

2026 USDA EXPLANATORY NOTES - AGRICULTURAL RESEARCH SERVICE

Table of Contents

Preface	3
Agency-Wide	3
Purpose Statement.....	3
Available Funds and FTEs	4
Permanent Positions by Grade and FTEs.....	7
Vehicle Fleet	8
Shared Funding Projects.....	10
Advertising Expenditures	11
Account 1: Salaries and Expenses	13
Appropriations Language.....	13
Lead-Off Tabular Statement.....	13
Project Statements	14
Justification of Changes	16
Geographic Breakdown of Obligations and FTEs	31
Classification by Objects	34
Status of Programs	37
Account 2: Buildings and Facilities	45
Project Statements	45
Classification by Objects	49
Status of Construction.....	49
Agency-Wide Performance	57
Summary of Performance.....	57

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PREFACE

This publication summarizes the fiscal year (FY) 2026 Budget for the U.S. Department of Agriculture (USDA). Throughout this publication any reference to the “Budget” is in regard to the 2026 Budget, unless otherwise noted. All references to years refer to fiscal year, except where specifically noted. The budgetary tables throughout this document show actual amounts for 2023 and 2024, Full-Year Continuing Resolution levels for 2025, and the President’s Budget request for 2026. Amounts for 2025 estimated levels include: non-enacted amounts such as Full-Time Equivalent levels, fleet levels, information technology investment levels, recovery levels, transfers in and out, balances available end of year, and obligation levels.

Throughout this publication, the “2018 Farm Bill” is used to refer to the Agriculture Improvement Act of 2018. Most programs funded by the 2018 Farm Bill are funded through 2025, as extended by the American Relief Act, 2025 (P.L. 118-158, Division D). Amounts shown in 2025 and 2026 for most Farm Bill programs reflect those confirmed in the baseline.

Pursuant to the Balanced Budget and Emergency Deficit Control Act of 1985, sequestration is included in the numbers for mandatory programs in 2023, 2024, 2025 and 2026.

In tables throughout this document, amounts equal to zero (0) are displayed as dashes (-). Amounts less than 0.5 and greater than zero are rounded and shown as a zero (0). This display treatment is used to prevent the masking of non-zero amounts that do not round up to one (1).

AGENCY-WIDE**PURPOSE STATEMENT**

The Agricultural Research Service (ARS) was established on November 2, 1953, pursuant to authority vested in the Secretary of Agriculture by 5 U.S.C. 301 and Reorganization Plan No. 2 of 1953, and other authorities.

ARS is the principal in-house research agency of the U.S. Department of Agriculture (USDA). Congress first authorized Federally supported agricultural research in the Organic Act of 1862, which established what is now USDA. That statute directed the Commissioner of Agriculture “to acquire and preserve in his department all information he can obtain by means of books and correspondence, and by practical and scientific experiments.” The scope of USDA’s agricultural research programs has been expanded and extended more than 60 times since the Department was created.

ARS research is authorized by the Department of Agriculture Organic Act of 1862 (7 U.S.C. 2201 note); Act of June 29, 1935 (7 U.S.C. 427); Agricultural Marketing Act of 1946, as amended (7 U.S.C. 1621 note); Food and Agriculture Act of 1977 (P.L. 95-113), as amended (7 U.S.C. 1281 note); Food Security Act of 1985 (P.L. 99-198) (7 U.S.C. 1281 note); Food, Agriculture, Conservation, and Trade Act of 1990 (P.L. 101-624) (7 U.S.C. 1421 note); Federal Agriculture Improvement and Reform Act of 1996 (FAIR) (P.L. 104-127); and Agricultural Research, Extension, and Education Reform Act of 1998 (P.L. 105-185). ARS derived most of its objectives from statutory language, specifically the “Purposes of Agricultural Research, Extension, and Education” set forth in Section 801 of FAIR.

The ARS mission is to conduct research to develop and transfer solutions to agricultural problems of high national priority and to provide information access and dissemination to: ensure high-quality, safe food, and other agricultural products; assess the nutritional needs of Americans; sustain a competitive agricultural economy; enhance the natural resource base and the environment; and provide economic opportunities for rural citizens, communities, and society as a whole.

The agency’s research programs – New Products/Product Quality/Value Added; Livestock Production, Crop Production; Food Safety; Livestock Protection, Crop Protection; Human Nutrition; and Environmental Stewardship – are described under the “Status of Program” section.

ARS Headquarters offices are located in the Washington, D.C. metropolitan area. The agency’s research is organized under 15 national programs. Field activities are managed through five area offices. Research is conducted at field locations in the United States, Puerto Rico, the Virgin Islands,

and several foreign countries. Much of the work is conducted in direct cooperation with State Agricultural Experiment Stations, other State and Federal agencies, and private organizations.

As of September 30, 2024, there were 5,384 permanent, full-time employees including 568 in the Headquarters offices and 4,816 in field offices.

AVAILABLE FUNDS AND FTEs

Table ARS-1. Available Funds and FTEs (thousands of dollars, FTEs)

Item	2023 Actual	FTEs	2024 Actual	FTEs	2025 Estimated	FTEs	2026 Estimated ¹	FTEs
Salaries and Expenses:								
Discretionary Appropriations	\$1,744,779	5,656	\$1,788,563	5,816	\$1,788,563	5,816	\$1,700,000	4,588
Offsetting Collections	1,686	-	1,118	-	-	-	-	-
Buildings and Facilities:								
Discretionary Appropriations	132,297	-	57,164	-	42,500	-	-	-
Total Discretionary Appropriations	1,877,076	5,656	1,845,727	5,816	1,831,063	5,816	1,700,000	4,588
Total Offsetting Collections	1,686	-	1,118	-	-	-	-	-
Total Adjusted Appropriation	1,878,762	5,656	1,846,845	5,816	1,831,063	5,816	1,700,000	4,588
Balance Available, SOY	62,866	-	148,407	-	123,802	-	103,574	-
Recoveries, Other	1,448	-	55,573	-	-	-	-	-
Total Available	1,943,076	5,656	2,050,825	5,816	1,954,865	5,816	1,803,574	4,588
Lapsing Balances	-2,071	-	-2,209	-	-	-	-	-
Balance Available, EOY	-148,407	-	-123,802	-	-103,574	-	-30,757	-
Total Obligations	1,792,598	5,656	1,924,814	5,816	1,851,291	5,816	1,772,817	4,588
Total Obligations, ARS	1,792,598	5,656	1,924,814	5,816	1,851,291	5,816	1,772,817	4,588
Other USDA:								
Agricultural Marketing Service,								
AMS	2,196	7	1,836	4	1,836	4	1,836	4
Animal & Plant Health Inspection								
Service, APHIS	23,521	75	29,247	59	29,247	59	24,290	49
Commodity Credit Corporation,								
CCC	1,124	4	792	2	792	2	792	2
Departmental Administration	1,023	3	681	1	681	1	681	1
Economic Research Service, ERS	6,442	21	6,410	13	6,410	13	4,438	9
Food & Nutrition Service, FNS ...	558	2	926	2	926	2	926	2
Food Safety & Inspection								
Services, FSIS	6,377	20	5,497	11	5,497	11	3,498	7
Foreign Agricultural Service, FAS	524	2	842	2	842	2	842	2
Forest Service, FS	2,079	7	2,268	5	2,268	5	1,815	4
National Agricultural Statistics								
Service, NASS	8,922	29	9,001	18	9,001	18	7,501	15
National Institute of Food and								
Agriculture, NIFA	36,202	116	44,095	89	44,095	89	38,646	78
Natural Resources Conservation								
Service, NRCS	12,714	41	24,313	49	24,313	49	16,870	34
Office of the Chief Economist,								
OCE	275	1	138	-	138	-	138	-
Office of the Chief Financial								
Officer, OCFO	-	-	23,553	47	23,553	47	18,541	37
Office of the Chief Information								
Officer, OCIO	1,237	4	323	1	323	1	323	1
Office of Communications	317	1	-	-	-	-	-	-
Office of the Secretary	6,720	21	1,301	3	1,301	3	867	2
Patent Collections	-	-	198	1	198	1	198	1
Quarters and Subsistence	-	-	129	-	129	-	129	-
Revocable Permits and								
Easements	817	3	1,124	2	1,124	2	1,124	2
Sale of Animals & Personal								
Property (Proceeds)	14,894	48	15,326	31	15,326	31	12,854	26
Misc., Other USDA Funds	368	1	231	1	231	1	231	1
Total, Other USDA	126,310	404	168,231	340	168,231	340	136,539	276
Total, Agriculture Available	2,067,938	6,060	2,163,483	6,156	2,123,096	6,156	1,940,113	4,864

¹ This table assumes a reduced 2026 FTE baseline due to 2025 voluntary staff separations and administrative cost efficiencies.

