodity Testing Laboratory (CTL). The FGIS laboratory that performs verification testing on rice that has been certified by the contractor as meeting contract specifications.

Contractor's Test Report. A document submitted by the contractor to official personnel that lists the required tests (rice component) that were performed by the contractor's laboratory or by a commercial laboratory. This document is required when a contractor elects to perform required tests.

Defense Personnel Support Center (DPSC). The DOD agency responsible for purchasing military food items.

Defense Supply Agency (DSA). The DOD agency that provides logistics management for DOD common item procurements.

Form 3595 "DPSC Master Solicitation for Nonperishable." Contains and references standards and specifications that pertain to the contract. DSA sends a Headquarter Notice with the current Master Solicitation to FGIS.

Form DD-250 "Material Inspection and Receiving Report." Used for the acceptance of all required items listed on the contract, along with a form FGIS-956 "Rice Inspection Services Certificate," which verifies the grade and class of the rice.

NOTE: Official personnel are responsible **only** for the completing Section 21 of the form, "Procurement Quality Assurance, and Acceptance." The contractor is responsible for completing all other sections of this form. Official personnel shall check the items listed on the form DD-250 to verify that the items listed are the items actually inspected.

Nonfood Components. Items used in packaging, packing, and marking; such as ink, adhesive, cap, pad, lag bolts, wax seals, plywood boxes, fiberboard boxes, nails, staples, and nonmetallic and flat steel strapping.

Packaging. The container that is used to protect, preserve, or maintain the quality of the rice. This container is sometimes referred to as a "primary container."

Packing. The container used to enclose one or more primary containers. This container is usually a fiber-board box or paper baler and is usually referred to as a "secondary container."

Procuring Contracting Officer (PCO). DOD officer who, along with ACO, originates and administers DPSC contracts.

Form DD-1222 "Request for and Results of Tests." Accompanies each sample submitted to CTL and C&T for testing.

Solicitation to Purchase. References the various federal and military specifications, clauses, and forms that apply to a particular contract and cites the specific packaging, packing, and marking requirements for each item listed in the contract. The award contract will verify the awarded item numbers, as sometimes the item numbers listed are divided between or among contractors.

10.3 DPSC ARTICLES, FORMS, AND NOTICES

DPSC Article 244. Inspection requirements for containerized and palletized unit loads. Inspection of pallets and unit loads, and deviations to specifications thereof.

DPSC 271. General requirements for contractor-paid USDA inspections. Contains standard wording for COC's, authorization for standby samples, and particular inspection requirements.

DPSC 513. Contains inspection requirements for milled rice milled (N-R-351); preservation, packaging, and packing; unit load data; and markings of containers and unit loads.

DPSC 720. Contractor optional testing.

DPSC 3556. Marking instructions for shipping sacks (balers), bags, boxes, and containerized and palletized unit loads.

Headquarters Notice. Notification of pending changes.

DPSC General Article 75. Up-to-date listing of nonfood components, including amendments, changes, deviations, and publications.

Federal Specification. Those pertaining to official inspections, including N-R-346 "Rice, Brown" and N-R-351 "Rice, Milled."

10.4 RESPONSIBILITIES OF CONTRACTOR AND OFFICIAL PERSONNEL

A. The contractor is responsible for:

1. Employing the services of the U.S. Department of Agriculture, Federal Grain Inspection Service (FGIS), to determine all required tests and analyses.

2. Notifying the appropriate FGIS field office or federal-state office manager (FOM or FSM), in a timely manner, prior to shipments.

3. Furnishing the appropriate specifications, amendments, and military standards needed to perform the inspection.

4. Marking the lot with an appropriate code number.

5. Making the lot available and accessible for examination and sampling.

6. Recooping or replacing balers opened for check-weighing and/or sampling.

7. Fumigating in-transit railcars in accordance with MIL-STD-1486.

8. Completing and submitting to official personnel the following documents:

a. COC's for packaging, packing, marking, and when required, the kinds and amount of enrichments according to DPSC Article 271.

b. "Contractor's Test Report" listing the test results of the end items (rice). This is necessary only if the contractor elects to perform the tests in lieu of having FGIS perform the tests. The contractor shall prepare this test report as shown in DPSC Article 720.

c. A report of moisture tests performed on pallets, if required by the contract.

d. A form DD-250. The Defense Contract Management District (DCMD) is responsible for instructing the contractor in all phases of preparing and distributing form DD-250.

B. Official personnel are responsible for:

1. Discussing the contract provisions and inspection procedures with the contractor prior to production.

2. Preparing a file for each contract.

3. Obtaining samples of nonfood and end item(s) (rice).

4. Completing and sending form DD-1222 and associated sample(s) to the appropriate laboratories.

5. Sampling and inspecting the rice under the U.S. Standards for Rice and under any other provisions of the contract, completing all required worksheets, and issuing a rice inspection certificate.

6. Filing worksheets with the contract, including any worksheets on pallets, unit loads, condition of container inspections, and checkweighing.

7. Checking the completed form DD-250 for accuracy with respect to specific information; such as, special marks, item numbers, contract numbers, and a description of the product.

8. Examining the immediate production area, rice, and the nonfood components for filth. The existence or possible existence of filth should immediately be brought to the attention of the FOM.

10.5 MILITARY AND FEDERAL SPECIFICATIONS, WITH ABBREVIATIONS

ABBREVIATIONS	TITLE OF SPECIFICATIONS
MIL-A-43529	ADHESIVE (FOR PALLETIZED LOADS)
MMM-A-260	ADHESIVE, WATER-RESISTANT (FOR SEALING WATERPROOFED PAPER)
PPP-B-35	BARRIER MATERIAL, WATERPROOFED, FLEXIBLE
PPP-B-1035	BARRIER MATERIAL, WATERPROOFED, FLEXIBLE
PPP-B-1163	BOX, CORRUGATED FIBERBOARD, HIGH COMPRESSION STRENGTH, WATER RESISTANT, WAX AND RESIN IMPREGNATED
PPP-B-1364	BOX, DOUBLE-WALL, WEATHER RESISTANT, HIGH STRENGTH, CORRUGATED FIBERBOARD
PPP-B-640	BOXES, FIBERBOARD, CORRUGATED, TRIPLE-WALL
MIL-B-43666	BOXES, SHIPPING INSERTS CONSOLIDATION
PPP-B-601	BOXES, WOOD, CLEATED PLYWOOD
PPP-F-320	FIBERBOARD, SHEET, STOCK, CUT SHAPES
FEB-TD-75	GLOSSARY OF PACKAGING TERMS
MIL-STD-1486	IN-TRANSIT FUMIGATION OF FREIGHT CARS
MIL-L-0035078	LOADS, UNIT; PREPARATION OF NONPERISHABLE SUBSISTENCE
MIL-STD-105	SAMPLING PROCEDURES AND TABLES FOR INSPECTION BY ATTRIBUTES
MIL-STD-129	MARKING FOR SHIPMENT AND STORAGE
DPSC 3556	MARKING INSTRUCTION FOR NONPERISHABLE SUBSISTENCE (SACK, BAG AND UNIT LOAD)

ABBREVIATIONS	TITLE OF SPECIFICATIONS
DD-250	MATERIAL INSPECTION AND RECEIVING REPORT
FF-N-105	NAILS, WIRES, BRADS, AND STAPLES
MIL-P-3938	PALLETS, MATERIAL HANDLING, HARDWOOD STRINGER CONSTRUCTION (4-WAY PARTIAL)
NN-P-71	PALLETS, MATERIAL HANDLING, WOOD, DOUBLE FACED, STRINGER CONSTRUCTION
MIL-P-15011	PALLETS, MATERIAL HANDLING, WOOD, POST CONSTRUCTION, 4-WAY ENTRY
UU-P-268	PAPER, KRAFT, WRAPPING
NN-P-530	PLYWOOD, FLAT PANEL
MIL-STD-731	QUALITY OF WOOD MEMBERS FOR CONTAINERS AND PALLETS
DD-1222	REQUEST FOR AND RESULTS OF TESTS
NR-346	RICE, BROWN
NR-351	RICE, MILLED
UU-S-48	SACKS, SHIPPING PAPER
QQ-S-781	STEEL, STRAPPING, FLAT
QQ-S-790	STEEL, STRAPPING, ROUND
PPP-S-760	STRAPPING, NONMETALLIC (AND CONNECTORS)
PPP-T-76	TAPE, PRESSURE-SENSITIVE ADHESIVE, PAPER WATER-RESISTANT

10.6 LOT IDENTIFICATION REQUIREMENTS

The shipping container must be distinctly marked by embossing, stamping, or stenciling to identify the lot from any other lot produced by the contractor.

1. Lots of rice are identified by item number(s) and the contractor's lot number(s) recorded on the form DD-250 and the rice inspection certificate. The contractor's lot number and the National Stock Number (NSN), when checked against form DD-250, must provide positive identification of the lot and must be on the shipping containers at the time of sampling, or at the time of inspection of the unit loads.

2. Lots may also be marked with USDA lot identification numbers. To mark the lots, official personnel shall:

a. Insert the proper identification numbers in the slot on the rubber roller-stamp. The USDA lot identification numbers consist of the Julian day, calendar year, and a lot number.

(1) The first, second, and third digits indicate the "day number" of the year. (Julian days are shown on Government calendars.)

(2) The fourth digit indicates the last number of the current calendar year.

(3) The fifth digit indicates the lot number. Starting with the first lot packed each day, consecutively number each lot inspected.

EXAMPLE: The second lot inspected on April 1, 1992, is shown as 091 (Julian day), 2 (current year), and 2 (lot); i.e., 09122

b. Roller-stamp the containers, including balers and unit loads, comprising the lot with the USDA lot number. Do not obliterate other markings.

NOTE: A Material Safety Data Sheet must be on hand for the ink used in roller-stamps.

10.7 INSPECTION PROCEDURES

Official personnel shall inspect each line item listed in the DPSC contract, unless the contract specifies that the contractor may provide a COC for end items having a value of less than $2,500. Official inspection is not required when the contract provides for a destination inspection for identity and quantity by DPSC personnel. If it is not clear whether or not inspection is required, contact FGIS headquarters for clarification.

1. Closely review the DPSC contract requirements and applicable specifications. Each contract contains specific inspection requirements that are referenced to many different Federal and military specifications.

2. Determine the sampling plan and inspection procedures by referring to the U.S. Standards for Condition of Food Containers and MIL-STD-105 "Sampling Procedures and Tables for Inspection by Attributes."

3. Perform the inspection as follows:

a. Examine the construction of the pallets, when required, according to MIL-L-0035078/GEN and applicable specifications: MIL-P-15011 or MIL-P-3938.

b. Examine the unit loads, when required, according to MIL-L-0035078/GEN and 1 through 7, as applicable.

c. Examine the units loads and the containers for correct markings according to MIL-STD-129, and/or DPSC Form 3556.

d. Examine the condition of the primary and secondary containers according to the applicable Federal Specification. The Federal Specification will state the types of defects, AQL's, and categories in which defects are to be scored.

e. Weigh the primary containers according to Federal Specification N-R-351 "Rice, Milled."

f. Ensure that the lot is properly identified by the contractor.

g. Obtain and submit samples of nonfood components, if necessary, to C&T. Follow the ration component and visual examination criteria, including the "Acceptable Suppliers List" to determine whether or not to submit samples.

h. If the contractor elects to furnish test results, obtain and submit samples of rice components for filth tests, when requested, to CTL.

i. If the contractor elects to have FGIS provide the test results, obtain and submit samples of rice components for filth test, when required, to CTL.

j. Review Federal Specification N-R-351 "Rice, Milled" and/or N-R-346 "Rice, Brown." The rice must be sampled, inspected, graded, and certificated in accordance with the U.S. Standards for Rice and the instructions in the applicable specifications.

k. Sample the rice online during packing or at rest after all units have been assembled. If the rice is sampled at rest, use the procedures in Chapter 9, "Warehouse-Lot Inspection Plan."

l. Complete all required worksheets.

m. Complete form DD-250, Material Inspection and Receiving Report, PQA and Acceptance, Section 21, A. "Origin for Nonfood Items," and issue a rice inspection certificate to verify the quality and class of the rice.

10.8 CONTAINERIZED AND PALLETIZED UNIT LOAD REQUIREMENTS

A. DPSC rice shipments are usually packed and assembled as containerized unit loads and/or palletized unit loads.

1. Containerized unit loads consist of multiple packaged units packed on one large container.

2. Palletized unit loads consist of several individual units fastened to a pallet.

B. All material used in the unit loads must comply with the following specifications, as applicable:

1. DPSC Article 244 contains particular requirements for unitization and for detail specifications. It also provides deviations from MIL-L-0035078, MIL-P-3938 Amendment 2, and MIL-STD-731.

2. DPSC Article 271 contains general requirements where contractor-paid FGIS inspection is required and also contains wording for the COC, authorization for standby samples, and particular inspection requirements.

3. DPSC Article 513 contains requirements for milled rice, preservation, packaging and packing, unit load data, and marking of containers and unit loads.

4. DPSC Form 3556 contains marking instructions for shipping containers and unit loads.

5. DPSC Form 3595 contains general instructions, schedules, general provisions, and a list of documents and attachments.

6. MIL-L-0035078/GEN contains general requirements for unitization and containerization of nonperishable subsistence items.

7. MIL-L-0035078/1 through 7 contains specific requirements for unitization.

8. MIL-P-3938 and Amendments contains requirements for design and quality of stringer-type pallet.

9. MIL-P-15011 contains requirements for design and quality of post block-type pallets.

10. MIL-STD-731 contains definitions of pallet components and lumber defects.

11. Fed. Spec. N-R-00351 and Amendments contains specific requirements for milled rice.

10.9
UNIT LOAD
INSPECTION

A. GENERAL. A unit load inspection consists of an examination of pallets, sleeves, pads, nails, caps, and strappings for visual defects in according with table II of MIL-L- 0035078/GEN and an end item examination in accordance with table I of MIL-L-0035078/1 through 7.

1. MIL-L-0035078/GEN covers specifications for pallets, pads, strapping, load formation, construction boxes, and markings.

2. MIL-L-0035078/1 through 7 covers specifications for strappings, caps, pads, shrouds, sheathing, and related items.

NOTE: Each number, 1 through 7, is associated with a particular type and class of unit load; e.g., MIL-L-0035078/1 refers to a Type I, Class A load.

B. Types and Classes of Unit Loads.

Type I - Palletized Loads

Class A - Strapped

Class B - Strapped, capped

Class C - Strapped, capped, sheathed

Class D - Strapped, capped, sheathed, shrouded

Type II - Containerized Loads

Class E - Triple-wall and Double-wall fiber-board tube with pallet base, pad, cap, and strapping.

Class F - Nailed wood-cleated plywood consolidation box with base or a wirebound plywood consolidation box with skid base.

Type III - Commercial Load Base (Palletized)

Class G - Strapped and/or shrink film, or other means acceptable to the mode of transportation.

Class H - Carrier rules and regulations applicable to the mode of transportation.

C. Military and USDA Standards. To perform unit load inspections, official personnel must be familiar with the following standards:

1. Mil. Std. 105, "The Sampling Procedures and Tables for Inspection by Attributes" table I and table II-A. These are the only tables used to determine the sampling size and the acceptable quality levels (AQL's).

2. AMS Handbook "Procedures for Inspection of the Condition of Food Containers." (Use this handbook and the U.S. Standard for Condition of Food Container to determine the condition of the primary bags.)

a. Procedures, guidelines and aids to assist the official inspection personnel in applying acceptance procedures in accordance with the U.S. Standard for Condition of Food Containers;

b. Instructions for recording results of examination on form AD-749, "Cumulative Original Inspection of Condition of Containers"; and

c. States, as shown on the reverse side of form AD-749, the conditions for switching to and from normal inspection.

3. U.S. Standards for Condition of Food Containers, particularly pages 2 through 7, provides information about the single and double sampling plans.

D. Sampling Plans. Contractor's may request that official personnel use either a single or double sampling plan. The double sampling plan saves time and effort because it allows the sampling of a smaller number of containers provided the selected samples meet the contract specifications.

NOTE: Plants that have a history of very few defects per lot may want official personnel to select only the first sample of the double sampling plan. If so, advise the contractor of his responsibilities to make the second sample available if a decision cannot be made on the first sample.

