CHAPTER 2

SAMPLING

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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
226 - 256	16	2,026 - 2,116	46	5,626 - 5,776	76
257 - 289	17	2,117 - 2,209	47	5,777 - 5,929	77
290 - 324	18	2,210 - 2,304	48	5,930 - 6,084	78
325 - 361	19	2,305 - 2,401	49	6,085 - 6,241	79
362 - 400	20	2,402 - 2,500	50	6,242 - 6,400	80
401 - 441	21	2,501 - 2,601	51	6,401 - 6,561	81
442 - 484	22	2,602 - 2,704	52	6,562 - 6,724	82
485 - 529	23	2,705 - 2,809	53	6,725 - 6,889	83
530 - 576	24	2,810 - 2,916	54	6,890 - 7,056	84
577 - 625	25	2,917 - 3,025	55	7,057 - 7,225	85
626 - 676	26	3,026 - 3,136	56	7,226 - 7,396	86
677 - 729	27	3,137 - 3,249	57	7,397 - 7,569	87
730 - 784	28	3,250 - 3,364	58	7,570 - 7,744	88
785 - 841	29	3,365 - 3,481	59	7,745 - 7,921	89
842 - 900	30	3,482 - 3,600	60	7,922 - 8,100	90
901 - 961	31	3,601 - 3,721	61	8,101 - 8,281	91
962 - 1,024	32	3,722 - 3,844	62	8,282 - 8,464	92
1,025 - 1,089	33	3,845 - 3,969	63	8,465 - 8,649	93
1,090 - 1,156	34	3,970 - 4,096	64	8,650 - 8,836	94
1,157 - 1,225	35	4,097 - 4,225	65	8,837 - 9,025	95
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.