2026 USDA EXPLANATORY NOTES - AGRICULTURAL RESEARCH SERVICE

Item	2023		2024		2025		2026	
	Actual	FTEs	Actual	FTEs	Estimated	FTEs	Estimated ¹	FTEs
Other Federal Funds:								
Agency for International Development	916	3	235	1	235	1	235	1
Department of Defense, DOD	1,896	6	1,287	3	1,287	3	1,287	3
Department of Energy, DOE	635	2	413	1	413	1	413	1
Department of Health & Human Services, DHHS	3,349	11	3,016	6	3,016	6	1,508	3
Department of Homeland Security, DHS	433	1	366	1	366	1	366	1
Department of the Interior, DOI	2,274	7	2,318	5	2,318	5	2,318	5
Department of Treasury	-100	-	-	-	-	-	-	-
Environmental Protection Agency, EPA	101	-	448	1	448	1	448	1
Federal Emergency Management Agency, FEMA	298	1	-	-	-	-	-	-
National Aeronautics & Space Administration, NASA	283	1	616	1	616	1	616	1
Misc., Other Federal Funds	86	-	117	-	117	-	117	-
Total, Other Federal	10,171	32	8,817	18	8,817	18	7,309	15
Non-Federal Funds:								
Aarhus University	-	-	216	1	216	1	216	1
Arizona, University of	111	-	-	-	-	-	-	-
Binational Agricultural Research & Development (BARD)	165	1	101	-	101	-	101	-
Cal Fire	-	-	103	-	103	-	103	-
California Agriculture Export Commission	151	1	154	1	154	1	154	-
California Department of Food & Agriculture	-	-	249	1	249	1	249	1
California Department of Pesticide Regulation	-	-	129	-	129	-	129	-
California Department of Social Services	-	-	-197	-	-197	-	-197	-
California State University	487	2	-	-	-	-	-	-
California, State of	2,424	8	1,612	3	1,612	3	1,075	2
California, University of	2,668	10	4,040	8	4,040	8	2,525	5
California Walnut Board	-	-	115	-	115	-	115	-
Center for Produce Safety	381	1	430	1	430	1	430	1
Citrus Research & Development Foundation	171	1	370	1	370	1	370	1
Citrus Research Board	456	1	198	1	198	1	198	1
Clemson University	406	1	703	1	703	1	703	1
Connecticut, University of	125	-	551	1	551	1	551	1
Cornell University	439	1	643	1	643	1	643	1
Cotton Incorporated	798	3	801	2	801	2	801	2
Ducks Unlimited	-	-	269	1	269	1	269	1
Earth School Educational Foundation	-	-	118	-	118	-	118	-
Florida Department of Agriculture & Consumer Service	180	1	102	-	102	-	102	-
Florida Department of Citrus	-	-	106	-	106	-	106	-
Florida Fish and Wildlife	-	-	375	1	375	1	375	1
Florida, University of	653	2	351	1	351	1	351	1
Georgia, University of	712	2	609	1	609	1	609	1
Idaho, University of	208	1	632	1	632	1	632	1
Illinois, University of	370	1	125	-	125	-	125	-
International Fresh Produce Association	-	-	329	1	329	1	329	1
Iowa State University	138	-	292	1	292	1	292	1
Kansas State University	174	1	310	1	310	1	310	1
Maryland, University of	109	-	116	-	116	-	116	-
Massachusetts, University of	-	-	23	-	23	-	23	-
Michigan State University	297	1	570	1	570	1	570	1
Minnesota, University of	-	-	246	1	246	1	246	1
Mississippi State University	100	-	414	1	414	1	414	1
Missouri, University of	246	1	121	-	121	-	121	-

2026 USDA EXPLANATORY NOTES - AGRICULTURAL RESEARCH SERVICE

Item	2023		2024		2025		2026	
	Actual	FTEs	Actual	FTEs	Estimated	FTEs	Estimated ¹	FTEs
Missouri Soybean								
Merchandising Council.....	116	-	-	-	-	-	-	-
Monell Chemical Senses Center .	-	-	979	2	979	2	490	1
Montana Department of								
Agriculture	102	-	127	-	127	-	127	-
Montana State University	117	-	431	1	431	1	431	1
Montana, State of	-	-	113	-	113	-	113	-
National Cattlemen's Beef								
Association	187	1	-	-	-	-	-	-
National Pork Board.....	-	-	167	1	167	1	167	1
Nebraska, University of	278	1	200	1	200	1	200	1
New Mexico Consortium	286	1	-	-	-	-	-	-
New Mexico State University	225	1	284	1	284	1	284	1
New Varieties Development &								
Management	-	-	162	1	162	1	162	-
Noble Research Institute	484	2	449	1	449	1	449	1
North Carolina State University..	444	1	510	1	510	1	510	1
North Carolina, University of	113	-	115	-	115	-	115	-
Ohio State University	352	1	514	1	514	1	514	1
Oklahoma State University	-	-	128	-	128	-	128	-
Oregon State University	-	-	148	-	148	-	148	-
Pennsylvania State University ...	357	1	584	1	584	1	584	1
Pennsylvania, University of	498	2	653	1	653	1	653	1
Raisin Administrative Committee	-	-	148	-	148	-	148	-
Root Applied Sciences	151	1	158	-	158	-	158	-
Smith Bucklin Corporation	2,095	7	1,691	3	1,691	3	1,097	2
South Florida Water								
Management District	1,003	3	991	2	991	2	496	1
Southern California, University								
of	148	1	-	-	-	-	-	-
Southern Mississippi, University								
of	-	-	127	-	127	-	127	-
Southwest Florida Water								
Management	-	-	107	-	107	-	107	-
Synergistic Hawaii Agric Council	-	-	174	1	174	1	174	1
Tennessee State University	106	-	-	-	-	-	-	-
Texas A&M University (TAMU) ...	417	1	410	1	410	1	410	1
Texas Tech University	142	1	173	1	173	1	173	1
United Soybean Board	1,525	5	959	2	959	2	959	2
U.S. Highbush Blueberry Council	248	1	-	-	-	-	-	-
Vermont, University of	110	-	-	-	-	-	-	-
Virginia Polytechnic Institute	257	1	310	1	310	1	310	1
Virginia State University	-	-	113	-	113	-	113	-
Washington State Department								
of Agriculture	314	1	253	1	253	1	253	1
Washington State University	603	2	725	1	725	1	725	1
Western Illinois University	179	1	157	-	157	-	157	-
Winrock International	149	1	112	-	112	-	112	-
Wisconsin, University of	280	1	175	1	175	1	100	-
Woman's Texas University	-	-	126	-	126	-	126	-
Misc., Non-Federal Funds	3,178	10	2,507	5	2,507	5	1,504	3
Total, Non-Federal	26,433	85	30,306	62	30,306	62	25,598	50
Miscellaneous Contributed Funds ..	16,800	42	19,060	49	19,060	49	17,115	36
Total Available, ARS	2,121,342	6,219	2,221,665	6,285	2,181,278	6,285	1,990,134	4,965

PERMANENT POSITIONS BY GRADE AND FTEs**Table ARS-2. Permanent Positions by Grade and FTEs**

Item	2023 Actual			2024 Actual			2025 Estimated			2026 Estimated		
	HQ	Field	Total	HQ	Field	Total	HQ	Field	Total	HQ	Field	Total ²
SES	11	20	31	11	20	31	11	20	31	8	15	23
GS-15.....	51	708	759	53	712	765	53	712	765	41	538	579
GS-14.....	71	372	443	74	374	448	74	374	448	57	283	340
GS-13.....	179	355	534	186	357	543	186	357	543	142	270	412
GS-12.....	143	399	542	149	401	550	149	401	550	114	303	417
GS-11.....	65	429	494	68	431	499	68	431	499	52	326	378
GS-10.....	-	4	4	-	4	4	-	4	4	-	3	3
GS-9.....	42	962	1,004	44	967	1,011	44	967	1,011	34	731	765
GS-8.....	11	302	313	11	304	315	11	304	315	8	230	238
GS-7.....	44	493	537	46	496	542	46	496	542	35	375	410
GS-6.....	9	187	196	9	188	197	9	188	197	7	142	149
GS-5.....	7	92	99	7	92	99	7	92	99	5	70	75
GS-4.....	3	20	23	3	20	23	3	20	23	2	15	17
GS-3.....	-	10	10	-	10	10	-	10	10	-	8	8
GS-2.....	-	4	4	-	4	4	-	4	4	-	3	3
GS-1.....	-	1	1	-	1	1	-	1	1	-	1	1
Other Graded	5	-	5	5	-	5	5	-	5	4	-	4
Ungraded.....	-	488	488	-	491	491	-	491	491	-	371	371
Total Permanent	641	4,846	5,487	666	4,872	5,538	666	4,872	5,538	509	3,684	4,193
Unfilled, EOY	103	50	153	103	51	154	103	51	154	78	51	129
Total Perm. FT	538	4,796	5,334	563	4,821	5,384	563	4,821	5,384	431	3,633	4,064
FTE.....	490	5,729	6,219	690	5,595	6,285	690	5,595	6,285	558	4,407	4,965

² This table assumes a reduced 2026 FTE baseline due to 2025 voluntary staff separations and administrative cost efficiencies.

VEHICLE FLEET

Motor Vehicle Fleet

The 2026 Budget Estimates propose fifteen planned replacements of owned passenger motor vehicles. Passenger motor vehicles are defined as sedans and stations wagons.

Professional research and technical personnel primarily use the ARS motor vehicle fleet in conjunction with research studies and technical assistance. To conduct daily work, research personnel travel between agricultural research sites, State agricultural experiment stations, farms, ranches, commercial firms, and others. Most of these sites are in rural locations and require a high degree of mobility through various types of terrain and weather conditions. Use of common carriers is not feasible. Studies of cost requirements between private and government vehicles show that it is more economical to use government vehicles than to reimburse employees for the use of private vehicles.