1. Single Sampling Plan. Use the following tables to determine sample size and the acceptable quality levels:

Table I (normal condition of container inspection)

Table II (tightened condition of container inspection)

Table III (reduced condition of container inspection)

2. Double Sampling Plan. Use the following tables to determine sample size and the acceptable quality levels.

Table I-A (normal condition of container inspection)

Table II-A (tightened condition of container inspection)

Table III-A (reduced condition of container inspection)

E. Inspection Worksheets.

1. For the unit load inspection, use form AMS-104, Unit Load Inspection Record and Report. Since form AMS-104 contains defects only for Type I, Classes A, B, C, and D, the field office performing DPSC inspection for Type II, Classes E and F, and Type III, Classes G and H, shall be responsible for preparing worksheets according to Table I in the MIL-L-0035078/5, 6, and 7, whichever is applicable. Form AMS-104 is the worksheet that is used for the examination for visual defects (table II in MIL-1-0035078/H/GEN) and for the examination of the end item (table I in MIL-L-0035078/1 through 7).

NOTE: Worksheets for MIL-L-0035078/5, 6, and 7 should be attached to form AMS-104.

2. For the baler (sack) inspection, prepare worksheets for the balers in accordance with Federal Specifications UU-S-48 and the following:

a. Content (sack) Inspection Record and Report for Examination for Dimensional Defects.

b. Content (sack) Inspection Record and Report for Defects in Material, Workmanship, Construction.

c. Content (sack) Inspection Record and Report for Examination for Closure.

3. For the primary bag inspection, use the following:

a. Form AD-741 (Reverse), "Container Examination Worksheet" (table VII Flexible Containers).

b. Content (primary bag) Inspection Record and Report Examination for Net Weight. Prepare worksheets for the weighing of the primary bags in accordance with table II of Interim Federal Specification N-R 00351.

c. Form FGIS-991, "General Services Worksheet," is used to record the weights of the primary containers.

d. Form AD-749, "Cumulative Original Inspections of Condition of Container." Record the results of the inspection of the primary bags recorded on form AD-741 (Reverse) and on form AD-749.

e. Form AD-749 (Reverse), "Condition for Switching to and from Normal Inspection," contains instruction for switching from normal inspection to reduced inspection; reduced inspection to normal inspection: normal inspection to tightened inspection; and tightened inspection to normal inspection.

F. Pallet Inspection. MIL-L-035078/GEN requires that unit loads be inspected for visual defects and that the sample unit be one complete unitized or containerized load; that is, a pallet plus the top portion.

NOTE: Many contracts awarded by DPSC permit the contractor to use commercial pallets. The only specifications for these commercial pallets are the definitions stated in the contract and the existence of strapping slots in the stringers if the pallets are to be used for strapped unit loads.

1. Prior to a Unit Load Inspection. The contractor may request that pallets be inspected at the pallet plant prior to shipment. If such a request is made, use the criteria under 4.2.1.1 of MIL-L-0035078/GEN and proceed as follows:

a. Issue a form FGIS-993 using the information already recorded on the form FGIS-991; i.e., the size of lot, size of the sample, and the number and types of defects found.

b. Inform the contractor that the pallets must be inspected again as part of the unit load inspection.

2. Prior To Assembling the Unit Loads. Ascertain that the pallets are the same ones that will be used for the unit load lots; e.g., if 90 pallets are offered for inspection, then only those 90 pallets shall be used for the unit load. Then, sample and inspect the pallets as follows:

a. Select the proper number of pallets at random, examine, and score for the defects listed for pallets, using form AMS-104.

b. Select the proper number of unit loads at random and score for the remaining defects, using form AMS-104.

c. Total the defects for both examinations and make the decision to accept or reject the lot of unit loads.

3. <u>After the Units Have Been Assembled</u>. If the pallet inspection is made after the units have been assembled, then chose five unit loads at random and request that they be completely disassemble. Examine the pallets using form AMS-104 "General Section."

4. <u>Definitions of Defects Listed on Form AMS-104</u>.

a. "Not as specified or missing" means there is no pallet or the pallet does not conform to the specifications stated in 3.1 of MIL-L-0035078/GEN and 1.2:

---MIL-P-3938B, 4 May 1960 (Pallet, Material Handling, Hardwood, Stringer Construction, 4-Way (Partial); namely, a pallet, material handling, hardwood, 40 inches long by 48 inches wide, double wing, stringer construction, 4-way entry (partial) Type I, Class A or B.

---MIL-P-15011G, 5 May 1971 (Pallets, Material Handling, Wood Post Construction, 4-Way Entry); namely, a pallet, wood post-style, construction, 4-way entry, 40 inches long by 48 inches wide, style 1 or 1A, Type 1, Class 1 or 2.

b. "Blocks not as specified" means that the blocks (posts) do not conform to the specifications stated in 3.3, 3.3.2.3, and 3.3.4, and figures 1 and 2 of MIL-P-15011G:

---Design and construction must be according to figure 1 or 2.

---Blocks (posts) shall be finished or smooth sawn on both top and bottom to a uniform height. Ends of posts shall be cut square with the sides.

---Blocks (posts) shall not protrude on any side.

c. "Nailing not as specified" means that the nailing procedure does not conform to the specifications stated in items 3.4.3 (except for nail diameter) and 3.6.1.2 of MIL-P-3938B and 5.3 of DPSC Articles 244a - b, 22 June 1973, for stringer-construction type pallets, or items 3.2.2 and 3.3.3 of MIL-P-15011G for post-construction type pallets.

d. "Strapping slots missing" can mean either the absence of slots or that the approximate position of the slots does not conform to the specifications stated in item 3.4.2 and figure 2 of MIL-P-3938B for stringer-construction type pallets, or item 3.3.2.1 and figure 1 or 1A of MIL-P-15011G for post-construction type pallets.

5. Basis for Acceptance. Acceptance is based on the total number of defects found rather than on the number of individual unit loads with defects; e.g., one unit load may be scored for more than one defect.

G. Tests for Moisture. Moisture tests, when required in the contract, are normally made by the manufacturer or contractor, and the results reported to FGIS.

1. The report shall include three duplicate readings in the deckboards and three duplicate readings on the stringers or posts of each pallet tested.

2. The average of these readings shall not exceed the maximum limit specified in the contract.

Lot Size (Pallets)	Number of Samples (Pallets)
1 to 1,200	5
1,201 or more	8

3. The report shall indicate that:

a. The tests were in conformance with requirements,

b. The information is accurate and complete, and

c. The pallets are representative of the lot.

4. The contractor must sign the report and sign an additional statement indicating that the report is valid for supplies tendered for the contract (show contract number) for which the inspection is being made.

H. Identifying Pallets. Use the following method to identify pallets, when identification is necessary:

1. Handstamp each pallet with an imprint showing the USDA shield and date inspected.

2. Use adjustable digits to identify the date and lot number as follows:

a. The first, second, and third digits shall be used to indicate the day number of the year; i.e., Julian date.

b. The fourth digit shall be used to indicate the last number of the current calendar year.

c. The fifth, sixth, and a seventh digit shall be used as the lot number. Starting with the number one each day, each lot inspected shall be consecutively numbered.

3. Apply the stamp to the outside middle portion of a stringer or post.

I. Consolidated Box Examination. The contractor should supply official personnel with the contract and COC for the packaging, packing, and labeling and, when applicable, for enrichment.

NOTE: Lot sizes are limited to the number of unit loads (containerized and/or palletized) offered for examination. The shipment of rice is identified by item number(s) and lot identification code.

1. Reviewing the Contract. Read the contract and all related documents necessary to perform the inspection.

2. Identifying the Lot.

a. Handstamp the USDA shield on form AMS-104, which shall be identical in all respects to the one stamped on the pallets for that particular offered lot.

b. Roller-stamp the official USDA impression on any of the appropriate worksheets identical in all respects with the USDA impression already roller-stamped on the containers for that particular lot.

c. Show on the worksheet the markings of the unit loads, balers, and bags.

d. Show the name and address of the contractor, the lot size, location of lot, and destination of end item on the worksheets .

3. Obtaining the Samples. Obtain samples on nonfood components, when required, and rice components, when requested, in accordance with established procedures.

4. Visual Examination.

a. Using the sampling plan, examine the unit loads in accordance with MIL-STD 105.

b. Score the correctness of the markings, including the accuracy of the gross weight and cubic markings, on form AMS-104, under the defect marking, "Not as specified" or "Missing or Illegible." Verify the gross weight and cubic markings as follows:

For gross weight:

Step 1 Weigh five pallets (with pads and straps).

Step 2 Divide the total weight of the five pallets by five to establish an average gross weight of a pallet.

Step 3 Weigh 10 filled-and-closed shipping containers.

Step 4 Divide the total weight of the 10 shipping containers by 10 to establish an average gross weight of a shipping container.

Step 5 Multiply the average gross weight of a shipping container by the number of shipping containers used in a unit load.

Step 6 To obtain the total gross weight of the unit load, add the average gross weight of a pallet and the average gross weight of all shipping containers used in a unit load.

For cubic feet:

Step 1 Measure the length (L), width (W), height (H), in inches (to the nearest quarter inch) of each unit load in the sample

Step 2 Multiply the length by the width, and by the height.

Step 3 Divide the results by 1,728; i.e., the number of cubic inches in a cubic foot. Express results in cubic feet.

NOTE: Be sure the pallets that are weighed are the same ones that were examined and accepted prior to assemblying the unit loads. If the pallets have not been examined or identified prior to the assemblying of the unit loads, completely disassemble the five unit loads chosen at random, examine the pallets, and score for visual defects listed in the "General Section" in form AMS-104.

c. Whether the consolidated boxes are accepted or rejected, continue the examination by completing the worksheets.

J. Examination of Balers. After examinating the consolidated boxes, cut the straps, lift the caps off the consolidated boxes, pull-out balers at random, and score the balers for visual defects.

1. Pre-Inspection of Balers. If a pre-inspection of the balers is requested by the contractor and the balers are found to be not a "tight pack," as required:

a. The contractor shall notify the contracting officer of the defect. Official personnel shall verify the defects.

b. If the contracting officer agrees to having the balers tightened by taping without marring the markings on the balers, show a statement to that effect in block 23 of form DD-250. (Since no written waiver has been issued, this statement protects the USDA when accepting the offered lot at a later date.)

2. Sampling Plan for Examination of Balers.

a. The examination of balers (sacks) requires two different acceptable quality levels: "percent defective" and "defects per hundred units."

b. Record the defect figures on the applicable worksheets.

NOTE: Whether the unit loads are accepted or rejected, continue the examination by completing the worksheets.

K. Examination of Primary Bags.

1. After examining the balers, cut the balers open and pull out bags, at random, scoring them for visual defects, in accordance with AMS Handbook "Procedures for Inspection of the Condition of Food Containers" and the U.S. Standards for Condition of Food Containers.

2. Use the acceptable quality levels (AQL's) as stated in paragraph 42.107 on page 4 of the U.S. Standards of Food Containers and/or as stated on the reverse of worksheet form AMS-331.

NOTE: The sample must be based on table I and table I-A of the U.S. Standards for Condition of Food Containers.

3. The contractor has the option of using either the double or single sampling plan.

4. Post the results recorded on the reverse of form AD-741 and form AD-749.

NOTE: When using the double sampling plan, post only the results of the first sampling on form AD-749, whether it is accepted or rejected. DO NOT post the results of the second sampling (total) to form AD-749.

L. Checkweighing Primary Bags. The sampling and weighing plan for checkweighing primary bags shall be in accordance with Federal Specification N-R 00351 and the FGIS Weighing Handbook.

1. Choose the bags to be weighed at random from the bags already chosen at random.

2. Show the defect figures on the applicable worksheet.

3. Score for defects listed on the applicable worksheet.

4. Record the weights and other pertinent information concerning the offered lot on form FGIS-991.

M. Inspecting the Rice.

1. Complete a work record for the rice sampled and inspected.

NOTE: If the rice was not sampled on-line, draw samples from the same primary bags that were randomly selected for checkweighing.

2. Notify the contractor if the rice fails to meet contract specifications for grade or other criteria.

3. Issue a rice inspection certificate, even if the rice fails to make grade. Show the item no.(s) and contract no. in the Remarks section of the work record and the certificate.

N. Accepting or Rejecting the Unit Load. As soon as all worksheets have been scored, review each set and determine whether the unit loads will be accepted or rejected.

1. If the unit loads meet specifications, check and sign the form DD-250.

2. If the unit load fails to meet specifications, the contractor may:

a. Rework the lot and then request a new inspection of the unit loads.

b. Request a new inspection based on the same sample size and the corresponding acceptance and rejection numbers.

c. Request an appeal inspection. If an appeal is requested, base the inspection on the same sample size and corresponding acceptance and rejection numbers.

d. Request a waiver from the contracting officer.

(1) The contractor and official personnel must contact the contracting officer.

(2) Official personnel shall inform the contracting officer of the defects, but make no other statements.

e. The contracting officer will either approve or reject the unit loads. If approved, the contracting officer must send a written waiver verifying his approval acceptance of the unit loads

NOTE: The contracting officer's approval need not be shown on form DD-250. If the form DD-250 must be corrected at a later date, make the correction on the original form and circle the error in RED and place the corrected information in the same block. If space is limited, enter the corrected information in Block 16. In block 23, type the statement "Corrections have been verified--corrected as to (reason of correction)."

10.10 ONLINE INSPECTION OF UNIT LOAD

A. If the contractor requests that the unit loads be inspected online, official personnel shall perform the following tasks:

1. Sample and weigh the bags as they are being assembled.

2. Examine the bags and balers for defects.

3. Examine unit loads for defects; such as the strapping (in a slot hole), markings, pads, and related items.

B. Use the worksheets, disregarding the inspection level, acceptable quality level, lab size, sample size, acceptance and rejection numbers, and form AD-749.

C. Score the defects, then complete the appropriate worksheets and sign the forms DD-250 and rice inspection certificate.

10.11 QUALITY ASSURANCE - SAMPLING AND TESTING OF NONFOOD COMPONENTS

A. DPSC contracts may require one or more of the nonfood components to be sampled and submitted to C&T. Use the following criteria to determine whether or not an individual nonfood component must be sampled:

1. Nonfood components need not be sampled when the component is not intended for use in connection with a ration component or assembly and when a visual examination of the component indicates that the supplies conform to the contract.

2. Nonfood components shall be sampled when the above conditions are not met or when the COC submitted by the contractor is determined to be unreliable because of a previously unacceptable lot(s) of nonfood components.

NOTE: When sampling is not required, visually examine every component of each lot or shipment; such as related labels, invoices, contractor's purchase instruments, test results, to determine compliance with contract requirements. The examination of the COC for completeness and accuracy is not, in itself, adequate verification.

B. When sampling is required, draw and submit verification samples of the component from one in every 10 lots.

1. If the component has not been sampled during the previous 12 months or in the previous nine lots, draw and submit verification samples from the initial lot received and from one in every 10 lots thereafter.

2. If the supplier's lot is applied against more than one contract, cross reference form DD-1222, as required. Lots of components used for more than one contract need not be verified more than once unless cause exists.

3. Submit additional samples whenever reason exists to question the validity of COC's.

C. Determine sample size and submit samples of nonfood components as follows:

1. Draw two sets of samples of nonfood components: a laboratory sample and a standby sample.

2. Distribute these component samples as follows:

a. Send one set, along with the properly prepared Form DD-1222 (original and five copies) to C&T.

b. Sent the sixth copy of completed form DD-1222 to DPSC, STQP.

c. Keep one set of component samples as standby samples for a period of 30 days, then return them to the contractor, as required in DPSC Article 271.

3. C&T will not return the form DD-1222 if the nonfood component is found to be acceptable. (FGIS shall assume the component is acceptable unless notified to the contrary within 21 days.) DPSC may hold the contractor liable if the nonfood components do not meet specifications, even though FGIS has signed the form DD-250.

NOTE: Official personnel must be able to associate every sampled nonfood component lot with the end item lot in which it was used.

10.12 QUALITY ASSURANCE - SAMPLING AND TESTING OF RICE COMPONENTS

Official personnel must be able to associate every sampled rice component with the end item lot in which it was used. Quality assurance responsibilities for sampling and testing rice components may be satisfied by any one of the following procedures:

1. Contractor Testing. The contractor may elect to have the contrator's laboratory or a commercial laboratory perform a filth test at the beginning of a contract.

a. The contractor must furnish official personnel with two copies of the results of the tests that are performed.

(1) Official personnel shall send a copy of the contractor's test results to DPSC, STQP.

(2) Official personnel shall attach a copy of the contractor's test results to the completed copy of form DD-1222 sent to STQP (required for verification testing only.)

b. Official personnel shall submit samples for verification testing after the contractor's test reports are made available and the results show that the rice component(s) meets contract specifications.

c. Official personnel shall obtain a standby (file) sample from each lot of the contract. Properly protect the file sample at all times and then return the file sample to the contractor at the end of 30 days.

d. Official personnel shall submit to CTL--to establish a reliability history--samples from the first three lots and thereafter every fourth lot offered for inspection by a contractor.

e. Official personnel shall send a completed form DD-1222 (original and five copies) with each sample submitted for verification testing. Send the sixth copy to DPSC, STQP.