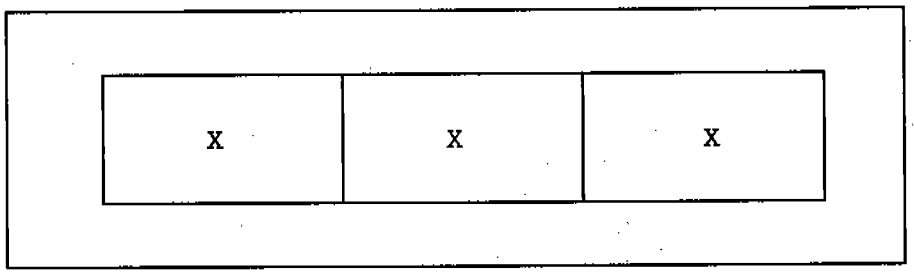

Figure 1. Sampling Pattern - Hopper Car

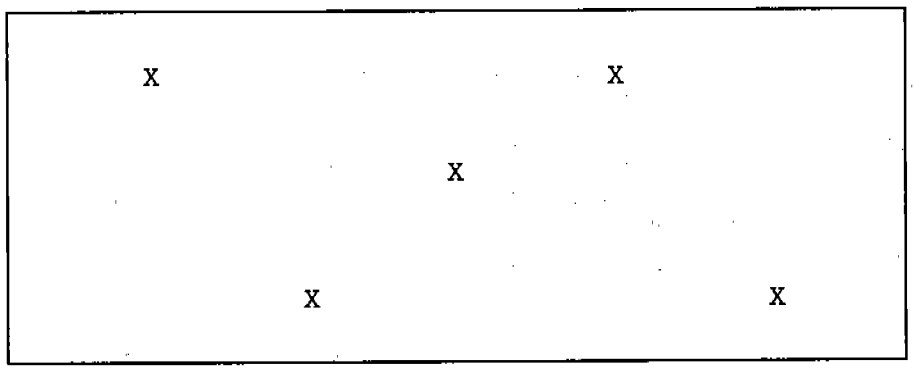

Figure 2. Sampling Pattern - Boxcar, Truck, or Trailer

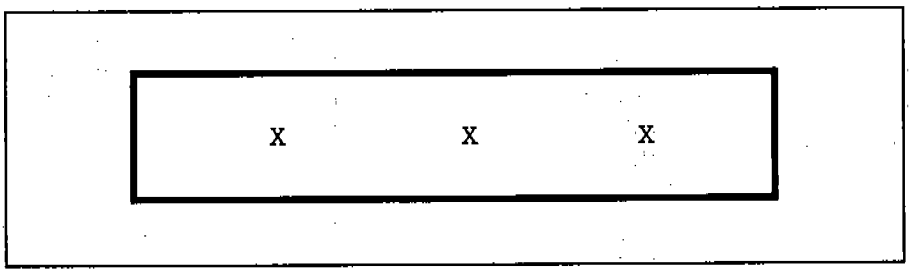

Figure 3. Sampling Pattern - Hopper-Bottom Truck

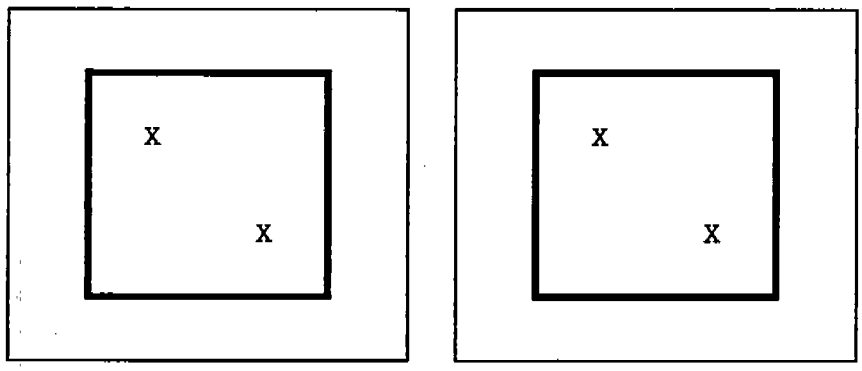

Figure 4. Sampling Pattern - Dual Hopper-Bottom Trailer

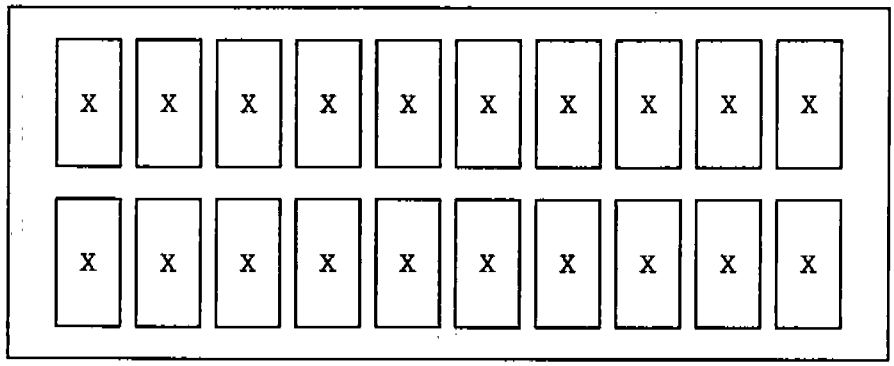

Figure 5. Sampling Pattern - Lift Top Barge

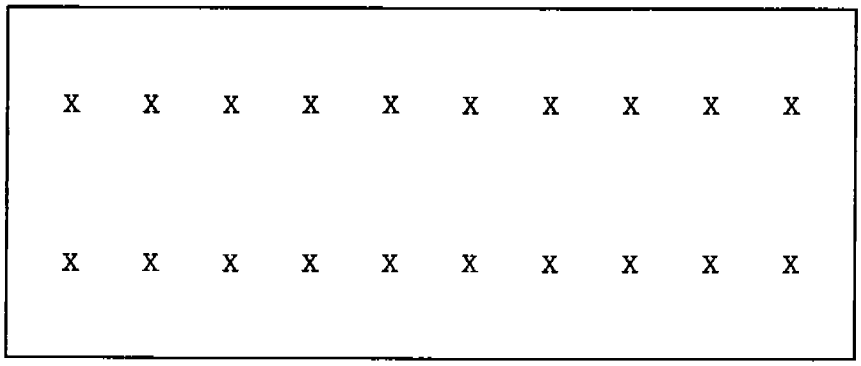

Figure 6. Sampling Pattern - Roll Top Barge

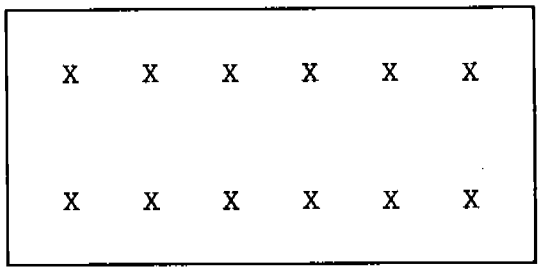

Figure 7. Sampling Pattern - Lash Barge

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.