It is ARS policy to pool vehicle use to keep the number of vehicles to a minimum. In 2024 ARS conducted a utilization study resulting in a decrease in fleet size. Not all vehicles identified for disposal were removed from the fleet before the end of the fiscal year. ARS implemented Fed Ramp compliant telematics devices in 2024 and early 2025 which captures utilization data in real time and will improve data accuracy. ARS will continue to perform periodic surveys to help identify underutilized vehicles that may no longer be needed for the mission. During the biennial physical inventory process, ARS works to ensure inactive vehicles are removed from the inventory according to Federal property management regulations. ARS program managers are responsible for managing budgets and program needs to fulfill the agency's research mission. Vehicle replacement is based on program management, vehicle mileage/age, and funding. By Federal regulation, minimum replacement standards for passenger vehicles are three years or 60,000 miles, and light duty trucks are six years or 50,000 miles.

The composition of the ARS fleet is primarily work trucks which include sport utility vehicles, vans, and pick-up trucks. These multi-purpose type vehicles enable research personnel to move equipment and transport personnel. Past practices have allowed ARS to decrease the number of passenger vehicles by relying on multi-purpose type vehicles. ARS will continue to review its fleet for opportunities to reduce vehicles no longer required for the mission, realign vehicles where it is necessary without affecting the mission and control operating costs. The agency continues to review inventory information to accurately classify the fleet.

Replacement Criteria

ARS replaces vehicles based on utilization, maintenance costs, operating costs, and mission needs. ARS evaluates the vehicle being turned in against the proposed replacement to compare gains in fuel efficiency, increased safety features, and to ensure like for like replacement or a for a valid justification for an upgrade in size or capabilities.

Reductions to Fleet

ARS plans to reduce the vehicle fleet by five in 2026. This reduction is made possible by the disposal of vehicles that are no longer cost effective to own due to age, minimal use, and increased maintenance costs.

Table ARS-3. Size, Composition, and Annual Costs of Motor Vehicle Fleet

Item	Sedans and Station Wagons	Vans	SUVs	Light Trucks 4X2	Light Trucks 4X4	Medium Duty Vehicles	Buses	Heavy Duty Vehicles	Total Vehicles	Annual Operating Costs
2018 End of Year Operating Inventory	205	245	738	438	596	722	3	163	3,110	\$4,628
2023 End of Year Operating Inventory	126	151	664	326	613	736	1	150	2,767	4,850
2024 Actual Acquisitions	6	-	-	-	39	-	-	-	45	
2024 Actual Disposals	16	22	21	29	-	34	-	6	128	
2024 End of Year Operating Inventory	116	129	643	297	652	702	1	144	2,684	5,652
2025 Planned Acquisitions	10	-	2	3	-	3	-	6	24	
2025 Planned Disposals	15	1	-	-	2	-	-	-	18	
2025 End of Year Operating Inventory	111	128	645	300	650	705	1	150	2,690	6,512
2026 Planned Acquisitions	10	-	-	-	-	-	-	-	10	
2026 Planned Disposals	15	-	-	-	-	-	-	-	15	
2026 End of Year Operating Inventory	106	128	645	300	650	705	1	150	2,685	7,480

Table ARS-4. Statement of Proposed Acquisition of Passenger Motor Vehicles

Fiscal Year	Net Active Fleet, SOY	Disposals	Replacements	Additions	Total Acquisitions	Net Active Fleet, EOY
2023	130	16	12	-	12	126
2024	126	16	6	-	6	116
2025	116	15	10	-	10	111
2026	111	15	10	-	10	106

SHARED FUNDING PROJECTS**Table ARS-6. Shared Funding Projects³ (thousands of dollars)**

Item	2023 Actual	2024 Actual	2025 Estimated	2026 Estimated
Working Capital Fund:				
Administrative Services:				
AskUSDA	\$214	\$402	\$398	\$398
Fleet Charge Card Services	-	-	38	37
General Counsel Legal Compliance.....	-	-	134	1,655
Human Resources Enterprise Management Systems	157	1,042	1,061	1,071
Integrated Procurement Systems	2,069	1,927	1,885	1,880
Mail and Reproduction Management Division.....	617	670	639	647
Material Management Service Center	345	336	315	322
Procurement Operations Division	57	56	49	29
Subtotal	3,459	4,433	4,519	6,039
Communications:				
Creative Media & Broadcast Center	216	208	192	200
Finance and Management:				
Financial Shared Services.....	6,024	6,916	6,968	7,006
Internal Control Support Services	113	98	100	100
National Finance Center	2,021	2,180	2,044	2,055
Personnel and Document Security Program	300	346	383	383
Subtotal	8,458	9,540	9,495	9,544
Information Technology:				
Client Experience Center	25,540	24,730	22,749	23,764
Digital Infrastructure Services Center	17,210	8,854	7,848	7,804
Enterprise Cybersecurity Services	2,500	4,263	4,701	4,701
Enterprise Data and Analytics Services.....	2,930	3,359	3,278	3,289
Enterprise Network Services.....	4,670	10,059	9,250	8,368
Subtotal	52,850	51,265	47,826	47,926
Office of the Executive Secretariat.....	88	92	56	29
Total, Working Capital Fund	65,071	65,538	62,088	63,738
Department-Wide Shared Cost Programs:				
Agency Partnership Outreach	449	428	468	468
Diversity, Equity, Inclusion and Accessibility ⁴	122	152	35	-
Employee Experience	210	216	175	175
Medical Services	136	137	186	186
National Capital Region Interpreting Services	102	129	137	137
Office of Customer Experience.....	196	174	188	188
Physical Security.....	276	274	360	360
Security Detail	307	311	495	495
Security Operations Program.....	425	434	461	461
Talent Group	221	193	207	207
TARGET Center.....	101	94	99	99
Total, Department-Wide Reimbursable Programs	2,545	2,542	2,811	2,776
E-Gov:				
Budget Formulation and Execution Line of Business	6	6	6	6
Financial Management Line of Business	6	7	7	7
Human Resources Line of Business	18	17	17	17
Integrated Acquisition Environment	55	52	51	52
Total, E-Gov	85	82	81	82
Agency Total	67,701	68,162	64,980	66,596

³ This table is based on a preliminary 2026 estimate, which will be adjusted at a later date to reflect the Department's updated posture and footprint.

⁴ In alignment with the current Administration's priorities, the 2025 amounts reflect expenses incurred prior to January 20, 2025.

ADVERTISING EXPENDITURES**Table ARS-7 Advertising Expenditures (thousands of dollars)**

Item	2024 Actual Number of Contracts	2024 Actual Dollars Obligated	2025 Estimated Number of Contracts	2025 Estimated Dollars Obligated⁵	2026 Estimated Number of Contracts	2026 Estimated Dollars Obligated
Total Contracts for Advertising						
Services	2	\$211,957	3	\$86,000	-	-
Contracts for Advertising Services to Socially and Economically Disadvantaged Small Businesses	1	29,799	1	80,000	-	-

⁵ In alignment with the current Administration's priorities, the 2025 obligated amounts reflect expenses incurred prior to January 20, 2025

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ACCOUNT 1: SALARIES AND EXPENSES**APPROPRIATIONS LANGUAGE**

The appropriations language follows (new language underscored):

Salaries and Expenses

For necessary expenses of the Agricultural Research Service and for acquisition of lands by donation, exchange, or purchase at a nominal cost not to exceed \$100,000, and for land exchanges where the lands exchanged shall be of equal value or shall be equalized by a payment of money to the grantor which shall not exceed 25 percent of the total value of the land or interests transferred out of Federal ownership, \$1,700,000,000: *Provided*, That appropriations hereunder shall be available for the operation and maintenance of aircraft and the purchase of not to exceed one for replacement only: *Provided further*, That appropriations hereunder shall be available pursuant to 7 U.S.C. 2250 for the construction, alteration, and repair of buildings and improvements, but unless otherwise provided, the cost of constructing any one building shall not exceed \$500,000, except for headhouses or greenhouses which shall each be limited to \$1,800,000, except for 10 buildings to be constructed or improved at a cost not to exceed \$1,100,000 each, and except for four buildings to be constructed at a cost not to exceed \$5,000,000 each, and the cost of altering any one building during the fiscal year shall not exceed 10 percent of the current replacement value of the building or \$500,000, whichever is greater: *Provided further*, That appropriations hereunder shall be available for entering into lease agreements at any Agricultural Research Service location for the construction of a research facility by a non-Federal entity for use by the Agricultural Research Service and a condition of the lease shall be that any facility shall be owned, operated, and maintained by the non-Federal entity and shall be removed upon the expiration or termination of the lease agreement: *Provided further*, That the limitations on alterations contained in this Act shall not apply to modernization or replacement of existing facilities at Beltsville, Maryland: *Provided further*, That appropriations hereunder shall be available for granting easements at the Beltsville Agricultural Research Center: *Provided further*, That the foregoing limitations shall not apply to replacement of buildings needed to carry out the Act of April 24, 1948 (21 U.S.C. 113a): *Provided further*, That appropriations hereunder shall be available for granting easements at any Agricultural Research Service location for the construction of a research facility by a non-Federal entity for use by, and acceptable to, the Agricultural Research Service and a condition of the easements shall be that upon completion the facility shall be accepted by the Secretary, subject to the availability of funds herein, if the Secretary finds that acceptance of the facility is in the interest of the United States: *Provided further*, That funds may be received from any State, other political subdivision, organization, or individual for the purpose of establishing or operating any research facility or research project of the Agricultural Research Service, as authorized by law: *Provided further*, That appropriations hereunder shall be available for the Experienced Services Program at the Agricultural Research Service (16 U.S.C. 3851).