2. Vendor-Paid FGIS Testing. When requested, official personnel shall perform the test, charge the contractor the current fee, and sign the form DD-250 when the test results show that the filth test meets contract specifications.

3. Other Procedures. Occasionally, DPSC purchases rice that does not utilize form DD-250 as an acceptance document. In such cases, official personnel shall issue a form FGIS-956 covering all contractual provisions, provided that, the contractor furnishes test results. Record a statement to this fact on the certificate(s).

10.13 QUALITY ASSURANCE CERTIFICATE OF CONFORMANCE (COC) FOR NONFOOD COMPONENTS, CONTRACTOR'S TEST REPORT AND LOT INSPECTION CERTIFICATE FOR END ITEM (RICE)

A. Certificate of Conformance for Nonfood Components.

1. The contractor may furnish a COC for each lot of nonfood components for each DPSC contract, thereby self-certifying that the packaging, packing, and marking materials meet DPSC specifications.

2. If DPSC tests a sample of the material covered by the COC and finds it unacceptable, DPSC will inform FGIS that either:

a. The contractor is unreliable;

b. The lot meets specifications, but the contractor's COC cannot yet be considered reliable until a sufficient number of future lots meet specifications to reestablish COC reliability; or

c. The lot meets specifications and the contractor's COC is again considered reliable.

3. When notified by DPSC that the contractor's COC for a specific nonfood component is considered unreliable, FGIS shall:

a. Cease signing form DD-250's on the strength of the contractor's COC.

b. Submit, along with a properly completed form DD-1222, samples from all successive new lots of that particular component to the C&T;

c. Delay signing form DD-250's until notified by DPSC that the component(s)/lot(s) meets contract requirements.

NOTE: Even though all successive samples meet specifications according to the contractor's COC, each COC shall be considered unreliable until DPSC notifies FGIS otherwise.

4. When the COC's are again reliable, commence signing the form DD-250's without waiting for results from the C&T.

B. Contractor's Test Report and Lot Inspection Certificate for Rice.

1. Official personnel shall sign the form DD-250 on the basis of the COC and/or the contractor's test results when:

a. The contractor's test report meets contract specifications,

b. The Test System Status of the contractor is reliable for those test results, and

c. If the results of all required tests and analyses shows that the rice meets contract requirement.

2. If the results do not meet contract specifications, do not sign the form DD-250, report the nonconformance to the contracting officer, and record on the report the contracting officer's decision.

3. If verification testing by CTL proves the contractor's Test System Status for the filth test to be unreliable, submit samples from all future lots to the CTL and withhold signing the form DD-250 pending receipt of results from CTL.

4. When the contractor's Test System Status is again considered reliable, return to the normal procedure for sampling and signing form DD-250's on the basis of the contractor's filth tests results.

5. Issue a rice inspection certificate for the rice that was sampled and inspected for class, grade, quality, and condition.

C. Unreliable Certificates of Conformance and Unreliable Test System Status. Official personnel shall:

1. Advise the contractor to contact the PCO if the contractor's COC or Test System Status is determined to unreliable.

2. Advise the contractor that the signing of form DD-250's on initial lots of any subsequent contracts will be delayed pending receipt of results from the appropriate DPSC laboratory.

3. Continue the above procedure until the contractor's COC or Test System Status is considered reliable.

D. Charges. No charge shall be levied by DPSC for testing; provided that, the contractor's COC and Test System Status remain reliable. However, FGIS shall levy a charge for all sampling and inspecting, based on the current hourly rate. In addition, the contractor shall be billed for all postage and the cost of all materials (paper, special containers, etc.) used in preparing the samples for mailing, unless the materials were furnished by the contractor.

10.14 FAILURE TO MEET CONTRACT REQUIREMENTS

A. Official personnel must notify the contractor immediately of any failure to meet one or more contract requirements.

B. It is the contractor's responsibility to notify the PCO or ACO.

C. If FGIS receives a written waiver from PCO or ACO that specifically states that the failures are waived, the form DD-250 may be signed without indicating that the lots had originally failed.

NOTE: Official personnel shall not sign the form DD-250 in cases of noncompliance, unless they receive a telephone call from the Contracting Officer or the Contract Quality Assurance Office stating that the lot is acceptable and that the noncompliance is waived. The telephone call must verified in writing.

D. To ensure that DPSC is informed when a contract failure occurs, official personnel shall phone and/or write the appropriate quality assurance representative stating the nature of the failure.

10.15 SIGNING FORM DD-250 AND ISSUING LOT INSPECTION CERTIFICATE

A. The completed form DD-250 signed by official personnel signifies that all components of the lot (including the rice) have been accepted for DPSC by FGIS.

1. Official personnel shall issue a lot inspection certificate for the rice inspected in the lot.

2. The person who signs the form DD-250 need not necessarily be the one who inspected the lot for quality, condition of container, unit loads, etc. However, the person who signs the form must have access to all necessary papers and backup documents in the contract file in order to attest to contract compliance.

B. The contractor shall give the fully completed form DD-250 to the appropriate official personnel. When it is received, the official personnel shall:

1. Thoroughly check the contract number and other identification for the correct description of the product; i.e., item number, national stock number, product description, extension of quantity shipped, and amount in dollar value.

2. Check the descriptions on the form DD-250 to ensure they are the same as the descriptions shown on the worksheets.

3. Verify, by means of a running tally in the file, that the cumulative number of pounds inspected and listed on the form DD-250.

NOTE: Do not sign the form DD-250 if the amount shown exceeds the amount inspected. However, the amount inspected can exceed the number of pounds listed on the form DD-250.

4. Complete block 21 under A. "Origin."

a. If the contract specified both inspection and acceptance at origin, place an "X" in both the PQA square and the Acceptance square.

b. If the contract specifies inspection at origin and acceptance at destination, make an "X" in the PQA square only.

c. Sign on the line designated "Signature of Authorized Government Representative." Under the signature write "USDA" and the address of the supervising office. Sign the continuation sheet, if one has been used.

d. Date the signature with the date of the last examination for quality or condition.

e. Never sign Block 21 under B. "Destination."

f. Give or mail the signed form DD-250 to the contractor. Retain one copy in the contract file.

10.16 PROPERTY RECEIPT STORAGE

A. Property receipt storage refers to merchandise that is inspected and accepted for DPSC and then stored in the contractor's warehouse for delivery.

B. A special form DD-250 must be completed by the contractor and be signed by official personnel before the contractor can receive payment for the undelivered merchandise.

C. A second form DD-250 must be completed by the contractor and signed by official personnel when the merchandise is delivered. If the merchandise is not inspected again before delivery, the date in block 21 should be the date the product was last inspected and accepted.

D. All costs of DPSC inspections will be billed to the contractor.

10.17 NEGOTIATION BETWEEN CONTRACTOR AND DPSC FOR LOTS THAT FAIL

A contractor may want to negotiate with DPSC for acceptance of a lot of rice that has failed one or more contract requirements. Such negotiations are solely between the contractor and DPSC. Official personnel may assist in these negotiations either by calling DPSC or by writing a letter to the contractor.

1. When a telephone call is necessary to facilitate the shipment:

a. State only the facts. Do not state opinions concerning the advisability of accepting the lot.

b. Clearly state the nature and extent of the deviation.

2. When writing, send the original and several copies of the letter to the contractor.

10.18 VISITS TO CONTRACTOR'S PLANT BY DEPARTMENT OF DEFENSE (DOD) PERSONNEL

A. The agreement between the FGIS and DOD provides that authorized DPSC personnel may:

1. Make observational visits to plants and inspection offices where official personnel are performing inspections of products for delivery to DPSC.

2. Review records, standards, specifications, and any other worksheets/documents related to the contract.

B. Upon request, official personnel shall make mutually agreeable arrangements for the DPSC representative to accompany official personnel in the performance of those phases of the inspection that the DPSC representative desires to observe.

NOTE: Official personnel may accompany DPSC officials to plants only on the occasion of inspection for DPSC. Other inspections are not to be discussed with DPSC.

10.19 PREAWARD INSPECTION

At the request of the contractor, an inspection of the rice may be made prior to the date of the award of a contract. When the contractor receives the award, the contract and other related documents must be reviewed and a new inspection made for compliance with all terms of the contract. The condition-of-container sample will be examined at the time of the final inspection.

10.20 ACCEPTANCE INSPECTION

A. Acceptance inspection for identity and condition on all supplies procured FOB destination is normally performed at destination by DPSC.

B. If the supplies do not conform to contract requirements, the DPSC inspector will report the findings to the contracting officer, who will notify the contractor.

C. On request of the contractor, the contracting officer will request a new inspection by FGIS.

D. Sampling for a new inspection shall be performed in the same manner as the original inspection and the results of a new inspection will be reported to the contracting officer.

1. If the new inspection upholds the findings of the original inspection, the costs of the new inspection will be billed to DPSC.

2. If the new inspection upholds the results of the destination inspection, the costs of the new inspection will be billed to the contractor.

PART II - VA INSPECTIONS

10.21 INTRODUCTION TO VA INSPECTIONS

A. FGIS is responsible for the inspection, and certification of rice for the Veterans Administration Marketing Service. To ascertain contract compliance, official personnel may have to perform additional inspections to those performed during routine rice inspections.

B. Veterans Administration Marketing Service (hereafter referred to as VA) form 07-2133 "Uniform Order Form -- Supplies or Services" contains information and requirements necessary for procuring rice and special services. Official personnel shall carefully study this form and all applicable Federal specifications.

10.22 RESPONSIBILITIES OF CONTRACTOR AND OFFICIAL PERSONNEL

A. The contractor is responsible for:

1. Employing the services of the U.S. Department of Agriculture, Federal Grain Inspection Service, to determine all required tests and analyses.

2. Notifying the appropriate FGIS Field Office Manager (FOM), in a timely manner, prior to shipments so that official personnel may properly inspect the lot.

3. Furnishing the appropriate specifications, amendments, and military standards needed to perform the inspection.

4. Marking the lot with an appropriate code number.

5. Making the lot available and accessible for examination and sampling.

B. Official personnel are responsible for:

1. Discussing the contract provisions and inspection procedures with the contractor prior to production.

2. Preparing a file for each contract.

3. Sampling and inspecting the rice under the U.S. Standards for Rice and under any other provisions of the contract, completing all required worksheets, and issuing a rice inspection certificate.

4. File the worksheets and certificate with the contract.

5. Examine the immediate production area and rice for filth. The existence or possible existence of filth should immediately be brought to the attention of the FOM.

10.23 LOT IDENTIFICATION REQUIREMENTS

Each lot should be distinctly marked by embossing, stamping, or stenciling to identify the lot from any other lot produced by the contractor.

1. Lots of rice may be identified by item number(s) and the contractor's lot number(s).

2. Lots may also be marked with USDA lot identification numbers. To mark the lots, official personnel shall:

a. Insert the proper identification numbers in the slot on the rubber roller-stamp. The USDA lot identification numbers consist of the Julian day, calendar year, and a lot number.

(1) The first, second, and third digits indicate the "day number" of the year. (Julian days are shown on Government calendars.)

(2) The fourth digit indicates the last number of the current calendar year.

(3) The fifth digit indicates the lot number. Starting with the number one (1) each day, each lot inspected shall be consecutively numbered.

b. Roller-stamp the containers, including balers and unit loads, comprising the inspection lot with the USDA lot number. Do not obliterate other markings.

10.24 INSPECTION PROCEDURES

Closely review the VA contract requirements and applicable specifications. Each contract contains specific inspection requirements that are referenced to many different Federal specifications.

NOTE: The contract may specify that the marking of the bags conform only to specifications.

1. Prior to bagging, examine the bags used in the lot according to the applicable Federal specification. The federal specification will state the types of defects, AQL's (acceptable quality levels), and categories in which defects are to be scored.

2. Examine the bags for correct markings according to Interim Federal Standard 123.

3. Examine the condition of the bags used in the lot according to form AD-741 (reverse).

a. If the lot is on the floor, use "Table of Random Numbers" (AMS Handbook Procedures for Inspection of the Condition of Food Containers) to select samples.

b. If the lot is on a moving line, do not use the "Table of Random Numbers" because it may not be practicable.

4. Weigh the bags in accordance with Federal Specification N-R 00351.

5. Sample, inspect, and grade the lot in accordance with Federal Specification N-R 00351 and applicable specifications.

6. If the contract specifies, obtain and submit samples to CTL for a rice component filth test.

7. Checkload the lot.

8. Complete the required worksheets.

10.25 UNIT REQUIREMENTS

A. VA rice shipments are usually packed and assembled in 25-pound multi-kraft sacks.

B. The kraft sacks must meet the applicable specifications found in UU-S-48, "Sacks, Shipping Paper."

10.26 UNIT INSPECTION

A. A unit inspection consists of an examination for visual defects specified on form AD-741 (reverse), Table VII - Flexible Containers and in the "Content Inspection Record and Report for--Examination for New Weight."

B. To perform unit inspections correctly, it is necessary to understand and be able to apply the provisions of:

1. AMS Handbook "Procedures for Inspection of the Condition of Food Containers." (Use this handbook and the U.S. Standard for Condition of Food Container to determine the condition of the primary bags.) This publication provides:

a. Procedures, guidelines and aids to assist official personnel in applying acceptance procedures in accordance with the U.S. Standard for Condition of Food Containers;

b. Instructions for recording results of examination on form AD-749, "Cumulative Original Inspection of Condition of Containers;" and

c. States, as shown on the reverse side of form AD-749, the conditions for switching to and from normal inspection.

2. U.S. Standards for Condition of Food Containers, particularly pages 2 through 7, provides information about the single and double sampling plans.

C. Contractor's may request that official personnel use either the single sampling plan or a double sampling plan. The double sampling plan saves time and effort because it allows the sampling of a smaller number of containers provided the selected samples meet the contract specifications.

NOTE: Plants that have a history of very few defects per lot may want official personnel to select only the first sample of the double sampling plan. If so, advise the contractor of his responsibilities to make the second sample available if a decision cannot be made on the first sample.

1. Single Sampling Plan. Use the following tables to determine sample size and the acceptable quality levels:

Table I (normal condition of container inspection)

Table II (tightened condition of container inspection)

Table III (reduced condition of container inspection)

2. Double Sampling Plan. Use the following tables to determine sample size and the acceptable quality levels.

Table I-A (normal condition of container inspection)

Table II-A (tightened condition of container inspection)

Table III-A (reduced condition of container inspection)

D. Inspection Worksheets.

1. Form AD-741 (reverse), "Container Examination Worksheet" (Table VII, Flexible Containers).

2. Form AD-749, "Cumulative Original Inspections of Condition of Container." Post the results recorded on the reverse of form AD-741 or form AD-749.

NOTE: Roller-stamp the identical official USDA impression (that has already been roller-stamped on the bags for that particular official lot) on the appropriate worksheets.

3. Form AD-749 (Reverse), "Condition for Switching to and from Normal Inspection."

4. Form FGIS-991, "General Services Worksheet," to record the weights of the bags.

5. Content Inspection Record and Report for -- Examination for Net Weight.

E. Bag Examination Procedure. The contractor must supply official personnel with the contract.

NOTE: The shipment of rice is identified by item number(s) and lot identification code.

1. Reviewing the Contract. Read the contract and all related documents necessary to perform the inspection.

2. Identifying the Lot.

a. Handstamp the USDA shield on form AMS-104, which shall be identical in all respects to the one stamped on the pallets for that particular offered lot.

c. Show on the worksheet the markings of the unit loads, balers, and bags.

b. Roller-stamp the official USDA impression on any of the appropriate worksheets identical in all respects with the USDA impression already roller-stamped on the containers for that particular lot.

d. Show the name and address of the contractor, lot size, location of lot, and destination of end item on the worksheets.

3. Visual Examination.

a. Select the bags at random, either on the line or on the warehouse floor, scoring them for visual defects in accordance with the U.S. Standards for Condition of Food Containers.

b. Use the AQL's as stated in paragraph 42.107 on page 4 of the U.S. Standards for Condition of Food Containers and/or as stated on the reverse of worksheet form AD-741.

NOTE: Determine the sampling rate, and acceptance and rejection numbers for the bag examination by using the U.S. Standard for Food Containers. For checkweighing, use MIL-STD 150.

4. Checkweighing. The sampling and weighing plan for checkweighing primary bags shall be in accordance with Federal Specification N-R 00351 and the FGIS Weighing Handbook.

a. Choose the bags to be weighed at random from the bags already chosen at random.

b. Show the defect figures on the applicable worksheet.

c. Score for defects listed on the applicable worksheet.

d. Record the weights and other pertinent information concerning the offered lot on form FGIS-992.

5. Inspecting the Rice.

a. Complete a work record for the rice sampled and inspected.