LEAD-OFF TABULAR STATEMENT***Table ARS-8. Lead-Off Tabular Statement (In dollars)***

Item	Amount
Enacted, 2025	\$1,788,563,000
Change in Appropriation	-88,563,000
Budget Estimate, 2026	1,700,000,000

PROJECT STATEMENTS**Table ARS-9. Project Statement on Basis of Appropriations (thousands of dollars, FTEs)**

Item	2023 Actual	FTEs	2024 Actual	FTEs	2025 Estimated	FTEs	2025 Estimated	FTEs	Inc. or Dec.	FTEs Inc. or Dec.
Discretionary Appropriations:										
Salaries and Expenses	\$1,744,279	5,656	\$1,788,063	5,816	\$1,788,063	5,816	\$1,700,000	4,588	-\$88,063	-1,228
GP – Kelp/Seagrass	500	-	500	-	500	-	-	-	-500	-
Subtotal	1,744,779	5,656	1,788,563	5,816	1,788,563	5,816	1,700,000	4,588	-88,563	-1,228
Offsetting Collections:										
Concession Fees	169	-	48	-	-	-	-	-	-	-
Vehicle Sales	1,517	-	1,070	-	-	-	-	-	-	-
Subtotal	1,686	-	1,118	-	-	-	-	-	-	-
Total Adjusted Approp	1,746,465	5,656	1,789,681	5,816	1,788,563	5,816	1,700,000	4,588	-88,563	-1,228
Add back:										
Transfers In and Out,										
Rescissions	-1,686	-	-1,118	-	-	-	-	-	-	-
Sequestration	-	-	-	-	-	-	-	-	-	-
Total Appropriation	1,744,779	5,656	1,788,563	5,816	1,788,563	5,816	1,700,000	4,588	-88,563	-1,228
Transfers In:										
Concession Fees	169	-	48	-	-	-	-	-	-	-
Vehicle Sales	1,517	-	1,070	-	-	-	-	-	-	-
Total Transfers In	1,686	-	1,118	-	-	-	-	-	-	-
Bal. Available, SOY	1,425	-	1,581	-	1,605	-	-	-	-1,605	-
Total Available ⁶	1,747,890	5,656	1,791,262	5,816	1,790,168	5,816	1,700,000	4,588	-90,168	-1,228
Lapsing Balances	-2,071	-	-2,209	-	-	-	-	-	-	-
Bal. Available, EOY	-1,581	-	-1,605	-	-	-	-	-	-	-
Total Obligations	1,744,238	5,656	1,787,448	5,816	1,790,168	5,816	1,700,000	4,588	-90,168	-1,228
FTEs:										
Direct		5,656		5,816		5,816		4,588		-1,228
Other		563		563		563		377		-92
Total, FTEs		6,219		6,285		6,285		4,965		-1,320

Table ARS-10. Funding Detail on Basis of Appropriations (thousands of dollars, FTEs)

Allocations	2023 Actual	FTEs	2024 Actual	FTEs	2025 Estimated	FTEs	2026 Estimated	FTEs	Inc. or Dec.	FTEs Inc. or Dec.
Salaries and Expenses										
New Product Quality/ Value										
Added	\$135,220	522	\$136,720	541	\$136,720	541	\$139,220	427	\$2,500	-114
Livestock Production	144,459	432	145,906	447	145,906	447	140,683	353	-5,223	-94
Crop Production	349,813	1,119	357,754	1,158	357,754	1,158	354,297	913	-3,457	-245
Food Safety	134,625	711	133,776	711	133,776	711	138,819	561	5,043	-150
Livestock Protection	155,233	439	154,093	455	154,093	455	152,835	359	-1,258	-96
Crop Protection	252,730	822	251,857	850	251,857	850	248,428	671	-3,429	-171
Human Nutrition	110,843	331	131,141	331	131,141	331	125,541	261	-5,600	-70
Environmental Stewardship	292,663	1,128	302,535	1,168	302,535	1,168	219,896	920	-82,639	-248
National Agricultural Library ...	29,579	70	29,579	73	29,579	73	29,579	58	-	-15
National Bio and Agro-										
Defense Facility (O&M)	112,558	82	121,558	82	121,558	82	127,558	65	+6,000	-17
Repair and Maintenance	26,556	-	23,144	-	23,144	-	26,556	-	-	-
Total Allocations	1,744,279	5,656	1,788,063	5,816	1,788,063	5,816	1,700,000	4,588	-88,063	-1,228

⁶ Discrepancy between project statement and MAX schedule X is the reimbursables.

Table ARS-11. Project Statement on Basis of Obligations (thousands of dollars, FTEs)

Item	2023 Actual	FTEs	2024 Actual	FTEs	2025 Estimated	FTEs	2025 Estimated	FTEs	Inc. or Dec.	FTEs Inc. or Dec.
Discretionary Obligations:										
Salaries and Expenses	\$1,743,725	5,656	\$1,786,924	5,816	\$1,789,668	5,816	\$1,700,000	4,588	-\$89,668	-1,228
GP – Kelp/Seagrass	500	-	500	-	500	-	-	-	-500	-
Subtotal Disc Obligations...	1,744,225	5,656	1,787,424	5,816	1,790,168	5,816	1,700,000	4,588	-90,168	-1,228
Offsetting Collections:										
Concession Fees	13	-	24	-	-	-	-	-	-	-
Subtotal Offsetting Collections ..	13	-	24	-	-	-	-	-	-	-
Total Obligations	1,744,238	5,656	1,787,448	5,816	1,790,168	5,816	1,700,000	4,588	-90,168	-1,228
Add back:										
Lapsing Balances	2,071	-	2,209	-	-	-	-	-	-	-
Balances Available, EOY:										
Balance Available, EOY	1,581	-	1,605	-	-	-	-	-	-	-
Balances Available, EOY	1,581	-	1,605	-	-	-	-	-	-	-
Total Available	1,747,890	5,656	1,791,262	5,816	1,790,168	5,816	1,700,000	4,588	-90,168	-1,228
Less:										
Total Transfers In	-1,686	-	-1,118	-	-	-	-	-	-	-
Bal. Available, SOY	-1,425	-	-1,581	-	-1,605	-	-	-	+1,605	-
Total Appropriation	1,744,779	5,656	1,788,563	5,816	1,788,563	5,816	1,700,000	4,588	-88,563	-1,228

Table ARS-12. Funding Detail on Basis of Obligations (thousands of dollars, FTEs)

Allocations	2023 Actual	FTEs	2024 Actual	FTEs	2025 Estimated	FTEs	2026 Estimated	FTEs	Inc. or Dec.	FTEs Inc. or Dec.
Salaries and Expenses										
New Product Quality/										
Value Added	\$135,220	522	\$136,720	541	\$136,720	541	\$139,220	427	\$2,500	-114
Livestock Production	144,459	432	145,906	447	145,906	447	140,683	353	-5,223	-94
Crop Production	349,813	1,119	357,754	1,158	357,754	1,158	354,297	913	-3,457	-245
Food Safety	134,625	711	133,776	711	133,776	711	138,819	561	5,043	-150
Livestock Protection	155,233	439	154,093	455	154,093	455	152,835	359	-1,258	-96
Crop Protection	252,730	822	251,857	850	251,857	850	248,428	671	-3,429	-171
Human Nutrition	110,843	331	131,141	331	131,141	331	125,541	261	-5,600	-70
Environmental										
Stewardship	292,663	1,128	302,535	1,168	302,535	1,168	219,896	920	-82,639	-248
National Agricultural										
Library	29,579	70	29,579	73	29,579	73	29,579	58	-	-15
National Bio and Agro-										
Defense Facility (O&M) ..	112,558	82	121,558	82	121,558	82	127,558	65	6,000	-17
Repair and Maintenance ...	26,556	-	23,144	-	23,144	-	26,556	-	-	-
Total Allocations	1,744,279	5,656	1,788,063	5,816	1,788,063	5,816	1,700,000	4,588	-88,063	-1,228

JUSTIFICATION OF CHANGES**Salaries and Expenses**

ARS is requesting \$1,700,000 in 2026 for its Salaries and Expenses account, a decrease of \$88,063 from 2025.

In pursuit of streamlining workforce efforts, facilities, and other government efficiencies, the Agricultural Research Service has reduced staff from 6,285 to 4,965. The 2026 Budget proposes an increase of \$51,221,000 to enhance efforts in protecting U.S. agriculture and food from invasive pests and diseases, as well as to develop advanced technologies that will improve animal and plant health and production. The Budget also includes an additional \$6,000,000 for operations/maintenance of the new National Bio and Agro-Defense Facility (NBAF), which replaces the outdated and inadequate Plum Island Animal Disease Center (PIADC). NBAF is the state-of-the-art biocontainment facility for studying foreign, emerging, and zoonotic animal diseases that threaten U.S. animal agriculture and public health. Additionally, the Budget proposes terminating \$145,284,000 for Climate Science research and the 11 Climate Hubs. It also proposes the closure of three ARS locations and the consolidation of their resources with other existing ARS laboratories and locations.

New Products/Product Quality/Value Added

- (1) An increase of \$2,500,000 and a decrease of 114 FTEs for New Products/Product Quality/Value Added research (\$136,771,000 and 541 FTEs available in 2025).

ARS' New Products/Product Quality/Value Added research program is directed toward: Improving the efficiency and reducing the cost for the conversion of agricultural products into biobased products and biofuels; developing new and improved products for domestic and foreign markets; and providing higher quality, healthy foods that satisfy consumer needs in the United States and abroad.

Base funding supports ARS' program goals of increasing the economic viability and competitiveness of U.S. agriculture by maintaining and/or enhancing the quality of harvested agricultural commodities; and expanding domestic and global market opportunities through the development of value-added food and nonfood technologies and products including energy and fuels. ARS' New Products/Product Quality/Value Added research program is carried out at numerous locations where agency scientists frequently collaborate with researchers from other Federal/State governments, academia, and private industry.

The funding change is requested for the following items:

- A) An increase of \$10,000,000 and 0 FTEs for U.S. National Poultry Research Center (USNPRC) of which \$2,500,000 and no change in FTEs for ARS' New Products/Product Quality/Value Added Program.

This is a crosscutting, multidisciplinary initiative which supports the following programs: New Products/Product Quality/Value Added, Livestock Production, Food Safety, and Livestock Protection. A full description of the initiative is presented on title page, "Crosscutting/Multidisciplinary Initiatives" at the conclusion of the "Justification of Changes."

Livestock Production

- (2) A decrease of \$5,223,000 and 94 FTEs for Livestock Production research (\$145,906,000 and 447 FTEs available in 2025).

ARS' Livestock Production research program is directed toward fostering an abundant, safe, nutritionally wholesome, and competitively priced supply of animal products produced in a viable, competitive, and sustainable animal agriculture sector of the U.S. economy by: safeguarding and utilizing animal genetic resources, associated genetic and genomic databases,

and bioinformatic tools; developing a basic understanding of food animal physiology to address priority issues related to animal production, animal well-being, and product quality and healthfulness; and developing information, best management practices, novel and innovative tools, and technologies that improve animal production systems, enhance human health, and ensure domestic food security. The research is heavily focused on the development and application of genomics technologies to increase the efficiency and product quality of beef, dairy, swine, poultry, aquaculture, and sheep systems. Areas of emphasis include increasing the efficiency of nutrient utilization, increasing animal wellbeing and reducing stress in production systems, increasing reproductive rates and breeding animal longevity, developing and evaluating non-traditional production systems (e.g., organic and natural), and evaluating and conserving animal genetic resources.

Base funding supports ARS' program goal of providing scientific information and biotechnologies which will ensure an abundant supply of competitively priced animal and aquaculture products. This includes: developing genome analysis tools; identifying economically important genetic traits; preserving agricultural animal genetic resources; improving the efficiency of nutrient utilization and conversion of feeds and forages to animal products; enhancing reproductive performance; and improving aquaculture production systems.

ARS' Livestock Production research program is carried out at numerous locations where agency scientists frequently collaborate with researchers from other Federal/State governments, academia, and private industry.

The funding change is requested for the following items:

- A) An increase of \$10,000,000 for U.S. National Poultry Research Center (USNPRC) of which \$2,500,000 and 0 FTEs for ARS' Livestock Production.

This is a crosscutting, multidisciplinary initiative which supports the following programs: New Products/Product Quality/Value Added, Livestock Production, Food Safety, and Livestock Protection. A full description of the initiative is presented on title page, "Crosscutting/Multidisciplinary Initiatives" at the conclusion of the "Justification of Changes."

- B) An increase of \$22,361,000 for Advanced Technologies to Accelerate Improvements in Animal and Plant Health and Production of which \$1,150,000 and 0 FTEs for ARS' Livestock Production.

This is a crosscutting, multidisciplinary initiative which supports the following programs: Livestock Production, Crop Production, and Environmental Stewardship. A full description of the initiative is presented on title page, "Crosscutting/Multidisciplinary Initiatives" at the conclusion of the "Justification of Changes."

- C) A decrease of \$8,873,00 from Climate Science Research and Climate Hubs.

The goal of ARS' research programs is to make the most effective use of taxpayer dollars within available resources. In order to respond to priority national needs, it is often necessary to reset priorities within the existing portfolio of projects. As a result, some projects no longer qualify for continued support.

Crop Production

- (3) A decrease of \$3,457,000 and 245 FTEs for Crop Production research (\$357,884,000 and 1,158 FTEs available in 2025).

ARS' Crop Production research program focuses on developing and improving ways to reduce crop losses while protecting and ensuring a safe and affordable food supply. The program concentrates on production strategies that are environmentally friendly, safe to consumers, and compatible with sustainable and profitable crop production systems. Research activities

are directed at safeguarding and utilizing plant genetic resources and their associated genetic, genomic, and bioinformatic databases that facilitate selection of varieties and/or germplasm with significantly improved traits. Research activities attempt to minimize the impacts of crop pests while maintaining healthy crops and safe commodities that can be sold in markets throughout the world. The agency is conducting research to discover and exploit naturally occurring and engineered genetic mechanisms for plant pest control, develop agronomic germplasm with durable defensive traits, and transfer genetic resources for commercial use. ARS provides taxonomic information on invasive species that strengthens prevention techniques, aids in detection/identification of invasive pests, and increases control through management tactics that restore habitats and biological diversity.

Base funding supports ARS' program goals of protecting, expanding, and enhancing the Nation's crop genetic resources; increasing scientific knowledge of crop genes, genomes, and biological systems; and delivering technologies that improve the production efficiency, quality, health, and value of the Nation's crops. This includes: developing and maintaining genome databases and informatics tools; managing plant and microbial genetic resources; assessing systematic relationships; enhancing and releasing improved genetic resources and varieties; improving bee health; developing integrative strategies for managing pests, soil, water, nutrient and environmental factors for optimal yield; and determining the biological processes that improve crop productivity. ARS' Crop Production research program is carried out at numerous locations where agency scientists frequently collaborate with researchers from other Federal/State governments, academia, and private industry.

The funding change is requested for the following items:

- A) An increase of \$18,860,000 for Protecting U.S. Agriculture and Food from Invasive Pests and Diseases and Foodborne Contaminants of which \$3,300,000 and 0 FTEs is for ARS' Crop Production.

This is a crosscutting, multidisciplinary initiative which supports the following programs: Crop Production, Food Safety, Livestock Protection, and Crop Protection. A full description of the initiative is presented on title page, "Crosscutting/Multidisciplinary Initiatives" at the conclusion of the "Justification of Changes."

- B) An increase of \$22,361,000 for Advanced Technologies to Accelerate Improvements in Animal and Plant Health and Production of which \$5,200,000 and 0 FTEs for ARS' Crop Production.

This is a crosscutting, multidisciplinary initiative which supports the following programs: Livestock Production, Crop Production, and Environmental Stewardship. A full description of the initiative is presented on title page, "Crosscutting/Multidisciplinary Initiatives" at the conclusion of the "Justification of Changes."

- C) A decrease of \$11,957,000 from Climate Science Research and Climate Hubs.

The goal of ARS' research programs is to make the most effective use of taxpayer dollars within available resources. In order to respond to priority national needs, it is often necessary to reset priorities within the existing portfolio of projects. As a result, some projects no longer qualify for continued support.

Food Safety

- (4) An increase of \$5,043,000 and a decrease of 150 FTEs for Food Safety research (\$133,776,000 and 711 FTEs available in 2025).

ARS' Food Safety research program is designed to yield science-based knowledge on the safe production, storage, processing, and handling of plant and animal products, and on the detection and control of pathogenic bacteria and fungi, parasites, chemical contaminants, and plant toxins. All of ARS' research activities involve a high degree of cooperation and

collaboration with USDA's Research, Education, and Economics agencies, as well as with the Food Safety and Inspection Service, Animal and Plant Health Inspection Service (APHIS), Food and Drug Administration, Centers for Disease Control and Prevention (CDC), Department of Homeland Security (DHS), and the Environmental Protection Agency (EPA). The agency also collaborates in international research programs to address and resolve global food safety issues. Specific research efforts are directed toward developing new technologies that assist ARS stakeholders and customers, including regulatory agencies, industry, and commodity and consumer organizations in detecting, identifying, and controlling foodborne diseases that affect human health.

Base funding supports ARS' program goal of protecting food from pathogens, toxins, and chemical contamination during production, processing, and preparation. This includes: developing and evaluating technologies for the detection and characterization of microbial contaminants; developing new intervention and control strategies for the reduction of foodborne pathogens; and developing and evaluating detection methods for the reduction and control of veterinary drugs, chemical residues, heavy metals, organic pollutants, and biological toxins derived from bacteria, fungi, and plants. ARS' Food Safety research program is carried out at numerous locations where agency scientists frequently collaborate with researchers from other Federal/State governments, academia, and private industry.

The funding change is requested for the following items:

- A) An increase of \$10,000,000 for U.S. National Poultry Research Center (USNPRC) of which \$2,500,000 and 0 FTEs for ARS' Food Safety Program.

This is a crosscutting, multidisciplinary initiative which supports the following programs: New Products/Product Quality/Value Added, Livestock Production, Food Safety, and Livestock Protection. A full description of the initiative is presented on title page, "Crosscutting/Multidisciplinary Initiatives" at the conclusion of the "Justification of Changes."