NOTE: If the rice was not sampled on-line, draw samples from the same primary bags that were randomly selected and checkweighed.

b. Notify the contractor if the rice fails to meet contract specifications for grade or other criteria.

c. Issue a rice inspection certificate even if the rice fails to make grade. Show the item no.(s) and contract no. in the Remarks section of work record and certificate.

NOTE: When using the double sampling plan, post only the results of the first sampling to form AD-749, whether it is accepted or rejected. Do not post the results of the second sampling (total) on form AD-749.

10.27 FAILURE TO MEET CONTRACT REQUIREMENTS

As soon as all worksheets have been scored, review each item to determine whether the lot will be accepted or rejected. If the lot fails to meet specifications, notify the contractor immediately. The contractor may:

1. Rework the lot and then request a new inspection of the unit loads;

2. Request a new inspection based on the same sample size and the correspondence acceptance and rejection numbers;

3. Request an appeal inspection; and

NOTE: If an appeal is requested, base the inspection on the same sample size and corresponding acceptance and rejection numbers.

4. Request a waiver from the contracting officer.

NOTE: If the containers are rejected, the contractor will have to furnish containers that are in compliance.

10.28 INTRODUCTION TO ASCS INSPECTIONS

A. FGIS is responsible for the inspection and certification of rice for the Agricultural Stabilization and Conservation Service (ASCS).

B. ASCS's Announcements and Amendments to the Announcements, and "General Terms and Conditions for the Procurement of Agricultureal Commodities or Services," USDA-1, contains information and requirements with respect to offers and general terms and condition applicable to the procurement of rice and services. Official personnel should closely study Part V - Post Award Provisions of the USDA-1.

1. ASCS will, at appropriate times, issue an Invitation for offers, hereinafter referred to as "invitations," under Announcements to sell milled rice to the Commodity Credit Corporation (CCC) for use in Domestic and Export Programs. The offers (contractors) are subject to the terms and conditions of the applicable Announcements. For example:

a. Announcement MR-3. Announcement and Amendments to the Announcement for the Purchase of Milled Rice for use in Domestic Programs.

b. Announcement MR-15. Announcement and Amendments to the Announcement for the Purchase of Milled Rice for use in Export Programs.

c. Announcement BMR-14. Announcement and Amendments to the Announcement for the Purchase of Milled Rice in Bulk for use in Export Programs.

2. ASCS will, at appropriate times, issue an Invitation under Announcements for the sale of CCC-owned Rough Rice or the Processing of CCC-owned Rough Rice. The offers (contractors) are subject to the terms and conditions of applicable Announcements. For example:

a. Announcement KC-S-RR-2. Announcement and Amendments to the Announcement for Sale of CCC-owned Rough Rice for Unrestricted Use.

b. Announcement KC-ERP-3. Announcement and Amendments to the Announcement for Processing, CCC-owned Rough Rice and delivery of Milled Rice for use in Export Programs.

10.29 RESPONSIBILITIES OF CONTRACTOR AND OFFICIAL PERSONNEL

A. The contractor is responsible for:

1. Employing the services of the U.S. Department of Agriculture, Federal Grain Inspection Service, to determine all required tests and analyses.

2. Notifying the appropriate FGIS FOM, in a timely manner, prior to shipments.

3. Furnishing appropriate specifications, amendments, and military standards needed to perform the inspection.

4. Marking the lot with an appropriate code number.

5. Making the lot available and accessible for examination and sampling.

6. Recooping and replacing primary bags or bales opened for sampling and/or checkweighing.

B. Official personnel are responsible for:

1. Discussing the contract provisions and inspection procedures with the contractor prior to production.

2. Preparing a file for each contract.

3. Sampling and inspecting the rice under the U.S. Standards for Rice and under any other provisions of the contract, completing all required worksheets, and issuing a rice inspection certificate.

4. File the worksheets and certificate with the contract.

5. Examine the immediate production area and rice for filth. The existence or possible existence of filth should immediately be brought to the attention of FOM.

6. Examine the packaging and/or packing in accordance with appropriate Announcements.

7. Examine bags and/or baler markings for compliance with appropriate Announcements.

10.30 LOT IDENTIFICATION REQUIREMENTS

Each lot should be distinctly marked by embossing, stamping, or stenciling to identify the lot from any other lot produced by the contractor.

1. Lots of rice may be identified by item number(s) and the contractor's lot number(s).

2. Lots may also be marked with USDA lot identification numbers. To mark the lots, official personnel shall:

a. Insert the proper identification numbers in the slot on the rubber roller-stamp. The USDA lot identification numbers consists of the Julian day, calendar year, and a lot number.

(1) The first, second, and third digits indicate the "day number" of the year. (Julian days are shown on Government calendars.)

(2) The fourth digit indicates the last number of the current calendar year.

(3) The fifth digit indicates the lot number. Starting with the number one (1) each day, each lot inspected shall be consecutively numbered.

b. Roller-stamp the containers, including balers and unit loads, comprising the inspection lot with the USDA lot number. Do not obliterate other markings.

10.31 INSPECTION PROCEDURES

Closely review the Announcements and Amendments and applicable specifications. Establish sampling plans and inspection procedures using the U.S. Standards for Condition of Food Containers and the AMS Handbook.

1. Determine that the rice meets ASCS specifications according to applicable Announcement.

2. Examine the bags and/or balers (sacks) for correct marking according to the applicable Announcement.

3. Examine the packaging and packing according to applicable Announcement.

4. Inspect, checkweigh, and checkload the rice according to USDA-1.

5. Examine the condition of the packaging (primary) used in the lot according to U.S. Standards for Condition of Food Containers.

6. Weigh the primary bags according to the FGIS Weighing Handbook.

7. Examine the lots on floor for identification so it can be properly identified at a later date. (The contractor may apply identification or the inspector may use the USDA rubber rolled stamp for identification.)

8. Sample, inspect, grade and certificate the rice in accordance with the U.S. Standards for Rice and the instructions and procedures in the applicable specifications.

9. Sample and checkweigh the rice on-line and checkload it into the carrier, or after all bags and/or balers comprising the lot have been put on the floor.

a. If the lot is on the floor, use the "Table of Random Numbers" in AMS Handbook, "Procedures for Inspection of the Condition of Food Containers," in selecting samples.

b. If the lot is a moving line do not use "Table of Random Numbers" as it may not be practicable.

10. Complete all required worksheets.

11. Issue a rice inspection certificate for the services performed; e.g., quality, class, enrichment, checkweighing, checkcounting, and checkloading.

10.32 CONTAINER INSPECTION

A. ASCS rice shipments for domestic programs are usually shipped in:

Paper bales or fiberboard boxes containing:
24 - 2 pound paper packages or bags
24 - 2 pound polyethylene packages
24 - 2 pound cellophane packages
24 - 2 pound chipboard folding boxes
or
Fifty-pound multi-wall paper bags.

B. ASCS rice shipments under for export programs are usually shipped in 100-pound jute, burlap, woven polypropylene or polyethylene bags.

C. The primary bags or bales will be examined for contract requirements according to applicable Announcement, and also the primary bags will be examined for visual defects using the U.S. Standards for Food Containers.

D. Official personnel must be familiar with the application of the following standards:

1. Announcement MR-3 and the Amendments to the Announcement.

2. Announcement MR-15 and the Amendments to the Announcement.

3. AMS Handbook, "Procedures for Inspection of the Condition of Food Containers."

4. Announcement GMO-1, Revision 1, for Specification for Packaging and Packing of Dairy Products, Processed Grains, Salad Oil and Shortening.

5. General Terms and Conditions, Short Reference, USDA-1 for the procurement of Agricultural Commodity of Service.

6. U.S. Standards for Condition of Food Containers.

E. The following worksheets are used in performing lot inspections:

For the primary bags and/or folding boxes:

1. Form AD-471 (Reverse), "Container Examination."

2. Form AD-479, "Cumulative Original Inspections of Condition of Container."

3. Form FGIS-991, "General Services Worksheet," is used to record markings of the balers, primary bags, weights of primary bags and also the stamp of the official USDA Impression roller-stamped for identifying the lot at or later date, if necessary.

4. Form FGIS-911 is used to record factors and grade and other pertinent information as requested.

For the bales (sacks) and/or fiberboard boxes:

1. Form FGIS-991, "General Services Worksheet," is used to record whether or not the forty-eight-pound bales meet the requirement of Package 38 Uniform Freight Classification, Rating, Rules and Regulations.

2. Form FGIS-991 is used to record whether or not the forty-eight-pound fiberboard boxes conform to the requirements of Federal Specifications PPP-B-636.

NOTE: The contractor must supply official personnel with the ASCS Abstract (Contract). The abstract contains Contract Number, Item Numbers, Destination, Quantity, Grade and Class and the Delivery Schedule.

F. Official personnel shall:

1. Review the contract. Read the contract and all related documents necessary to perform the inspection.

2. Identify the lot, if necessary.

a. The balers for the domestic program may be identified by using the official USDA Impression, Rubber roll stamp, where it will not obliterate other markings.

b. Roller-stamp any one of the appropriate worksheets identical in all respect with the rubber rolled stamp already stamped on the balers for that particular offered lot.

3. After examining the balers for conformance, open the balers and examine the primary bags (MR-6, Domestic Program) at random, and/or if the shipment consists of 100-pound bags, scoring the primary bags for visual defects, in accordance with the AMS Handbook (if applicable) and the U.S. Standards for Condition of Food Containers.

a. Use the acceptable quality levels (AQL) as stated in paragraph 42.107 page 4 of the U.S. Standards for Condition of Food Containers or as stated on the reverse of worksheet form AD-741.

b. The contractor has the option of using either the double or single sampling plan.

c. Show results on the applicable worksheets.

d. Score for the visual defects listed on the applicable worksheets.

NOTE: The contractor may make shipment prior to receipt of the inspection results if he assumes all risks and liabilities which arise with respect to the failure of the shipment to meet contract requirements and specifications, including those with respect to packages and containers subject to other provisions of Article No. 35.

4. Checkweigh the rice in accordance with the FGIS Weighing Handbook.

a. Choose the bags to be weighed at random from the bags already chosen at random.

b. Show the defect figures on the applicable worksheet.

c. Score for defects listed on the applicable worksheet.

5. Record the weights and other information concerning the offered lot on form FGIS-932.

6. Inspecting the rice as follows:

a. Domestic Program. In some instances, more than one delivery order will be applied to a lot offered for inspection. It is permissible to show in the Remarks section of the rice inspection certificate the number of containers in each delivery order, provided this information is shown by the applicant on form FGIS-955, "Application for Inspection Under the Agricultural Marketing Act of 1946."

b. Export Program. In most instances, a designated lot will consist of more than one carrier. Make these inspections in accordance with Chapter 7, "Roundlot Inspection Plan."

(1) Complete a form AD-471 (Reverse) worksheet; a form FGIS-911; and a form FGIS-992 for each designated lot.

(2) Notify the contractor of the results of the inspection.

(3) Issue rice inspection certificates.

7. As soon as the worksheets have been scored, review and determine whether the lot will be accepted or rejected.

a. Notify the contractor if the lot meets specification.

b. If the lot fails to meet specification, the contractor may:

(1) Request a new inspection of the containers. If so, the contractor must rework the lot before a new inspection is made; or base the lot on the same sample size and the corresponding acceptance and rejection numbers.

(2) Request an appeal inspection. If an appeal is requested, base the inspection on the sample size and corresponding acceptance and rejection numbers.

(3) Request a waiver from ASCS if the containers fail to meet AQL requirements. ASCS will either waiver the requirement that caused the containers to be rejected, or reject the containers.

NOTE: If the containers are rejected, the contractor may rework the lot, and/or reorder containers that are in compliance.

10.33 FAILURE TO MEET ASCS REQUIREMENTS

A. If the lot fails to meet ASCS requirements, notify the contractor immediately. The contractor may:

1. Rework the lot and then request a new inspection of the unit loads.

2. Request an appeal inspection.

NOTE: If the lot still fails to meet ASCS requirements, the contractor must offer another lot for inspection.

B. Official personnel must notify the contractor and ASCS of the results of the enrichment test if the rice fails to meet ASCS enrichment requirement.

1. If the enrichment of the rice meets the ASCS enrichment requirements, show the appropriate statement in Remarks section on the work record; e.g., "Results of enrichment test as prescribed in Rice Inspection Handbook: Enriched."

2. If the enrichment of the rice fails to meet ASCS enrichment requirements, show an appropriate statement in Remarks section on the work record; e.g., "Results of enrichment test as prescribed in Rice Inspection Handbook: Underenriched," or "Results of enriched test as prescribed in Rice Inspection Handbook: Overenriched."

NOTE: There is a penalty for failure to meet the enrichment test requirement.

C. Official personnel must notify the contractor and ASCS if the container markings fail to meet ASCS requirements.

10.34 INTRODUCTION TO PL 480 INSPECTIONS

A. FGIS is responsible for the inspection, and certification of rice sold under Title I, Public Law 480.

B. Purchase Authorizations (P/A) contain language that require specific inspection services be performed and that key phrases appear on the rice inspection certificate. Rice sold under current P/A's must be:

1. Inspected for quality.

2. Checkcounted.

3. Checked for condition immediately prior to loading.

4. Checkweighed.

5. Carrier examined and found suitable to receive rice immediately prior to loading.

6. Observed being loaded.

10.35 PROCEDURES

A. Inspection for Quality. Inspection for quality is the actual grading of the rice. Rice is identified and sampled in the warehouse according to procedures found in Chapter 9.

NOTE: The lot must be marked while in the warehouse to identify the lot during the observation of loading phase.

B. Checkcount. Checkcounting of rice in bags shall consist of determining the total number of filled outer containers in a lot to verify the number of bags. Checkcounting shall be performed while rice is at rest in the warehouse and accomplished under the FGIS procedures.

C. Condition Inspection. Condition inspection may be performed at time of warehouse inspection and verified at time of loading to the vessel. A condition inspection consists of an inspection for conditions such as water damage, insect infestation, bird or rodent damage or any other adverse condition which would cause the lot to be graded U.S. Sample grade. A condition inspection, in the case of bagged rice, would also include an inspection for containers that are torn, leaking and/or obviously underfilled at the time of checkweighing. Out-of-condition rice and/or containers must be removed from the lot and marked as rejected.

D. Checkweighing. Checkweighing shall be performed at the time of the warehouse inspection and performed according to the FGIS Weighing Handbook.

E. Carrier Examinations. The carrier must be inspected immediately prior to loading and must be found to be clean, dry, free of insect infestation and in such condition as not to contaminate the rice. "Immediately prior to loading" means the inspection must be performed immediately preceding loading the vessel.

F. Observation of Loading. This part of the PL 480 inspection is performed when the rice is loaded into the holds of the vessel. A condition inspection of the containers and rice is usually performed concurrently with the observation of loading.

NOTE: The applicant is responsible for the rice until the lots are assigned to the stevedores for loading. The rice inspection certificates will reflect the quality and conditions of the rice at rest in the warehouse. If, the condition of the rice changes during loading (e.g., caught in a sudden rain) or if undetected rodents or insects are discovered, a letter will be issued to the applicant or his/her agent noting the adverse condition. Copies will be sent to the Office of the General Sales Manager, Washington, D.C. If the agent elects not to ship the rice, no letter will be necessary.

10.36
CERTIFICATION

A. The current P/A's require specific documentation, of which the rice inspection certificates are only one part. Rice inspection certificates must be issued to reflect: quality (grade), number of containers, estimated weight of the lot as a whole, condition of the carrier prior to loading, condition of the rice and containers at time of loading, and observation of loading.

B. These requirements may be satisfied by issuing separate certificates as each service is performed or by combining all services on one certificate. A separate certificate must be issued for the carrier examination.

C. A rice inspection certificate must be issued for all inspections performed. If official weighing is performed for bulk rice, a weighing certificate must also be issued.

1. If the quality certificates are issued as separate documents, certificates issued covering other phases of the inspection must reference the quality certificate.

2. When one certificate is issued to cover all services (except carrier examination) the approved statement to be shown in the Remarks section will be: "Inspection for quality, checkweighing and checkcount was performed on (date). The inspection for condition was performed at time of loading. This lot of rice was observed being loaded aboard (name of vessel) on (show all dates rice was loaded)."

3. The certificate must show that the condition inspection was performed "at time of loading." A condition inspection may be made prior to the start of loading, while rice is at rest in a warehouse. But to ensure that the condition of the rice and bags remains "good," a condition inspection must be made at the time of loading.

4. The certificate covering the carrier examination must show "immediately prior to loading." An examination may be made the day before loading, but an examination must also be performed immediately prior to loading to ensure that the previous results have not changed.