- B) An increase of \$18,860,000 for Protecting U.S. Agriculture and Food from Invasive Pests and Diseases and Foodborne Contaminants of which \$6,810,000 and 0 FTEs is for ARS' Food Safety Program.

This is a crosscutting, multidisciplinary initiative which supports the following programs: Crop Production, Food Safety, Livestock Protection, and Crop Protection. A full description of the initiative is presented on title page, "Crosscutting/Multidisciplinary Initiatives" at the conclusion of the "Justification of Changes."

- C) A decrease of \$4,267,000 from Climate Science Research and Climate Hubs.

The goal of ARS' research programs is to make the most effective use of taxpayer dollars within available resources. In order to respond to priority national needs, it is often necessary to reset priorities within the existing portfolio of projects. As a result, some projects no longer qualify for continued support.

Livestock Protection

- (5) A decrease of \$1,258,000 and 96 FTEs for Livestock Protection research (\$154,153,000 and 455 FTEs available in 2025).

ARS' Livestock Protection research program is directed at protecting and ensuring the safety of the Nation's agriculture and food supply through improved disease detection, prevention, control, and treatment. Basic and applied research approaches are used to solve animal health problems of high national priority. Emphasis is given to methods and procedures to control animal diseases through the discovery and development of diagnostics, vaccines, biotherapeutics, animal genomics applications, disease management systems, animal disease

models, and farm biosecurity measures. The research program has the following strategic objectives: establish ARS laboratories into a fluid, highly effective research network to maximize use of core competencies and resources; use specialized high containment facilities to study zoonotic and emerging diseases; develop an integrated animal and microbial genomics research program; establish core competencies in bovine, swine, ovine, and avian immunology; launch a biotherapeutic discovery program providing alternatives to animal drugs; build a technology driven vaccine and diagnostic discovery research program; develop core competencies in field epidemiology and predictive biology; establish a best- in-class training center for our Nation's veterinarians and scientists; and develop a model technology transfer program to achieve the full impact of ARS research discoveries. The ARS animal research program includes the following core components: biodefense research, animal genomics and immunology, zoonotic diseases, respiratory diseases, reproductive and neonatal diseases, enteric diseases, parasitic diseases, and transmissible spongiform encephalopathies.

Base funding supports ARS' program goal of preventing and controlling pests and animal diseases that pose a threat to agriculture, public health, and the well-being of Americans. This includes: identifying genes involved in animals with disease-resistant phenotypes; improving our understanding of microbial pathogenesis, transmission, and immune responses to develop countermeasures to prevent and control animal diseases; analyzing microbial genomes to better understand host-pathogen interactions; developing new vaccines to prevent disease in aquaculture species; developing new methods to minimize tick bites; identifying measures to restrict the cattle fever tick; developing methods to control stable flies, horn flies, and house flies and their impact on livestock; supporting the screwworm eradication program; and developing control methods for U.S. vectors of Rift Valley fever.

ARS' Livestock Protection research program is carried out at numerous locations where agency scientists frequently collaborate with researchers from other Federal/State governments, academia, and private industry.

The funding change is requested for the following items:

- A) An increase of \$10,000,000 for U.S. National Poultry Research Center (USNPRC) of which \$2,500,000 and 0 FTEs for ARS' Livestock Protection.

This is a crosscutting, multidisciplinary initiative which supports the following programs: New Products/Product Quality/Value Added, Livestock Production, Food Safety, and Livestock Protection. A full description of the initiative is presented on title page, "Crosscutting/Multidisciplinary Initiatives" at the conclusion of the "Justification of Changes."

- B) An increase of \$18,860,000 for Protecting U.S. Agriculture and Food from Invasive Pests and Diseases and Foodborne Contaminants of which \$500,000 and 0 FTEs is for ARS' Livestock Protection.

This is a crosscutting, multidisciplinary initiative which supports the following programs: Crop Production, Food Safety, Livestock Protection, and Crop Protection. A full description of the initiative is presented on title page, "Crosscutting/Multidisciplinary Initiatives" at the conclusion of the "Justification of Changes."

- C) A decrease of \$4,258,000 from Climate Science Research and Climate Hubs.

The goal of ARS' research programs is to make the most effective use of taxpayer dollars within available resources. In order to respond to priority national needs, it is often necessary to reset priorities within the existing portfolio of projects. As a result, some projects no longer qualify for continued support.

Crop Protection

- (6) A decrease of \$3,429,000 and 179 FTEs for Crop Protection research (\$251,952,000 and 850 FTEs available in 2025).

ARS' Crop Protection research program is directed to protect crops from insect and disease loss through research to understand pest and disease transmission mechanisms, and to identify and apply new technologies that increase our understanding of virulence factors and host defense mechanisms. The program's research priorities include identification of genes that convey virulence traits in pathogens and pests; factors that modulate infectivity, gene functions, and mechanisms; genetic profiles that provide specified levels of disease and insect resistance under field conditions; and mechanisms that reduce the spread of pests and infectious diseases. ARS is developing new knowledge and integrated pest management approaches to control pest and disease outbreaks as they occur. Its research will improve the knowledge and understanding of the ecology, physiology, epidemiology, and molecular biology of emerging diseases and pests. This knowledge will be incorporated into pest risk assessments and management strategies to minimize chemical inputs and increase production. Strategies and approaches will be available to producers to control emerging crop diseases and pest outbreaks and to address quarantine issues.

Base funding supports ARS' program goals of protecting our Nation's crops from arthropods, plant pathogens, nematodes, and weeds; and developing economical alternatives to methyl bromide. ARS' Crop Protection research program is carried out at numerous locations where agency scientists frequently collaborate with researchers from other Federal/State governments, academia, and private industry.

The funding change is requested for the following items:

- A) An increase of \$18,860,000 for Protecting U.S. Agriculture and Food from Invasive Pests and Diseases and Foodborne Contaminants of which \$8,250,000 and 0 FTEs is for ARS' Crop Protection.

This is a crosscutting, multidisciplinary initiative which supports the following programs: Crop Production, Food Safety, Livestock Protection, and Crop Protection. A full description of the initiative is presented on title page, "Crosscutting/Multidisciplinary Initiatives" at the conclusion of the "Justification of Changes."

- B) A decrease of \$11,679,000 from Climate Science Research and Climate Hubs.

The goal of ARS' research programs is to make the most effective use of taxpayer dollars within available resources. In order to respond to priority national needs, it is often necessary to reset priorities within the existing portfolio of projects. As a result, some projects no longer qualify for continued support.

Human Nutrition

- (7) A decrease of \$5,600,000 and 70 FTEs for Human Nutrition research (\$131,141,000 and 331 FTEs available in 2025).

Maintenance of health throughout the lifespan along with prevention of obesity and chronic diseases via food-based recommendations are the major emphasis of ARS' Human Nutrition research program. These health-related goals are based on the knowledge that deficiency diseases are no longer primary public health concerns in the U.S. Excessive consumption has become the primary nutrition problem in the American population. This is reflected by increased emphasis on prevention of obesity from basic science through intervention studies to assessments of large populations. The agency's research program also actively studies bioactive components of foods that have no known requirements but have health-promoting

qualities. Four specific areas of research are emphasized: nutrition monitoring; the scientific basis for dietary recommendations; prevention of obesity and related diseases; and life stage nutrition and metabolism, in order to better define the role of nutrition in pregnancy and growth of children, and for healthier aging.

Base funding supports ARS' program goal of enabling Americans to make health promoting, science-based dietary choices. This includes determining food consumption and dietary patterns of Americans; updating U.S. food composition data; enhancing the health promoting quality of the food supply; developing and evaluating strategies to prevent obesity and related diseases; and understanding the mechanisms by which nutrition promotes healthy development. ARS' Human Nutrition research program is carried out at numerous locations where agency scientists frequently collaborate with researchers from other Federal/State governments, academia, and private industry.

The funding change is requested for the following items:

A) A decrease of \$5,600,000 from Climate Science Research and Climate Hubs.

The goal of ARS' research programs is to make the most effective use of taxpayer dollars within available resources. In order to respond to priority national needs, it is often necessary to reset priorities within the existing portfolio of projects. As a result, some projects no longer qualify for continued support.

Environmental Stewardship

(8) A decrease of \$82,639,000 and 247 FTEs for Environmental Stewardship research (\$302,645,000 and 1,168 FTEs available in 2025).

ARS' Environmental Stewardship research program emphasis is on developing technologies and systems that support sustainable production and enhance the Nation's vast renewable natural resource base. The agency is currently developing the scientific knowledge and technologies needed to meet the challenges and opportunities facing U.S. agriculture in managing water resource quality and quantity under different production systems, and environmental conditions. In addition, ARS is evaluating strategies for enhancing the health and productivity of soils, including developing predictive tools to assess the sustainability of alternative land management practices. ARS' range and grazing land research objectives include the conservation and restoration of the Nation's range land and pasture ecosystems and agroecosystems through improved management of fire, invasive weeds, grazing, and other agents of ecological change. The agency is currently developing improved grass and forage legume germplasm for livestock, conservation, bioenergy, and bioproduct systems as well as grazing-based livestock systems that reduce risk and increase profitability. In addition, ARS is developing whole system management strategies to reduce production costs and risks.