10.37 TIME LIMITATION

If reasonably continuous inspection is not maintained because of the non-availability of part of an identified lot, or a pause in loading of a vessel, the inspection certificate (or certificates) shall be issued for the portion inspected prior to the break in inspection, and one shall be issued for the portion inspected after the break in inspection or after each additional break in inspection. "Reasonably continuous inspection can include inactive periods of not more than 88 consecutive hours. To be considered "reasonably continuous inspection" at least one block or sublot must be inspected.

NOTE: After inactive periods, a new carrier examination must also be performed and certificated.

APPENDIX 1. TOLERANCES

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Classes - Percentage of Rice of Other Types	6	9
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Damaged Kernels - Percentage	6	9
Distinctly Low Quality	None	
Dockage	None	
Heat-Damaged Kernels - Number	4	2
Heat-Damaged Kernels and Objectionable Seeds (Singly or Combined) - Number	4	2
Heating Rough Rice	None	
Kind - Percentage of Paddy Kernels	3	1
Large Broken Kernels - Percentage	7	24
Milling Requirement	None	
Milling Yield - Percentage	1	1
Moisture - Percentage Using Appropriate Conversion Charts	2	1
Nonparboiled Rice - Percentage	6	9
Objectionable Seeds - Number	4	2
Odor	None	
Other Types - Percentage	6	9
Parboiled Color Levels	None	
Red Rice - Percentage	6	9
Red Rice and Damaged Kernels (Singly or Combined) - Percentage	6	9
Seeds - Number	4	2
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Test Weight Per Bushel	None	
Total Seeds and Heat-Damaged Kernels - Number	4	2
Types (Length/Width Ratio)	None	
Ungelatinized Kernels - Percentage	6	9
Weevily	None	
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Whole and Large Broken Kernels - Percentage	7	24

Determinations	Table/Page Number	

BROWN RICE FOR PROCESSING

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Chalky Kernels - Percentage	6	9
Classes - Percentage of Whole Kernels	7	24
Classes - Percentage of Rice of Other Types	6	9
Damaged Kernels - Percentage	6	9
Distinctly Low Quality	None	
Heat-Damaged Kernels - Number	4	2
Heat-Damaged Kernels and Objectionable Seeds (Singly or Combined) - Number	4	2
Heating Brown Rice for Processing	None	
Kind - Percentage of Brown Rice Kernels	3	1
Live Weevils and Other Live Insects	None	
Milling Analysis (Breakdown) - Percentage	7	24
Milling Yield - Percentage	1	1
Nonparboiled Rice - Percentage	6	9
Objectionable Seeds - Number	4	2
Odor	None	
Other Types - Percentage	6	9
Paddy Kernels - Number	4	2
Paddy Kernels - Percentage	5	8
Parboiled Color Levels	None	
Red Rice - Percentage	6	9
Red Rice and Damaged Kernels (Singly or Combined) - Percentage	6	9
Related Material - Percentage	6	9
Seeds - Number	4	2
Smutty Kernels - Percentage	6	9
Test Weight Per Bushel	None	
Total Broken Kernels - Percentage	7	24
Total Seeds and Heat-Damaged Kernels - Number	4	2
Types (Length/Width Ratio)	None	
Ungelatinized Kernels - Percentage	6	9
Unrelated Material - Percentage	6	9
Well-Milled Kernels - Percentage	6	9
Whole Kernels--See "Classes" or "Milling Yield"		

MILLED RICE

Broken Kernels (6 plate or 6-1/2 sieve) - Percentage	7	24
Chalky Kernels - Percentage	6	9
Classes - Percentage of Whole Kernels	7	24
Classes - Percentage of Rice of Other Types	6	9
Classes - Percentage of Broken Kernels	7	24
Coated Milled Rice	None	
Color Requirement	None	
Damaged Kernels - Percentage	6	9
Distinctly Low Quality	None	
Foreign Material - Percentage	6	9

Determinations	Table/Page Number	
Foreign Material in Brewers - Percentage	7	24
Granulated Brewers Milled Rice - Percentage	7	24
Heat-Damaged Kernels - Number	4	2
Heat-Damaged Kernels and Objectionable Seeds - Number	4	2
Heat-Damaged Kernels, Kernels Damaged by Heat and/or Parboiled Kernels in Nonparboiled Rice - Percentage	6	9
Heating Milled Rice	None	
Kind - Percentage of Milled Rice Kernels	6	9
Milling Requirement	None	
Moisture - Percentage	2	1
Nonparboiled Rice - Percentage	6	9
Objectionable Seeds - Number	4	2
Objectionable Seeds - Percentage	6	9
Odor	None	
Paddy Kernels - Number	4	2
Paddy Kernels - Percentage	6	9
Paddy Kernels and Seeds - Number	4	2
Parboiled Color Levels	None	
Quantitative Analysis (Breakdown) - Percentage	7	24
Red Rice - Percentage	6	9
Red Rice and Damaged Kernels (Singly or Combined) - Percentage	6	9
Seeds - Number	4	2
Seeds - Percentage	6	9
Seeds, Heat-Damaged and Paddy Kernels (Singly or Combined) - Number	4	2
Test Weight Per Bushel	None	
30 Sieve Material - Percentage	7	24
Total Broken Kernels - Percentage	7	24
Total Paddy Kernels and Seeds - Number	4	2
Total Paddy Kernels and Seeds - Percentage	6	9
Total Seeds, Heat-Damaged, and Paddy Kernels (Singly or Combined) - Number	4	2
2-1/2 Sieve - Percentage	7	24
Types (Length/Width Ratio)	None	
Undermilled Milled Rice	None	
Ungelatinized Kernels	6	9
Weevils and Other Insects	None	
Well-Milled Kernels - Percentage	6	9
Whole Kernels--See "Classes" - Percentage	6	9

(RESERVED)

TABLE 1
(Percent ±)

	Portion of Original Sample	New Sample	
Total Milling Yield - RR	2.0	2.5	*
Total Milling Yield - BR	1.0	1.5	*
Whole Kernels - RR	2.5	3.0	*
Whole Kernels - BR	1.5	2.0	*

TABLE 2
(Percent ±)

	Portion of Original Sample	New Sample
Moisture	0.45	0.55

TABLE 3
(Percent ±)

	Portion of Original Sample	New Sample
Long Grain Rice (51 kernels/gram)	2.3	2.8
Medium Grain Rice (46 kernels/gram)	2.4	2.9
Short Grain Rice (42 kernels/gram)	2.5	3.0

TABLE 4
(Number in 500 Grams)

Original Inspection Results	Portion of Original Sample	New Sample
0	0 - 3	0 - 5
1	0 - 5	0 - 7
2	0 - 7	0 - 9
3	0 - 9	0 - 11
4	0 - 11	0 - 13
5	1 - 12	0 - 14
6	1 - 14	0 - 16
7	2 - 15	0 - 17
8	2 - 16	0 - 18
9	3 - 18	1 - 20
10	3 - 19	1 - 21
11	4 - 20	2 - 22
12	5 - 22	3 - 24
13	5 - 23	3 - 25
14	6 - 24	4 - 26
15	7 - 26	5 - 28
16	8 - 27	6 - 29
17	8 - 28	6 - 30
18	9 - 29	7 - 31
19	10 - 31	8 - 33
20	11 - 32	9 - 34
21	11 - 33	9 - 35
22	12 - 35	10 - 37
23	13 - 36	11 - 38
24	14 - 37	12 - 39
25	14 - 38	12 - 40
26	15 - 39	13 - 41
27	16 - 41	14 - 43
28	17 - 42	15 - 44
29	18 - 43	16 - 45
30	18 - 44	16 - 46
31	19 - 46	17 - 48
32	20 - 47	18 - 49
33	21 - 48	19 - 50
34	22 - 49	19 - 51
35	22 - 50	20 - 52
36	23 - 52	21 - 53
37	24 - 53	22 - 54
38	25 - 54	23 - 56
39	26 - 55	24 - 57
40	26 - 56	24 - 58

TABLE 4
(Number in 500 Grams)

Original Inspection Results	Portion of Original Sample	New Sample
41	27 - 58	25 - 60
42	28 - 59	26 - 61
43	29 - 60	27 - 62
44	30 - 61	28 - 63
45	30 - 62	28 - 64
46	31 - 63	29 - 65
47	32 - 65	30 - 67
48	33 - 66	31 - 68
49	34 - 67	32 - 69
50	35 - 68	33 - 70
51	35 - 69	33 - 71
52	36 - 70	33 - 72
53	37 - 72	35 - 74
54	38 - 73	36 - 75
55	39 - 74	37 - 76
56	40 - 75	38 - 77
57	40 - 76	38 - 78
58	41 - 77	39 - 79
59	42 - 78	40 - 80
60	43 - 80	41 - 82
61	44 - 81	42 - 83
62	45 - 82	43 - 84
63	46 - 83	44 - 85
64	46 - 84	44 - 86
65	47 - 85	45 - 87
66	48 - 86	46 - 88
67	49 - 88	47 - 90
68	50 - 89	48 - 91
69	51 - 90	49 - 92
70	52 - 91	50 - 93
71	53 - 92	51 - 94
72	53 - 93	51 - 95
73	54 - 94	52 - 96
74	55 - 96	53 - 98
75	56 - 97	54 - 99

TABLE 4
(Number in 500 Grams)

Original Inspection Results	Portion of Original Sample	New Sample
76	57 - 98	55 - 100
77	58 - 99	56 - 101
78	59 - 100	57 - 102
79	59 - 101	57 - 103
80	60 - 102	58 - 104
81	61 - 103	59 - 106
82	62 - 105	60 - 107
83	63 - 106	61 - 108
84	64 - 107	62 - 109
85	65 - 108	63 - 110
86	66 - 109	64 - 111
87	66 - 110	65 - 112
88	67 - 111	65 - 113
89	68 - 113	66 - 115
90	69 - 114	67 - 116
91	70 - 115	68 - 117
92	71 - 116	69 - 118
93	72 - 117	70 - 119
94	73 - 118	71 - 120
95	73 - 119	71 - 121
96	74 - 120	72 - 122
97	75 - 122	73 - 124
98	76 - 123	74 - 125
99	77 - 124	75 - 126
100	78 - 125	76 - 127
101	79 - 126	77 - 128
102	80 - 127	78 - 129
103	80 - 128	78 - 130
104	81 - 129	79 - 131
105	82 - 130	80 - 132
106	83 - 131	81 - 133
107	84 - 132	82 - 134
108	85 - 134	83 - 136
109	86 - 135	84 - 137
110	87 - 136	85 - 138

TABLE 4
(Number in 500 Grams)

Original Inspection Results	Portion of Original Sample	New Sample
111	88 - 137	86 - 139
112	88 - 138	86 - 140
113	89 - 139	87 - 141
114	90 - 140	88 - 142
115	91 - 142	89 - 144
116	92 - 143	90 - 145
117	93 - 144	91 - 146
118	94 - 145	92 - 147
119	95 - 146	93 - 148
120	96 - 147	94 - 149
121	96 - 148	94 - 150
122	97 - 149	95 - 151
123	98 - 150	96 - 152
124	99 - 152	97 - 154
125	100 - 153	98 - 155
126	101 - 154	99 - 156
127	102 - 155	100 - 157
128	103 - 156	101 - 158
129	104 - 157	102 - 159
130	105 - 158	103 - 160
131	106 - 159	104 - 161
132	107 - 160	105 - 162
133	107 - 161	105 - 163
134	108 - 163	106 - 165
135	109 - 164	107 - 166
136	110 - 165	108 - 167
137	111 - 166	109 - 168
138	112 - 167	110 - 169
139	113 - 168	111 - 170
140	114 - 169	112 - 171
141	114 - 170	112 - 172
142	115 - 171	113 - 173
143	116 - 172	114 - 174
144	117 - 173	115 - 175
145	118 - 175	116 - 177

TABLE 4
(Number in 500 Grams)

Original Inspection Results	Portion of Original Sample	New Sample
146	119 - 176	117 - 178
147	120 - 177	118 - 179
148	121 - 178	119 - 180
149	122 - 179	120 - 181
150	123 - 180	121 - 182
151	123 - 181	121 - 183
152	124 - 182	122 - 184
153	125 - 183	123 - 185
154	126 - 184	124 - 186
155	127 - 185	125 - 187
156	128 - 187	126 - 189
157	129 - 188	127 - 190
158	130 - 189	128 - 191
159	131 - 190	129 - 192
160	132 - 191	130 - 193
161	133 - 192	131 - 194
162	133 - 193	131 - 195
163	134 - 194	132 - 196
164	135 - 195	133 - 197
165	136 - 197	134 - 199
166	137 - 198	135 - 200
167	138 - 199	136 - 201
168	139 - 200	137 - 202
169	140 - 201	138 - 203
170	141 - 202	139 - 204
171	142 - 203	140 - 205
172	143 - 204	141 - 206
173	144 - 205	142 - 207
174	144 - 206	142 - 208
175	145 - 207	143 - 209
176	146 - 208	144 - 210
177	147 - 210	145 - 212
178	148 - 211	146 - 213
179	149 - 212	147 - 214
180	150 - 213	148 - 215

TABLE 4
(Number in 500 Grams)

Original Inspection Results	Portion of Original Sample	New Sample
181	151 - 214	149 - 216
182	152 - 215	150 - 217
183	153 - 216	151 - 218
184	154 - 217	152 - 219
185	155 - 218	153 - 220
186	155 - 219	153 - 221
187	156 - 220	154 - 222
188	157 - 221	155 - 223
189	158 - 223	156 - 224
190	159 - 224	157 - 226
191	160 - 225	158 - 227
192	161 - 226	159 - 228
193	162 - 227	160 - 229
194	163 - 228	161 - 230
195	164 - 229	162 - 231
196	164 - 230	162 - 232
197	165 - 231	163 - 233
198	166 - 232	164 - 234
199	166 - 233	164 - 235
200	167 - 234	165 - 236

TABLE 5
(Percent ±)

Original Inspection Results	Portion of Original Sample	New Sample
0.0	0.0 - 0.2	0.0 - 0.4
0.1	0.0 - 0.4	0.0 - 0.6
0.2	0.0 - 0.5	0.0 - 0.7
0.3	0.0 - 0.7	0.0 - 0.9
0.4	0.1 - 0.8	0.0 - 1.0
0.5	0.2 - 0.9	0.0 - 1.1
0.6	0.2 - 1.1	0.0 - 1.3
0.7	0.3 - 1.2	0.1 - 1.4
0.8	0.4 - 1.3	0.2 - 1.5
0.9	0.5 - 1.4	0.3 - 1.6
1.0	0.5 - 1.6	0.3 - 1.8
1.1	0.6 - 1.7	0.4 - 1.9
1.2	0.7 - 1.8	0.5 - 2.0
1.3	0.8 - 1.9	0.6 - 2.1
1.4	0.9 - 2.0	0.7 - 2.2
1.5	0.9 - 2.2	0.7 - 2.4
1.6	1.0 - 2.3	0.8 - 2.5
1.7	1.1 - 2.4	0.9 - 2.6
1.8	1.2 - 2.5	1.0 - 2.7
1.9	1.3 - 2.6	1.1 - 2.8
2.0	1.4 - 2.7	1.2 - 2.9
2.1	1.4 - 2.9	1.2 - 3.1
2.2	1.5 - 3.0	1.3 - 3.2
2.3	1.6 - 3.1	1.4 - 3.3
2.4	1.7 - 3.2	1.5 - 3.4
2.5	1.8 - 3.3	1.6 - 3.5
2.6	1.9 - 3.4	1.7 - 3.6
2.7	2.0 - 3.5	1.8 - 3.7
2.8	2.0 - 3.7	1.8 - 3.9
2.9	2.1 - 3.8	1.9 - 4.0

TABLE 6
(Percent ±)

Original Inspection Results	Portion of Original Sample	New Sample
0.0	0.0 - 0.3	0.0 - 0.5
0.1	0.0 - 0.5	0.0 - 0.7
0.2	0.0 - 0.7	0.0 - 0.9
0.3	0.0 - 0.9	0.0 - 1.1
0.4	0.0 - 1.0	0.0 - 1.2
0.5	0.1 - 1.2	0.0 - 1.4
0.6	0.1 - 1.3	0.0 - 1.5
0.7	0.2 - 1.5	0.0 - 1.7
0.8	0.2 - 1.6	0.0 - 1.8
0.9	0.3 - 1.7	0.1 - 1.9
1.0	0.4 - 1.9	0.2 - 2.1
1.1	0.4 - 2.0	0.2 - 2.2
1.2	0.5 - 2.1	0.3 - 2.3
1.3	0.6 - 2.2	0.4 - 2.4
1.4	0.7 - 2.4	0.5 - 2.6
1.5	0.7 - 2.5	0.5 - 2.7
1.6	0.8 - 2.6	0.6 - 2.8
1.7	0.9 - 2.7	0.7 - 2.9
1.8	1.0 - 2.9	0.8 - 3.1
1.9	1.0 - 3.0	0.8 - 3.2
2.0	1.1 - 3.1	0.9 - 3.3
2.1	1.2 - 3.2	1.0 - 3.4
2.2	1.3 - 3.4	1.1 - 3.6
2.3	1.3 - 3.5	1.1 - 3.7
2.4	1.4 - 3.6	1.2 - 3.8
2.5	1.5 - 3.7	1.3 - 3.9
2.6	1.6 - 3.8	1.4 - 4.0
2.7	1.7 - 4.0	1.5 - 4.2
2.8	1.7 - 4.1	1.5 - 4.3
2.9	1.8 - 4.2	1.6 - 4.4
3.0	1.9 - 4.3	1.7 - 4.5
3.1	2.0 - 4.4	1.8 - 4.6
3.2	2.1 - 4.5	1.9 - 4.7
3.3	2.1 - 4.7	1.9 - 4.9
3.4	2.2 - 4.8	2.0 - 5.0
3.5	2.3 - 4.9	2.1 - 5.1

TABLE 6
(Percent ±)

Original Inspection Results	Portion of Original Sample	New Sample
3.6	2.4 - 5.0	2.2 - 5.2
3.7	2.5 - 5.1	2.3 - 5.3
3.8	2.6 - 5.2	2.4 - 5.4
3.9	2.6 - 5.4	2.4 - 5.6
4.0	2.7 - 5.5	2.5 - 5.7
4.1	2.8 - 5.6	2.6 - 5.8
4.2	2.9 - 5.7	2.7 - 5.9
4.3	3.0 - 5.8	2.8 - 6.0
4.4	3.1 - 5.9	2.9 - 6.1
4.5	3.2 - 6.1	3.0 - 6.3
4.6	3.2 - 6.2	3.0 - 6.4
4.7	3.3 - 6.3	3.1 - 6.5
4.8	3.4 - 6.4	3.2 - 6.6
4.9	3.5 - 6.5	3.3 - 6.7
5.0	3.6 - 6.6	3.4 - 6.8
5.1	3.7 - 6.7	3.5 - 6.9
5.2	3.8 - 6.8	3.6 - 7.0
5.3	3.8 - 7.0	3.6 - 7.2
5.4	3.9 - 7.1	3.7 - 7.3
5.5	4.0 - 7.2	3.8 - 7.4
5.6	4.1 - 7.2	3.9 - 7.5
5.7	4.2 - 7.3	4.0 - 7.6
5.8	4.3 - 7.5	4.1 - 7.7
5.9	4.4 - 7.6	4.2 - 7.8
6.0	4.5 - 7.7	4.3 - 7.9
6.1	4.5 - 7.9	4.3 - 8.1
6.2	4.6 - 8.0	4.4 - 8.2
6.3	4.7 - 8.1	4.5 - 8.3
6.4	4.8 - 8.2	4.6 - 8.4
6.5	4.9 - 8.3	4.7 - 8.5
6.6	5.0 - 8.4	4.8 - 8.6
6.7	5.1 - 8.5	4.9 - 8.7
6.8	5.2 - 8.6	5.0 - 8.8
6.9	5.2 - 8.7	5.0 - 8.9
7.0	5.3 - 8.9	5.1 - 9.1

TABLE 6
(Percent ±)

Original Inspection Results	Portion of Original Sample	New Sample
7.1	5.4 - 9.0	5.2 - 9.2
7.2	5.5 - 9.1	5.3 - 9.3
7.3	5.6 - 9.2	5.4 - 9.4
7.4	5.7 - 9.3	5.5 - 9.5
7.5	5.8 - 9.4	5.6 - 9.6
7.6	5.9 - 9.5	5.7 - 9.7
7.7	6.0 - 9.6	5.8 - 9.8
7.8	6.0 - 9.7	5.8 - 9.9
7.9	6.1 - 9.9	5.9 - 10.1
8.0	6.2 - 10.0	6.0 - 10.2
8.1	6.3 - 10.1	6.1 - 10.2
8.2	6.4 - 10.2	6.2 - 10.3
8.3	6.5 - 10.3	6.3 - 10.4
8.4	6.6 - 10.4	6.4 - 10.6
8.5	6.7 - 10.5	6.5 - 10.7
8.6	6.8 - 10.6	6.6 - 10.8
8.7	6.9 - 10.7	6.7 - 10.9
8.8	6.9 - 10.8	6.7 - 11.0
8.9	7.0 - 10.9	6.8 - 11.1
9.0	7.1 - 11.1	6.9 - 11.3
9.1	7.2 - 11.2	7.0 - 11.4
9.2	7.3 - 11.3	7.1 - 11.5
9.3	7.4 - 11.4	7.2 - 11.6
9.4	7.5 - 11.5	7.3 - 11.7
9.5	7.6 - 11.6	7.4 - 11.8
9.6	7.7 - 11.7	7.5 - 11.9
9.7	7.8 - 11.8	7.6 - 12.0
9.8	7.9 - 11.9	7.7 - 12.1
9.9	7.9 - 12.0	7.7 - 12.2
10.0	8.0 - 12.1	7.8 - 12.3
10.1	8.1 - 12.3	7.9 - 12.5
10.2	8.2 - 12.4	8.0 - 12.6
10.3	8.3 - 12.5	8.1 - 12.7
10.4	8.4 - 12.6	8.2 - 12.8
10.5	8.5 - 12.7	8.3 - 12.9

TABLE 6
(Percent ±)

Original Inspection Results	Portion of Original Sample	New Sample
10.6	8.6 - 12.8	8.4 - 13.0
10.7	8.7 - 12.9	8.5 - 13.1
10.8	8.8 - 13.0	8.6 - 13.2
10.9	8.9 - 13.1	8.7 - 13.3
11.0	8.9 - 13.2	8.7 - 13.4
11.1	9.0 - 13.3	8.8 - 13.5
11.2	9.1 - 13.4	8.9 - 13.6
11.3	9.2 - 13.6	9.0 - 13.8
11.4	9.3 - 13.7	9.1 - 13.9
11.5	9.4 - 13.8	9.2 - 14.0
11.6	9.5 - 13.9	9.3 - 14.1
11.7	9.6 - 14.0	9.4 - 14.2
11.8	9.7 - 14.1	9.5 - 14.3
11.9	9.8 - 14.2	9.6 - 14.4
12.0	9.9 - 14.3	9.7 - 14.5
12.1	10.0 - 14.4	9.8 - 14.6
12.2	10.0 - 14.5	9.8 - 14.7
12.3	10.1 - 14.6	9.9 - 14.8
12.4	10.2 - 14.7	10.0 - 14.9
12.5	10.3 - 14.8	10.1 - 15.0
12.6	10.4 - 15.0	10.2 - 15.2
12.7	10.5 - 15.1	10.3 - 15.3
12.8	10.6 - 15.2	10.4 - 15.4
12.9	10.7 - 15.3	10.5 - 15.5
13.0	10.8 - 15.4	10.6 - 15.6
13.1	10.9 - 15.5	10.7 - 15.7
13.2	11.0 - 15.6	10.8 - 15.8
13.3	11.1 - 15.7	10.9 - 15.9
13.4	11.2 - 15.8	11.0 - 16.0
13.5	11.3 - 15.9	11.1 - 16.1
13.6	11.3 - 16.0	11.1 - 16.2
13.7	11.4 - 16.1	11.2 - 16.3
13.8	11.5 - 16.2	11.3 - 16.4
13.9	11.6 - 16.3	11.4 - 16.5
14.0	11.7 - 16.4	11.5 - 16.6

TABLE 6
(Percent ±)

Original Inspection Results	Portion of Original Sample	New Sample
14.1	11.8 - 16.6	11.6 - 16.8
14.2	11.9 - 16.7	11.7 - 16.9
14.3	12.0 - 16.8	11.8 - 17.0
14.4	12.1 - 16.9	11.9 - 17.1
14.5	12.2 - 17.0	12.0 - 17.2
14.6	12.3 - 17.1	12.1 - 17.3
14.7	12.4 - 17.2	12.2 - 17.4
14.8	12.5 - 17.3	12.3 - 17.5
14.9	12.6 - 17.4	12.4 - 17.6
15.0	12.6 - 17.5	12.4 - 17.7
15.1	12.7 - 17.6	12.5 - 17.8
15.2	12.8 - 17.7	12.6 - 17.9
15.3	12.9 - 17.8	12.7 - 18.0
15.4	13.0 - 17.9	12.8 - 18.1
15.5	13.1 - 18.0	12.9 - 18.2
15.6	13.2 - 18.1	13.0 - 18.3
15.7	13.3 - 18.3	13.1 - 18.5
15.8	13.4 - 18.4	13.2 - 18.6
15.9	13.5 - 18.5	13.3 - 18.7
16.0	13.6 - 18.6	13.4 - 18.8
16.1	13.7 - 18.7	13.5 - 18.9
16.2	13.8 - 18.8	13.6 - 19.0
16.3	13.9 - 18.9	13.7 - 19.1
16.4	14.0 - 19.0	13.8 - 19.2
16.5	14.0 - 19.1	13.8 - 19.3
16.6	14.1 - 19.2	13.9 - 19.4
16.7	14.2 - 19.3	14.0 - 19.5
16.8	14.3 - 19.4	14.1 - 19.6
16.9	14.4 - 19.5	14.2 - 19.7
17.0	14.5 - 19.6	14.3 - 19.8
17.1	14.6 - 19.7	14.4 - 19.9
17.2	14.7 - 19.8	14.5 - 20.0
17.3	14.8 - 19.9	14.6 - 20.1
17.4	14.9 - 20.0	14.7 - 20.2
17.5	15.0 - 20.2	14.8 - 20.4

TABLE 6
(Percent ±)

Original Inspection Results	Portion of Original Sample	New Sample
17.6	15.1 - 20.3	14.9 - 20.5
17.7	15.2 - 20.4	15.0 - 20.6
17.8	15.3 - 20.5	15.1 - 20.7
17.9	15.4 - 20.6	15.2 - 20.8
18.0	15.5 - 20.7	15.3 - 20.9
18.1	15.6 - 20.8	15.4 - 21.0
18.2	15.6 - 20.9	15.4 - 21.1
18.3	15.7 - 21.0	15.5 - 21.2
18.4	15.8 - 21.1	15.6 - 21.3
18.5	15.9 - 21.2	15.7 - 21.4
18.6	16.0 - 21.3	15.8 - 21.5
18.7	16.1 - 21.4	15.9 - 21.6
18.8	16.2 - 21.5	16.0 - 21.7
18.9	16.3 - 21.6	16.1 - 21.8
19.0	16.4 - 21.7	16.2 - 21.9
19.1	16.5 - 21.8	16.3 - 22.0
19.2	16.6 - 21.9	16.4 - 22.1
19.3	16.7 - 22.0	16.5 - 22.2
19.4	16.8 - 22.2	16.6 - 22.4
19.5	16.9 - 22.3	16.7 - 22.5
19.6	17.0 - 22.4	16.8 - 22.6
19.7	17.1 - 22.5	16.9 - 22.7
19.8	17.2 - 22.6	17.0 - 22.8
19.9	17.3 - 22.7	17.1 - 22.9
20.0	17.4 - 22.8	17.2 - 23.0
20.1	17.4 - 22.9	17.2 - 23.1
20.2	17.5 - 23.0	17.3 - 23.2
20.3	17.6 - 23.1	17.4 - 23.3
20.4	17.7 - 23.2	17.5 - 23.4
20.5	17.8 - 23.3	17.6 - 23.5
20.6	18.0 - 23.4	17.7 - 23.6
20.7	18.0 - 23.5	17.8 - 23.7
20.8	18.1 - 23.6	17.9 - 23.8
20.9	18.2 - 23.7	18.0 - 23.9
21.0	18.3 - 23.8	18.1 - 24.0

TABLE 6
(Percent ±)

Original Inspection Results	Portion of Original Sample	New Sample
21.1	18.4 - 23.9	18.2 - 24.1
21.2	18.5 - 24.0	18.3 - 24.2
21.3	18.6 - 24.1	18.4 - 24.3
21.4	18.7 - 24.2	18.5 - 24.4
21.5	18.8 - 24.3	18.6 - 24.5
21.6	18.9 - 24.5	18.7 - 24.7
21.7	19.0 - 24.6	18.8 - 24.8
21.8	19.1 - 24.7	18.9 - 24.9
21.9	19.2 - 24.8	19.0 - 25.0
22.0	19.3 - 24.9	19.1 - 25.1
22.1	19.3 - 25.0	19.1 - 25.2
22.2	19.4 - 25.1	19.2 - 25.3
22.3	19.5 - 25.2	19.3 - 25.4
22.4	19.6 - 25.3	19.4 - 25.5
22.5	19.7 - 25.4	19.5 - 25.6
22.6	19.8 - 25.5	19.6 - 25.7
22.7	19.9 - 25.6	19.7 - 25.8
22.8	20.0 - 25.7	19.8 - 25.9
22.9	20.1 - 25.8	19.9 - 26.0
23.0	20.2 - 25.9	20.0 - 26.1
23.1	20.3 - 26.0	20.1 - 26.2
23.2	20.4 - 26.1	20.2 - 26.3
23.3	20.5 - 26.2	20.3 - 26.4
23.4	20.6 - 26.3	20.4 - 26.5
23.5	20.7 - 26.4	20.5 - 26.6
23.6	20.8 - 26.5	20.6 - 26.7
23.7	20.9 - 26.6	20.7 - 26.8
23.8	21.0 - 26.7	20.8 - 26.9
23.9	21.1 - 26.8	20.9 - 27.0
24.0	21.2 - 26.9	21.0 - 27.1
24.1	21.3 - 27.1	21.1 - 27.3
24.2	21.4 - 27.2	21.2 - 27.4
24.3	21.4 - 27.3	21.2 - 27.5
24.4	21.5 - 27.4	21.3 - 27.6
24.5	21.6 - 27.5	21.4 - 27.7

TABLE 6
(Percent ±)

Original Inspection Results	Portion of Original Sample	New Sample
24.6	21.7 - 27.6	21.5 - 27.8
24.7	21.8 - 27.7	21.6 - 27.9
24.8	21.9 - 27.8	21.7 - 28.0
24.9	22.0 - 27.9	21.8 - 28.1
25.0	22.1 - 28.0	21.9 - 28.2
25.1	22.2 - 28.1	22.0 - 28.3
25.2	22.3 - 28.2	22.1 - 28.4
25.3	22.4 - 28.3	22.2 - 28.5
25.4	22.5 - 28.4	22.3 - 28.6
25.5	22.6 - 28.5	22.4 - 28.7
25.6	22.7 - 28.6	22.5 - 28.8
25.7	22.8 - 28.7	22.6 - 28.9
25.8	22.9 - 28.8	22.7 - 29.0
25.9	23.0 - 28.9	22.8 - 29.1
26.0	23.1 - 29.0	22.9 - 29.2
26.1	23.2 - 29.1	23.0 - 29.3
26.2	23.3 - 29.2	23.1 - 29.4
26.3	23.4 - 29.3	23.2 - 29.5
26.4	23.5 - 29.4	23.3 - 29.6
26.5	23.6 - 29.5	23.4 - 29.7
26.6	23.7 - 29.6	23.5 - 29.8
26.7	23.8 - 29.7	23.6 - 29.9
26.8	23.9 - 29.8	23.7 - 30.0
26.9	23.9 - 29.9	23.7 - 30.1
27.0	24.0 - 30.1	23.8 - 30.3
27.1	24.1 - 30.2	23.9 - 30.4
27.2	24.2 - 30.3	24.0 - 30.5
27.3	24.3 - 30.4	24.1 - 30.6
27.4	24.4 - 30.5	24.2 - 30.7
27.5	24.5 - 30.6	24.3 - 30.8
27.6	24.6 - 30.7	24.4 - 30.9
27.7	24.7 - 30.8	24.5 - 31.0
27.8	24.8 - 30.9	24.6 - 31.1
27.9	24.9 - 31.0	24.7 - 31.2
28.0	25.0 - 31.1	24.8 - 31.3