Base funding supports ARS program goals of providing integrated, effective, and safe water resources; improving the quality of atmosphere and soil resources; effectively and safely managing the use of manure and other industrial byproducts that maximize their potential benefits while protecting the environment and human and animal health; and developing and transferring economically viable and environmentally sustainable production and conservation practices, technologies, plant materials, and integrated management strategies that conserve and enhance the Nation's natural resources. ARS' Environmental Stewardship research program is carried out at numerous locations where agency scientists frequently collaborate with researchers from other Federal/State governments, academia, and private industry.

The funding change is requested for the following items:

- A) An increase of \$22,361,000 for Advanced Technologies to Accelerate Improvements in Animal and Plant Health and Production of which \$16,011,000 and 0 FTEs for ARS' Environmental Stewardship.

This is a crosscutting, multidisciplinary initiative which supports the following programs: Livestock Production, Crop Production, and Environmental Stewardship. A full description of the initiative is presented on title page, "Crosscutting/Multidisciplinary Initiatives" at the conclusion of the "Justification of Changes."

- B) A decrease of \$98,650,000 from Climate Research Science and Climate Hubs.

The goal of ARS' research programs is to make the most effective use of taxpayer dollars within available resources. In order to respond to priority national needs, it is often necessary to reset priorities within the existing portfolio of projects. As a result, some projects no longer qualify for continued support.

Library and Information Services

- (9) No change in funding and a decrease of 15 FTE for Library and Information Services (\$29,579,000 and 73 FTEs available in 2025).

The National Agricultural Library (NAL) is the largest and most accessible agricultural research library in the world. It provides services directly to the staff of USDA and to the public, primarily via its web site, <http://www.nal.usda.gov>. NAL was created with the USDA in 1862 and was named a national library in 1962 by Congress as the "primary agricultural information resource of the United States". NAL is the premier library for collecting, managing, and disseminating agricultural knowledge. The Library is the repository of our Nation's agricultural heritage, the provider of world class information, and a wellspring for generating new fundamental knowledge and advancing scientific discovery. It is a priceless national resource that, through its services, programs, information products, and web-based tools and technologies, serves anyone who needs agricultural information. The Library's vision is "advancing access to global information for agriculture."

Base funding supports ARS' goal of ensuring the provision and access of agricultural information for USDA, the Nation, and the global agricultural community. This includes: delivering unified, easy to use, convenient 24/7 digital services; improving information delivery; extending AGRICultural OnLine Access (AGRICOLA); conserving rare and at-risk items; extending partnerships with USDA and other Federal agencies to develop targeted information services; and marketing NAL services to specific audiences. In addition to the activities and functions specifically described in the budget request, current year and budget year base funds will be used to carry out activities and functions consistent with the full range of authorities and activities delegated to the agency.

National Bio and Agro-Defense Facility - Operations and Maintenance

- (10) An increase for \$6,000,000 and a decrease of 17 FTEs for National Bio and Agro-Defense Facility Operations and Maintenance (\$121,558,000 and 82 FTEs available in 2025).

The funding change is requested for the following items:

- A) An increase of \$6,000,000 for the National Bio and Agro-Defense Facility -- Operations and Maintenance.

Need for Change

The National Bio- and Agro-Defense Facility (NBAF), located in Manhattan, Kansas, will be a state-of-the-art biocontainment facility for the study of foreign, emerging, and zoonotic animal

diseases that pose a devastating threat to United States animal agriculture and public health. The facility will serve as a "One Health" national and international resource, offering capabilities for training, research and development, surveillance, prevention, and response to emerging infectious diseases. NBAF will have BSL-2, BSL-3, and BSL-3Ag facilities that replace the aging Plum Island Animal Disease Center (PIADC), and will provide the first U.S large animal biosafety level-4 (BSL-4) facilities to house livestock infected with zoonotic agents within the highest biocontainment envelope, a critical capability that is currently lacking in the U.S. NBAF will also house a Biologics Development Module that will provide small scale production of standardized biological reagents needed for basic and applied research, and biological test materials for supporting proof-of-concept studies and early phase veterinary medical countermeasures development.

As NBAF completes building modifications to receive full recommissioning, the team is working to make all systems operational. Currently, research and diagnostic activities are occurring at the BSL-2 biosafety level. Full monitoring and integration of complex air-handling, personnel monitoring, and security systems are required for testing and certifying the facility readiness ahead of inspection by the Federal Select Agent Program and permission to operate with select agents, including foot-and-mouth disease. NBAF will be the only facility in the country able to store and manipulate this trade-devastating pathogen and is replacing PIADC in that role.

The ARS Biodefense research program is critical to protecting U.S. agriculture and people from the threat of foreign and emerging zoonotic diseases, NBAF is an essential part of this capacity. ARS has unique assets and core competencies that cannot be replicated anywhere else in the United States, and in few places in the world. No other organization can integrate all aspects of animal disease research in the biodefense space and the threat of emerging zoonotic infectious diseases. The customers served by this program include livestock breeders, agricultural producers, animal health care workers, individuals and organizations responsible for food security, and consumers.

Means to Achieve Change

- House highly technical equipment for monitoring and controlling building access, building air flow and critical scientific instrumentation.
- Modify and maintain the facility as needed to meet laboratory commissioning and select agent requirements.
- Support sophisticated biocontainment infrastructure.
- Maintain strict biosecurity and all systems for autoclaving and sterilizing experimental and building waste to ensure decontamination.
- Operate fully functioning facility after mission transfer from PIADC.

Partnerships and Collaborations

With regards to Operations and Maintenance, NBAF will work closely with the national Centers for Animal Health and collaborate with other high containment facilities across the United States to share best practices and lessons learned on operating unique and complex facilities.

Proposed Laboratory Closures and Consolidations

The 2026 Budget proposes the closure of three ARS locations and the consolidation of their resources with other existing ARS laboratories and locations as indicated below:

Table ARS-13. Proposed Laboratory Closures and Consolidations

Proposed Location Closure	Proposed Relocation of Programs and Resources
Newark, DE <ul style="list-style-type: none"> Beneficial Insects Introduction Research Unit 	<ul style="list-style-type: none"> Ft. Detrick, MD
Riverside, CA <ul style="list-style-type: none"> Agricultural Water Efficiency and Salinity Research Unit National Clonal Germplasm Repository for Citrus 	<ul style="list-style-type: none"> Salinas, CA Parlier, CA
Urbana, IL <ul style="list-style-type: none"> Integrated Weed Management Systems Resistance to Soybean Pathogens and Pests Management, Utilization, and Distribution of Maize Genetic Stocks Photosynthesis for Agricultural Resiliency and Sustainability Genetic Resources in the National Soybean Germplasm Collection 	<ul style="list-style-type: none"> Peoria, IL Columbia, MO Ames, IA Ames, IA Columbia, MO

CROSSCUTTING/MULTIDISCIPLINARY INITIATIVES

U.S. National Poultry Research Center (USNPRC) Research and Operations

ARS requests an increase of \$10,000,000 and 0 FTEs for USNPRC Research and Operations. This is a crosscutting, multidisciplinary initiative that will integrate research conducted in multiple agency program areas to achieve the expected outcomes. Funding increases for this initiative are located under the New Product Quality/Value Added Livestock Production, Food Safety, and Livestock Protection sections of this document.

Need For Change

USNPRC is a world-renowned scientific institution dedicated to supporting the U.S. poultry industry by ensuring food safety, protecting animal and public health, and enhancing the profitability of poultry production. USNPRC research focuses on:

- **Avian Health and Diseases:** Conducting critical research through the Southeast Poultry Research Laboratory (SEPRL) to understand, prevent, and mitigate emerging and zoonotic poultry diseases, safeguarding poultry and public health worldwide.
- **Foodborne Illness Prevention:** Developing methods to reduce harmful bacteria in poultry processing, thereby lowering the risk of foodborne illnesses.
- **Improved Flock and Egg Practices:** Creating better flock production practices and egg processing technologies to prevent the transmission of pathogens and ensure the quality and safety of poultry products.

USNPRC operates advanced BSL-2, ABSL-3, ABSL-3 Ag, and BSL-3 laboratories, which support preventive and emergency response research on zoonotic animal health and food safety outbreaks such as Highly Pathogenic Avian Influenza (HPAI) and *Salmonella*, respectively. SEPRL has completed significant modernization efforts, replacing biocontainment facilities built in the 1960s, with three new buildings completed between 2017 and 2024, expanding the facility's footprint from 61,000 to 220,000 square feet.

These upgrades enhance biosafety and laboratory capabilities, and they also increase operational, maintenance, and compliance costs. Additional annual expenses include compliance with select agent registration, animal welfare, and other regulatory requirements. Further, high-containment facilities demand highly trained personnel, skilled in current regulations and equipped with the necessary security clearances, and offered competitive salary and benefits to conduct the research.

Means to Achieve Change

- House and maintain highly technical equipment for monitoring and controlling building access, assuring contained, controlled, and safe building/facility air flow for animal and personnel safety, and protection of critical scientific instrumentation.
- Support sophisticated biocontainment infrastructure.
- Maintain strict biosecurity and all systems for autoclaving and sterilizing experimental and building waste to ensure decontamination.
- Conduct appropriate maintenance to operate a safe, secure, fully functioning facility and equipment.
- Conduct cutting edge research that capitalizes on facility capacities and scientific expertise while addressing stakeholder challenges.