TABLE 6
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
28.1	25.1-31.2	24.9-31.4
28.2	25.2-31.3	25.0-31.5
28.3	25.3-31.4	25.1-31.6
28.4	25.4-31.5	25.2-31.7
28.5	25.5-31.6	25.3-31.8
28.6	25.6-31.7	25.4-31.9
28.7	25.7-31.8	25.5-32.0
28.8	25.8-31.9	25.6-32.1
28.9	25.9-32.0	25.7-32.2
29.0	26.0-32.1	25.8-32.3
29.1	26.1-32.2	25.9-32.4
29.2	26.2-32.3	26.0-32.5
29.3	26.3-32.4	26.1-32.6
29.4	26.4-32.5	26.2-32.7
29.5	26.5-32.6	26.3-32.8
29.6	26.6-32.7	26.4-32.9
29.7	26.6-32.8	26.4-33.0
29.8	26.7-32.9	26.5-33.1
29.9	26.8-33.0	26.6-33.2
30.0	26.9-33.1	26.7-33.3
30.1	27.0-33.2	26.8-33.4
30.2	27.1-33.3	26.9-33.5
30.3	27.2-33.4	27.0-33.6
30.4	27.3-33.5	27.1-33.7
30.5	27.4-33.6	27.2-33.8
30.6	27.5-33.7	27.3-33.9
30.7	27.6-33.9	27.4-34.1
30.8	27.7-34.0	27.5-34.2
30.9	27.8-34.1	27.6-34.3
31.0	27.9-34.2	27.7-34.4
31.1	28.0-34.3	27.8-34.5
31.2	28.1-34.4	27.9-34.6
31.3	28.2-34.5	28.0-34.7
31.4	28.3-34.6	28.1-34.8
31.5	28.4-34.7	28.2-34.9

TABLE 6
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
31.6	28.5-34.8	28.3-35.0
31.7	28.6-34.9	28.4-35.1
31.8	28.7-35.0	28.5-35.2
31.9	28.8-35.1	28.6-35.3
32.0	28.9-35.2	28.7-35.4
32.1	29.0-35.3	28.8-35.5
32.2	29.1-35.4	28.9-35.6
32.3	29.2-35.5	29.0-35.7
32.4	29.3-35.6	29.1-35.8
32.5	29.4-35.7	29.2-35.9
32.6	29.5-35.8	29.3-36.0
32.7	29.6-35.9	29.4-36.1
32.8	29.7-36.0	29.5-36.2
32.9	29.8-36.1	29.6-36.3
33.0	29.9-36.2	29.7-36.4
33.1	29.9-36.3	29.7-36.5
33.2	30.0-36.4	29.8-36.6
33.3	30.1-36.5	29.9-36.7
33.4	30.2-36.6	30.0-36.8
33.5	30.3-36.7	30.1-36.9
33.6	30.4-36.8	30.2-37.0
33.7	30.5-36.9	30.3-37.1
33.8	30.6-37.0	30.4-37.2
33.9	30.7-37.1	30.5-37.3
34.0	30.8-37.2	30.6-37.4
34.1	30.9-37.3	30.7-37.5
34.2	31.0-37.4	30.8-37.6
34.3	31.1-37.5	30.9-37.7
34.4	31.2-37.6	31.0-37.8
34.5	31.3-37.7	31.1-37.9
34.6	31.4-37.8	31.2-38.0
34.7	31.5-37.9	31.3-38.1
34.8	31.6-38.0	31.4-38.2
34.9	31.7-38.1	31.5-38.3
35.0	31.8-38.2	31.6-38.4

TABLE 6
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
35.1	31.9-38.3	31.7-38.5
35.2	32.0-38.4	31.8-38.6
35.3	32.1-38.5	31.9-38.7
35.4	32.2-38.6	32.0-38.8
35.5	32.3-38.7	32.1-38.9
35.6	32.4-38.8	32.2-39.0
35.7	32.5-38.9	32.3-39.1
35.8	32.6-39.0	32.4-39.2
35.9	32.7-39.1	32.5-39.3
36.0	32.8-39.3	32.6-39.5
36.1	32.9-39.4	32.7-39.6
36.2	33.0-39.5	32.8-39.7
36.3	33.1-39.6	32.9-39.8
36.4	33.2-39.7	33.0-39.9
36.5	33.3-39.8	33.1-40.0
36.6	33.4-39.9	33.2-40.1
36.7	33.5-40.0	33.3-40.2
36.8	33.6-40.1	33.4-40.3
36.9	33.7-40.2	33.5-40.4
37.0	33.7-40.3	33.5-40.5
37.1	33.8-40.4	33.6-40.6
37.2	33.9-40.5	33.7-40.7
37.3	34.0-40.6	33.8-40.8
37.4	34.1-40.7	33.9-40.9
37.5	34.2-40.8	34.0-41.0
37.6	34.3-40.9	34.1-41.1
37.7	34.4-41.0	34.2-41.2
37.8	34.5-41.1	34.4-41.3
37.9	34.6-41.2	34.4-41.4
38.0	34.7-41.3	34.5-41.5
38.1	34.8-41.4	34.6-41.6
38.2	34.9-41.5	34.7-41.7
38.3	35.0-41.6	34.8-41.8
38.4	35.1-41.7	34.9-41.9
38.5	35.2-41.8	35.0-42.0

TABLE 6
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
38.6	35.3-41.9	35.1-42.1
38.7	35.4-42.0	35.2-42.2
38.8	35.5-42.1	35.3-42.3
38.9	35.6-42.2	35.4-42.4
39.0	35.7-42.3	35.5-42.5
39.1	35.8-42.4	35.6-42.6
39.2	35.9-42.5	35.7-42.7
39.3	36.0-42.6	35.8-42.8
39.4	36.1-42.7	35.9-42.9
39.5	36.2-42.8	36.0-43.0
39.6	36.3-42.9	36.1-43.1
39.7	36.4-43.0	36.2-43.2
39.8	36.5-43.1	36.3-43.3
39.9	36.6-43.2	36.4-43.4
40.0	36.7-43.3	36.5-43.5
40.1	36.8-43.4	36.6-43.6
40.2	36.9-43.5	36.7-43.7
40.3	37.0-43.6	36.8-43.8
40.4	37.1-43.7	36.9-43.9
40.5	37.2-43.8	37.0-44.0
40.6	37.3-43.9	37.1-44.1
40.7	37.4-44.0	37.2-44.2
40.8	37.5-44.1	37.3-44.3
40.9	37.6-44.2	37.4-44.4
41.0	37.7-44.3	37.5-44.5
41.1	37.8-44.4	37.6-44.6
41.2	37.9-44.5	37.7-44.7
41.3	38.0-44.6	37.8-44.8
41.4	38.1-44.7	37.9-44.9
41.5	38.2-44.8	38.0-45.0
41.6	38.3-44.9	38.1-45.1
41.7	38.4-45.0	38.2-45.2
41.8	38.4-45.1	38.2-45.3
41.9	38.5-45.2	38.3-45.4
42.0	38.6-45.3	38.4-45.5

TABLE 6
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
42.1	38.7-45.4	38.5-45.6
42.2	38.8-45.5	38.6-45.7
42.3	38.9-45.6	38.7-45.8
42.4	39.0-45.7	38.8-45.9
42.5	39.1-45.8	38.9-46.0
42.6	39.2-45.9	39.0-46.1
42.7	39.3-46.0	39.1-46.2
42.8	39.4-46.1	39.2-46.3
42.9	39.5-46.2	39.3-46.4
43.0	39.6-46.3	39.4-46.5
43.1	39.7-46.4	39.5-46.6
43.2	39.8-46.5	39.6-46.7
43.3	39.9-46.6	39.7-46.8
43.4	40.0-46.7	39.8-46.9
43.5	40.1-46.8	39.9-47.0
43.6	40.2-46.9	40.0-47.1
43.7	40.3-47.0	40.1-47.2
43.8	40.4-47.1	40.2-47.3
43.9	40.5-47.2	40.3-47.4
44.0	40.6-47.3	40.4-47.5
44.1	40.7-47.4	40.5-47.6
44.2	40.8-47.5	40.6-47.7
44.3	40.9-47.6	40.7-47.8
44.4	41.0-47.7	40.8-47.9
44.5	41.1-47.8	40.9-48.0
44.6	41.2-47.9	41.0-48.1
44.7	41.3-48.0	41.1-48.2
44.8	41.4-48.1	41.2-48.3
44.9	41.5-48.2	41.3-48.4
45.0	41.6-48.3	41.4-48.5
45.1	41.7-48.4	41.5-48.6
45.2	41.7-48.4	41.5-48.6
45.3	41.9-48.7	41.7-48.9
45.4	42.0-48.8	41.8-49.0
45.5	42.1-48.9	41.9-49.1

TABLE 6
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
45.6	42.2-49.0	42.0-49.2
45.7	42.3-49.1	42.1-49.3
45.8	42.4-49.2	42.2-49.4
45.9	42.5-49.3	42.3-49.5
46.0	42.6-49.4	42.4-49.6
46.1	42.7-49.5	42.5-49.7
46.2	42.8-49.6	42.6-49.8
46.3	42.9-49.7	42.7-49.8
46.4	43.0-49.8	42.8-50.0
46.5	43.1-49.9	42.9-50.1
46.6	43.2-50.0	43.0-50.2
46.7	43.3-50.1	43.1-50.3
46.8	43.4-50.2	43.2-50.4
46.9	43.5-50.3	43.3-50.5
47.0	43.6-50.4	43.4-50.6
47.1	43.7-50.5	43.5-50.7
47.2	43.8-50.6	43.6-50.8
47.3	43.9-50.7	43.7-50.9
47.4	44.0-50.8	43.8-51.0
47.5	44.1-50.9	43.9-51.1
47.6	44.2-51.0	44.0-51.2
47.7	44.3-51.1	44.1-51.3
47.8	44.4-51.2	44.2-51.4
47.9	44.5-51.3	44.3-51.5
48.0	44.6-51.4	44.4-51.6
48.1	44.7-51.5	44.5-51.7
48.2	44.8-51.6	44.6-51.8
48.3	44.9-51.7	44.7-51.9
48.4	45.0-51.8	44.8-52.0
48.5	45.1-51.9	44.9-52.1
48.6	45.2-52.0	45.0-52.2
48.7	45.3-52.1	45.0-52.2
48.8	45.4-52.2	45.2-52.4
48.9	45.5-52.3	45.3-52.5
49.0	45.6-52.4	45.4-52.6

TABLE 6
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
49.1	45.7-52.2	45.5-52.7
49.2	45.8-52.6	45.6-52.8
49.3	45.9-52.7	45.7-52.9
49.4	46.0-52.8	45.8-53.0
49.5	46.1-52.9	45.9-53.1
49.6	46.2-53.0	46.0-53.2
49.7	46.3-53.1	46.1-53.3
49.8	46.4-53.2	46.2-53.4
49.9	46.5-53.3	46.3-53.5
50.0	46.6-53.4	46.4-53.6

TABLE 7
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
0.0	0.0- 0.2	0.0- 0.5
0.1	0.0- 0.4	0.0- 0.7
0.2	0.1- 0.6	0.0- 0.9
0.3	0.1- 0.7	0.0- 1.0
0.4	0.2- 0.8	0.0- 1.1
0.5	0.2- 1.0	0.0- 1.3
0.6	0.3- 1.1	0.0- 1.4
0.7	0.4- 1.2	0.1- 1.5
0.8	0.5- 1.4	0.2- 1.7
0.9	0.5- 1.5	0.2- 1.8
1.0	0.6- 1.6	0.3- 1.9
1.1	0.7- 1.7	0.4- 2.0
1.2	0.8- 1.9	0.5- 2.2
1.3	0.8- 2.0	0.5- 2.3
1.4	0.9- 2.1	0.6- 2.4
1.5	1.0- 2.2	0.7- 2.5
1.6	1.1- 2.3	0.8- 2.6
1.7	1.2- 2.5	0.9- 2.8
1.8	1.2- 2.6	0.9- 2.9
1.9	1.3- 2.7	1.0- 3.0
2.0	1.4- 2.8	1.1- 3.1
2.1	1.5- 2.9	1.2- 3.2
2.2	1.6- 3.0	1.3- 3.3
2.3	1.6- 3.2	1.3- 3.5
2.4	1.7- 3.3	1.4- 3.6
2.5	1.8- 3.4	1.5- 3.7
2.6	1.9- 3.5	1.6- 3.8
2.7	2.0- 3.6	1.7- 3.9
2.8	2.1- 3.7	1.8- 4.0
2.9	2.2- 3.9	1.9- 4.2
3.0	2.2- 4.0	1.9- 4.3
3.1	2.3- 4.1	2.0- 4.4
3.2	2.4- 4.2	2.1- 4.5
3.3	2.5- 4.3	2.2- 4.6
3.4	2.6- 4.4	2.3- 4.7
3.5	2.7- 4.5	2.4- 4.8

TABLE 7
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
3.6	2.8- 4.6	2.5- 4.9
3.7	2.9- 4.8	2.6- 5.1
3.8	2.9- 4.9	2.6- 5.2
3.9	3.0- 5.0	2.7- 5.3
4.0	3.1- 5.1	2.8- 5.4
4.1	3.2- 5.2	2.9- 5.5
4.2	3.3- 5.3	3.0- 5.6
4.3	3.4- 5.4	3.1- 5.7
4.4	3.5- 5.5	3.2- 5.8
4.5	3.6- 5.6	3.3- 5.9
4.6	3.6- 5.8	3.3- 6.1
4.7	3.7- 5.9	3.4- 6.2
4.8	3.8- 6.0	3.5- 6.3
4.9	3.9- 6.1	3.6- 6.4
5.0	4.0- 6.2	3.7- 6.5
5.1	4.1- 6.3	3.8- 6.6
5.2	4.2- 6.4	3.9- 6.7
5.3	4.3- 6.5	4.0- 6.8
5.4	4.4- 6.6	4.1- 6.9
5.5	4.5- 6.8	4.2- 7.1
5.6	4.5- 6.9	4.2- 7.2
5.7	4.6- 7.0	4.3- 7.3
5.8	4.7- 7.1	4.4- 7.4
5.9	4.8- 7.2	4.5- 7.5
6.0	4.9- 7.3	4.6- 7.6
6.1	5.0- 7.4	4.7- 7.7
6.2	5.1- 7.5	4.8- 7.8
6.3	5.2- 7.6	4.9- 7.9
6.4	5.3- 7.7	5.0- 8.0
6.5	5.4- 7.8	5.1- 8.1
6.6	5.5- 8.0	5.2- 8.3
6.7	5.5- 8.1	5.2- 8.4
6.8	5.6- 8.2	5.3- 8.5
6.9	5.7- 8.3	5.4- 8.6
7.0	5.8- 8.4	5.5- 8.7

TABLE 7
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
7.1	5.9- 8.5	5.6- 8.8
7.2	6.0- 8.6	5.7- 8.9
7.3	6.1- 8.7	5.8- 9.0
7.4	6.2- 8.8	5.9- 9.1
7.5	6.3- 8.9	6.0- 9.2
7.6	6.4- 9.0	6.1- 9.3
7.7	6.5- 9.1	6.2- 9.4
7.8	6.5- 9.2	6.2- 9.5
7.9	6.6- 9.4	6.3- 9.7
8.0	6.7- 9.5	6.4- 9.8
8.1	6.8- 9.6	6.5- 9.9
8.2	6.9- 9.7	6.6-10.0
8.3	7.0- 9.8	6.7-10.1
8.4	7.1- 9.9	6.8-10.2
8.5	7.2-10.0	6.9-10.3
8.6	7.3-10.1	7.0-10.4
8.7	7.4-10.2	7.1-10.5
8.8	7.5-10.3	7.2-10.6
8.9	7.6-10.4	7.3-10.7
9.0	7.7-10.5	7.4-10.8
9.1	7.8-10.6	7.5-10.9
9.2	7.8-10.8	7.5-11.1
9.3	7.9-10.9	7.6-11.2
9.4	8.0-11.0	7.7-11.3
9.5	8.1-11.1	7.8-11.4
9.6	8.2-11.2	7.9-11.5
9.7	8.3-11.3	8.0-11.6
9.8	8.4-11.4	8.1-11.7
9.9	8.5-11.5	8.2-11.8
10.0	8.6-11.6	8.3-11.9
10.1	8.7-11.7	8.4-12.0
10.2	8.8-11.8	8.5-12.1
10.3	8.9-11.9	8.6-12.2
10.4	9.0-12.0	8.7-12.3
10.5	9.1-12.1	8.8-12.4

TABLE 7
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
10.6	9.1-12.2	8.8-12.5
10.7	9.2-12.4	8.9-12.7
10.8	9.3-12.5	9.0-12.8
10.9	9.4-12.6	9.1-12.9
11.0	9.5-12.7	9.2-13.0
11.1	9.6-12.8	9.3-13.1
11.2	9.7-12.9	9.4-13.2
11.3	9.8-13.0	9.5-13.3
11.4	9.9-13.1	9.6-13.4
11.5	10.0-13.2	9.7-13.5
11.6	10.1-13.3	9.8-13.6
11.7	10.2-13.4	9.9-13.7
11.8	10.3-13.5	10.0-13.8
11.9	10.4-13.6	10.1-13.9
12.0	10.5-13.7	10.2-14.0
12.1	10.6-13.8	10.3-14.1
12.2	10.6-13.9	10.3-14.2
12.3	10.7-14.0	10.4-14.3
12.4	10.8-14.2	10.5-14.5
12.5	10.9-14.3	10.6-14.6
12.6	11.0-14.4	10.7-14.7
12.7	11.1-14.5	10.8-14.8
12.8	11.2-14.6	10.9-14.9
12.9	11.3-14.7	11.0-15.0
13.0	11.4-14.8	11.1-15.1
13.1	11.5-14.9	11.2-15.2
13.2	11.6-15.0	11.3-15.3
13.3	11.7-15.1	11.4-15.4
13.4	11.8-15.2	11.5-15.5
13.5	11.9-15.3	11.6-15.6
13.6	12.0-15.4	11.7-15.7
13.7	12.1-15.5	11.8-15.8
13.8	12.2-15.6	11.9-15.9
13.9	12.3-15.7	12.0-16.0
14.0	12.3-15.8	12.0-16.1

TABLE 7
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
14.1	12.4-15.9	12.1-16.2
14.2	12.5-16.0	12.2-16.3
14.3	12.6-16.2	12.3-16.5
14.4	12.7-16.3	12.4-16.6
14.5	12.8-16.4	12.5-16.7
14.6	12.9-16.5	12.6-16.8
14.7	13.0-16.6	12.7-16.9
14.8	13.1-16.7	12.8-17.0
14.9	13.2-16.8	12.9-17.1
15.0	13.3-16.9	13.0-17.2
15.1	13.4-17.0	13.1-17.3
15.2	13.5-17.1	13.2-17.4
15.3	13.6-17.2	13.2-17.5
15.4	13.7-17.3	13.4-17.6
15.5	13.8-17.4	13.5-17.7
15.6	13.9-17.5	13.6-17.8
15.7	14.0-17.6	13.7-17.9
15.8	14.1-17.7	13.8-18.0
15.9	14.2-17.8	13.9-18.1
16.0	14.2-17.9	13.9-18.2
16.1	14.3-18.0	14.0-18.3
16.2	14.4-18.1	14.1-18.4
16.3	14.5-18.2	14.2-18.5
16.4	14.6-18.3	14.3-18.6
16.5	14.7-18.5	14.4-18.8
16.6	14.8-18.6	14.5-18.9
16.7	14.9-18.7	14.6-19.0
16.8	15.0-18.8	14.7-19.1
16.9	15.1-18.9	14.8-19.2
17.0	15.2-19.0	14.9-19.3
17.1	15.3-19.1	15.0-19.4
17.2	15.4-19.2	15.1-19.5
17.3	15.5-19.3	15.2-19.6
17.4	15.6-19.4	15.3-19.7
17.5	15.7-19.5	15.4-19.8

TABLE 7
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
17.6	15.8-19.6	15.5-19.9
17.7	15.9-19.7	15.6-20.0
17.8	16.0-19.8	15.7-20.1
17.9	16.1-19.9	15.8-20.2
18.0	16.2-20.0	15.9-20.3
18.1	16.3-20.1	16.0-20.4
18.2	16.3-20.2	16.0-20.5
18.3	16.4-20.3	16.1-20.6
18.4	16.5-20.4	16.2-20.7
18.5	16.6-20.5	16.3-20.8
18.6	16.7-20.6	16.4-20.9
18.7	16.8-20.7	16.5-21.0
18.8	16.9-20.8	16.6-21.1
18.9	17.0-21.0	16.7-21.3
19.0	17.1-21.1	16.8-21.4
19.1	17.2-21.2	16.9-21.5
19.2	17.3-21.3	17.0-21.6
19.3	17.4-21.4	17.1-21.7
19.4	17.5-21.5	17.2-21.8
19.5	17.6-21.6	17.3-21.9
19.6	17.7-21.7	17.4-22.0
19.7	17.8-21.8	17.5-22.1
19.8	17.9-21.9	17.6-22.2
19.9	18.0-22.0	17.7-22.3
20.0	18.1-22.1	17.8-22.4
20.1	18.2-22.2	17.9-22.5
20.2	18.3-22.3	18.0-22.6
20.3	18.4-22.4	18.1-22.7
20.4	18.5-22.5	18.2-22.8
20.5	18.6-22.6	18.3-22.9
20.6	18.6-22.7	18.3-23.0
20.7	18.7-22.8	18.4-23.1
20.8	18.8-22.9	18.5-23.2
20.9	18.9-23.0	18.6-23.3
21.0	19.0-23.1	18.7-23.4

TABLE 7
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
21.1	19.1-23.2	18.8-23.5
21.2	19.2-23.3	18.9-23.6
21.3	19.3-23.4	19.0-23.7
21.4	19.4-23.5	19.1-23.8
21.5	19.5-23.6	19.2-23.9
21.6	19.6-23.7	19.3-24.0
21.7	19.7-23.9	19.4-24.2
21.8	19.8-24.0	19.5-24.3
21.9	19.9-24.1	19.6-24.4
22.0	20.0-24.2	19.7-24.5
22.1	20.1-24.3	19.8-24.6
22.2	20.2-24.2	19.9-24.7
22.3	20.3-24.5	20.0-24.8
22.4	20.4-24.6	20.1-24.9
22.5	20.5-24.7	20.2-25.0
22.6	20.6-24.8	20.3-25.1
22.7	20.7-24.9	20.4-25.2
22.8	20.8-25.0	20.5-25.3
22.9	20.9-25.1	20.6-25.4
23.0	21.0-25.2	20.7-25.5
23.1	21.1-25.3	20.8-25.6
23.2	21.2-25.4	20.9-25.7
23.3	21.3-25.5	21.0-25.8
23.4	21.4-25.6	21.1-25.9
23.5	21.4-25.7	21.1-26.0
23.6	21.5-25.8	21.2-26.1
23.7	21.6-25.9	21.3-26.2
23.8	21.7-26.0	21.4-26.3
23.9	21.8-26.1	21.5-26.4
24.0	21.9-26.2	21.6-26.5
24.1	22.0-26.3	21.7-26.2
24.2	22.1-26.4	21.8-26.7
24.3	22.2-26.5	21.9-26.8
24.4	22.3-26.6	22.0-26.9
24.5	22.4-26.7	22.1-27.0

TABLE 7
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
24.6	22.5-26.8	22.2-27.1
24.7	22.6-26.9	22.3-27.2
24.8	22.7-27.0	22.4-27.3
24.9	22.8-27.1	22.5-27.4
25.0	22.9-27.3	22.6-27.6
25.1	23.0-27.4	22.7-27.7
25.2	23.1-27.5	22.8-27.8
25.3	23.2-27.6	22.9-27.9
25.4	23.3-27.7	23.0-28.0
25.5	23.4-27.8	23.1-28.1
25.6	23.5-27.9	23.2-28.2
25.7	23.6-28.0	23.3-28.3
25.8	23.7-28.1	23.4-28.4
25.9	23.8-28.2	23.5-28.5
26.0	23.9-28.3	23.6-28.6
26.1	24.0-28.4	23.7-28.7
26.2	24.1-28.5	23.8-28.8
26.3	24.2-28.6	23.9-28.9
26.4	24.3-28.7	24.0-29.0
26.5	24.4-28.8	24.1-29.1
26.6	24.5-28.9	24.2-29.2
26.7	24.5-29.0	24.2-29.3
26.8	24.6-29.1	24.2-29.4
26.9	24.7-29.2	24.4-29.5
27.0	24.8-29.3	24.5-29.6
27.1	24.9-29.4	24.6-29.7
27.2	25.0-29.5	24.7-29.8
27.3	25.1-29.6	24.8-29.9
27.4	25.2-29.7	24.9-30.0
27.5	25.3-29.8	25.0-30.1
27.6	25.4-29.9	25.1-30.2
27.7	25.5-30.0	25.2-30.3
27.8	25.6-30.1	25.3-30.4
27.9	25.7-30.2	25.4-30.5
28.0	25.8-30.3	25.5-30.6

TABLE 7
(Percent ±)

Original Inspection Result	PORTION OF ORIGINAL SAMPLE	NEW SAMPLE
28.1	25.9-30.4	25.6-30.7
28.2	26.0-30.5	25.7-30.8
28.3	26.1-30.6	25.8-30.9
28.4	26.2-30.7	25.9-31.0
28.5	26.3-30.8	26.0-31.1
28.6	26.4-30.9	26.1-31.2
28.7	26.5-31.0	26.2-31.3
28.8	26.6-31.1	26.3-31.4
28.9	26.7-31.2	26.4-31.5
29.0	26.8-31.3	26.5-31.6
29.1	26.9-31.4	26.6-31.7
29.2	27.0-31.6	26.7-31.9
29.3	27.1-31.7	26.8-32.0
29.4	27.2-31.8	26.9-32.1
29.5	27.3-31.9	27.0-32.2
29.6	27.4-32.0	27.1-32.3
29.7	27.5-32.1	27.2-32.4
29.8	27.6-32.2	27.3-32.5
29.9	27.7-32.3	27.4-32.6
30.0	27.8-32.4	27.5-32.7
30.1	27.0-32.5	27.6-32.8
30.2	28.0-32.6	27.7-32.9
30.3	28.1-32.7	27.8-33.0
30.4	28.2-32.8	27.9-33.1
30.5	28.3-32.9	28.0-33.2
30.6	28.3-33.0	28.0-33.3
30.7	28.4-33.1	28.1-33.4
30.8	28.5-33.2	28.2-33.5
30.9	28.6-33.3	28.3-33.6
31.0	28.7-33.4	28.4-33.7
31.0	28.7-33.4	28.4-33.7
31.1	28.8-33.5	28.5-33.8
31.2	28.9-33.6	28.6-33.9
31.3	29.0-33.7	28.7-34.0
31.4	29.1-33.8	28.8-34.1
31.5	29.2-33.9	28.9-34.2

TABLE 7
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
31.6	29.3-34.0	29.0-34.3
31.7	29.4-34.1	29.1-34.4
31.8	29.5-34.2	29.2-34.5
31.9	29.6-34.3	29.3-34.6
32.0	29.7-34.4	29.4-34.7
32.1	29.8-34.5	29.5-34.8
32.2	29.9-34.6	29.6-34.9
32.3	30.0-34.7	29.7-35.0
32.4	30.1-34.8	29.8-35.1
32.5	30.2-34.9	29.9-35.2
32.6	30.3-35.0	30.0-35.3
32.7	30.4-35.1	30.1-35.4
32.8	30.5-35.2	30.2-35.5
32.9	30.6-35.3	30.3-35.6
33.0	30.7-35.4	30.4-35.7
33.1	30.8-35.5	30.5-35.8
33.2	30.9-35.6	30.6-35.9
33.3	31.0-35.7	30.7-36.0
33.4	31.1-35.8	30.8-36.1
33.5	31.2-35.9	30.9-36.2
33.6	31.3-36.0	31.0-36.3
33.7	31.4-36.1	31.1-36.4
33.8	31.5-36.2	31.2-36.5
33.9	31.6-36.3	31.3-36.6
34.0	31.7-36.4	31.4-36.7
34.1	31.8-36.5	31.5-36.8
34.2	31.9-36.6	31.6-36.9
34.3	32.0-36.7	31.7-37.0
34.4	32.1-36.8	31.8-37.1
34.5	32.2-36.9	31.9-37.2
34.6	32.3-37.0	32.0-37.3
34.7	32.4-37.1	32.1-37.4
34.8	32.5-37.2	32.2-37.5
34.9	32.6-37.3	32.3-37.6
35.0	32.7-37.4	32.4-37.7

TABLE 6
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
35.1	32.8-37.5	32.5-37.8
35.2	32.8-37.6	32.5-37.9
35.3	32.9-37.7	32.6-38.0
35.4	33.0-37.8	32.7-38.1
35.5	33.1-37.9	32.8-38.2
35.6	33.2-38.1	32.9-38.4
35.7	33.3-38.2	33.0-38.5
35.8	33.4-38.3	33.1-38.6
35.9	33.5-38.4	33.2-38.7
36.0	33.6-38.5	33.3-38.8
36.1	33.7-38.6	33.4-38.9
36.2	33.8-38.7	33.5-39.0
36.3	33.9-38.8	33.6-39.1
36.4	34.0-38.9	33.7-39.2
36.5	34.1-39.0	33.8-39.3
36.6	34.2-39.1	33.9-39.4
36.7	34.3-39.2	34.0-39.5
36.8	34.4-39.3	34.1-39.6
36.9	34.5-39.4	34.2-39.7
37.0	34.6-39.5	34.3-39.8
37.1	34.7-39.6	34.4-39.9
37.2	34.8-39.7	34.5-40.0
37.3	34.9-39.8	34.6-40.1
37.4	35.0-39.9	34.7-40.2
37.5	35.1-40.0	34.8-40.3
37.6	35.2-40.1	34.9-40.4
37.7	35.3-40.2	35.0-40.5
37.8	35.4-40.3	35.1-40.6
37.9	35.5-40.4	35.2-40.7
38.0	35.6-40.6	35.3-40.8
38.1	35.7-40.6	35.4-40.9
38.2	35.8-40.7	35.5-41.0
38.3	35.9-40.8	35.6-41.1
38.4	36.0-40.9	35.7-41.2
38.5	36.1-41.0	35.8-41.3

TABLE 7
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
38.6	36.2-41.1	35.9-41.4
38.7	36.3-41.2	36.0-41.5
38.8	36.4-41.3	36.1-41.6
38.9	36.5-41.4	36.2-41.7
39.0	36.6-41.5	36.3-41.8
39.1	36.7-41.6	36.4-41.9
39.2	36.8-41.7	36.5-42.0
39.3	36.9-41.8	36.6-42.1
39.4	37.0-41.9	36.7-42.2
39.5	37.1-42.0	36.8-42.3
39.6	37.2-42.1	36.9-42.4
39.7	37.3-42.2	37.0-42.5
39.8	37.4-42.3	37.1-42.6
39.9	37.5-42.4	37.2-42.7
40.0	37.6-42.5	37.3-42.8
40.1	37.7-42.6	37.4-42.9
40.2	37.8-42.7	37.5-43.0
40.3	37.9-42.8	37.6-43.1
40.4	38.0-42.9	37.7-43.2
40.5	38.1-43.0	37.8-43.3
40.6	38.2-43.1	37.9-43.4
40.7	38.3-43.2	38.0-43.5
40.8	38.4-43.3	38.1-43.6
40.9	38.5-43.4	38.2-43.7
41.0	38.5-43.5	38.2-43.8
41.1	38.6-43.6	38.3-43.9
41.2	38.7-43.7	38.4-44.0
41.3	38.8-43.8	38.5-44.1
41.3	38.8-43.8	38.5-44.1
41.4	38.9-43.9	38.6-44.2
41.5	39.0-44.0	38.7-44.3
41.6	39.1-44.1	38.8-44.4
41.7	39.2-44.2	38.9-44.5
41.8	39.3-44.3	39.1-44.7
41.9	39.4-44.4	39.1-44.7
42.0	39.5-44.5	39.2-44.8

TABLE 7
(Percent ±)

Original Inspection Result	Portion of Original Sample	New Sample
42.1	39.6-44.6	39.3-44.9
42.2	39.7-44.7	39.4-45.0
42.3	39.8-44.8	39.5-45.1
42.4	39.9-44.9	39.6-45.2
42.5	40.0-45.0	39.7-45.3
42.6	40.1-45.1	39.8-45.4
42.7	40.2-45.2	39.9-45.5
42.8	40.3-45.3	40.0-45.6
42.9	40.4-45.4	40.1-45.7
43.0	40.5-45.5	40.2-45.8
43.1	40.6-45.6	40.3-45.9
43.2	40.7-45.7	40.4-46.0
43.3	40.8-45.8	40.5-46.1
43.4	40.9-45.9	40.6-46.2
43.5	41.0-46.0	40.7-46.3
43.6	41.1-46.1	40.8-46.4
43.7	41.2-46.2	40.9-46.5
43.8	41.3-46.3	41.0-46.6
43.9	41.4-46.4	41.1-46.7
44.0	41.5-46.5	41.2-46.8
44.1	41.6-46.6	41.3-46.9
44.2	41.7-46.7	41.4-47.0
44.3	41.8-46.8	41.5-47.1
44.4	41.9-46.9	41.6-47.2
44.5	42.0-47.0	41.7-47.3
44.6	42.1-47.1	41.8-47.4
44.7	42.2-47.2	41.9-47.5
44.8	42.3-47.3	42.0-47.6
44.9	42.4-47.4	42.1-47.7
45.0	42.5-47.5	42.2-47.8
45.1	42.6-47.6	42.3-47.9
45.2-54.8	± 2.5	± 2.8