Expected Outcomes

- New solutions to prevent economic losses from exotic and endemic poultry and food safety pathogens.
- Effective countermeasures to prevent and eliminate the threat of zoonotic diseases in poultry
- Scientific information to establish and implement on-farm practices that will maximize "biosecurity" to protect farms from pathogens that threaten food security, farm productivity, and the trade and export of agricultural products.
- Experimental animal disease models that will serve the veterinary and public health research communities to significantly shorten the timelines for developing breakthrough medicines and disease prevention tools.
- Develop and transfer tools to the agricultural community, commercial partners, and government agencies to control or eradicate domestic and exotic diseases and pests that affect animal and human health.

The ARS Biodefense research program is critical to protecting U.S. poultry and people from the threat of foreign and emerging zoonotic diseases, USNPRC is an essential part of this capacity. ARS has unique assets and core competencies that cannot be replicated anywhere else in the United States. No other organization has the ability to integrate all aspects of animal disease and food safety research in the context of emerging zoonotic infectious diseases. The customers served by this program include poultry breeders, agricultural producers, animal health care workers, individuals and organizations responsible for food security, and consumers.

Partnerships and Collaborations

External partners include but are not limited to: University of Georgia; Auburn University; Fort Valley State University; APHIS; DHS; Animal Health Institute; Medgene; Boehringer-Ingelheim; Genvax; Ceva Animal Health; Biostone; Zoetis; STAR-IDAZ (International Collaboration on Research on Animal and Emerging Zoonotic Diseases); PROCINORTE; United States Animal Health Association (USAHA); American Association of Veterinary Medical Colleges (AAVMC); and the American Veterinary Medical Association (AVMA).

Developing and Deploying Advanced Technologies to Accelerate Improvements in Animal and Plant Health and Production

ARS requests an increase of \$22,361,000 and 0 FTEs for this crosscutting, multidisciplinary initiative that will integrate research conducted in multiple agency program areas to achieve the expected outcomes. Funding increases for this initiative are located under the Livestock Production, Crop Production, and Environmental Stewardship sections of this document.

Need for Change

To enhance rural prosperity, farmers and ranchers need plant and animal germplasm and technologies that support production system efficiency through increased yield, improved health, and resilience to environmental threats. Increased investments in biotechnology and artificial intelligence (AI)/machine learning (ML) will spur the rapid development and delivery of resilient, high-yielding, and disease-resistant germplasm to the agricultural community. Increased investment in information and communication technologies and AI/ML for precision applications in the agricultural space will spur development of cost-effective tools and practices that capitalize on vast data resources and identify economic efficiencies for local decision-making support. ARS research advancing genome science, remote and autonomous sensor technology, hyperspectral imagery, global positioning data streams, in concert with high-throughput AI/ML data analytics and software engineering can address these agricultural challenges. Agriculture producers, and their communities, benefit from local decision making because of efficient plant, animal, and natural resource utilization.

Rising input costs, pest and disease pressure and environmental stresses are straining farm profitability across the country. This initiative addresses these challenges through a nationally coordinated effort to accelerate breeding, improve animal and plant health, and modernize decision-making with AI-powered tools. Strategic investments across multiple USDA-ARS National Program areas will support development and deployment of advanced technologies to improve yields, resilience and economic efficiency-delivering clear, tangible benefits to rural communities and agricultural production.

Means to Achieve Change

USDA/ARS current research infrastructure, along with established partners in the commercial and academic space, will be leveraged to benefit the agricultural community by accelerating the development, deployment, and adoption of knowledge assets, tools, and technologies that increase yield, support health, and improve resilience to environmental threats. To accomplish this USDA/ARS requests an increase of \$22,361,000 directed towards the below thrusts:

- Integrate advanced technologies to translate complex data streams into actionable, farm-specific recommendations. (\$4,600,000). ARS will:
 - Combine advanced sensing, computer modeling, and validation experimentation to deliver AI-enabled tools that optimize resource use, improve crop performance, and increase farm profitability. This includes funding for Digital Ag Systems Hub (DASH).
- Develop rangeland management tools in support of ruminant livestock production, soil, water, and plant community health, and in concert with protection from wildfire, erosion, and poisonous plants across the Great Basin, desert Southwest, and High Plains has lagged in adopting data-enabled tools (\$4,850,000). ARS will:
 - Connect data resources to enable local decision-making across low precipitation, sparse vegetation, and extreme temperature environments. These programs will partner with ranchers to develop integrated systems of sensors, models, and software (IoT) to manage vegetation and livestock, protect soil resources, improve profitability, and prevent wildfires.
- Optimize resources (fertilizer, seed, water, soil) to directly impact grain and oilseed profitability. (\$6,561,000). ARS will:
 - Leverage ARS' national research network and partnerships with local farmers to co-develop data-driven solutions that work across diverse geographies and farm enterprises, helping establish systems-focused agricultural practices to improve yield, resilience, and soil health.
- Accelerated Breeding. (\$1,150,000). ARS will:

- Leverage new gene discoveries, and the latest genome-editing technologies, to accelerate and optimize disease resistance and production traits to maintain competitiveness in Atlantic salmon aquaculture.
- Apply advanced DNA sequencing and AI-powered analytics to oyster genetic resources for the discovery of new genes for high-priority disease and pest resistance, and for improving production, quality, and nutrition.
- Germplasm and Genomics. (\$2,100,000). ARS will:
 - Unlock the potential of genetic resources from the USDA/ARS National Plant Germplasm System (NPGS) and deliver high-impact genomic information to the hands of breeders and researchers. This will ensure the country's genetic resource infrastructure drive on-farm profitability, public plant breeding innovation and long-term resilience of rural agriculture against new and emerging threats.
 - Apply leading-edge genetic technology, termed "sequencing" to generate the genetic knowledge of NPGS collections needed for rapid breeding progress, and automated digital image analyses to rapidly identify valuable new crop traits.
- AI for Advanced Crop Research. (\$1,400,000). ARS will:
 - Comprehensively analyze genome sequences from geographically, morphologically, and physiologically variable crop wild relatives in the USDA/ARS NPGS through the latest AI tools.
 - Support the discovery and deployment of novel unexploited trait genes such as drought tolerance, insect-pest resistance, yield stability, and nutritional improvement- delivering substantial value to public and private breeding programs.
- Accelerated Crop Breeding Through Genome Editing. (\$700,000). ARS will:
 - Establish a public-sector, high-throughput genome-editing and transformation platform. ARS plays an indispensable national role in delivering improved varieties that serve regions and markets not prioritized by private industry. A high-throughput genome-editing platform will close technology gaps and ensure these crops benefit from the latest breakthroughs.
- Deploying AI tools to accelerate breeding improved varieties of healthy vegetables, fruits, and nuts for small farm production. (\$1,000,000). ARS will:
 - Leverage AI tools, technology pipelines, and centralized data repositories managed by Breeding Insight (BI) at Cornell University to accelerate the breeding, development, and public release of new fruit, vegetable, and nut varieties for US small farm producers. Specialty crops such as fruits and vegetables are high-value products that have increased in value 1 percent each year over the last decade. Spending on fruits and vegetables has increased more than 3 percent per year. New ARS varieties for small farms must have traits for low input farming, reduced labor needs that are aligned with small farm management practices, and regionally important adaptation.

Expected Outcomes

- Enhance rural prosperity by increasing production yields, decreasing input costs, and increasing resilience to environmental threats.
- Advance development of user-friendly decision support tools that translate complex data streams into actionable farm- and ranch-specific recommendations.
- Advance animal and plant production and health through generation of advanced germplasm and innovative technologies.

Partnerships and Collaborations

Engagement with other federal agencies such as U.S. Forest Service, Natural Resources Conservation Service, and the Environmental Protection Agency. Partnerships with industry, farmers and ranchers,

and commodities groups across the U.S. to address the highest priority needs at local and national scales and enhance end-user adoption of ARS products.

Protecting U.S. Agriculture and Food from Invasive Pests and Diseases and Foodborne Contaminants.

ARS requests an increase of \$18,860,000 and 0 FTEs for this crosscutting, multidisciplinary initiative that will integrate research conducted in multiple agency program areas to achieve the expected outcomes. Funding increases for this initiative are located under Crop Production, Food Safety, Livestock Protection, and Crop Protection sections of this document.

Need for Change

The U.S. agricultural sector plays a pivotal role in ensuring a bountiful, stable and safe supply of food, feed, fiber, ornamentals, and industrial products, and significantly contributes to increasing the country's economic rural prosperity, farm profitability and reducing the cost of living for all Americans. Although the U. S.'s food supply is considered one of the safest in the world, the stability of agricultural production and that food supply is intrinsically linked to plant health and food safety, which are continually threatened from foreign, invasive, pests, pathogens, weeds and microbial contaminants. These threats cost hundreds of billions of dollars in economic and trade losses to food production, erodes farm profitability, and harm millions of people due to unexpected consequential sickness from foodborne pathogens. To minimize and/or eliminate threats and ensure a stable food supply that is profitable and safe, the USDA/ARS identified forecasting, prevention and control of plant pathogens, pests, and foodborne pathogens as areas where new and innovative research can provide the greatest return on investment. Working closely with industry leaders, growers/farmers, ranchers and commodity groups, the Crop Production and Protection and the Nutrition and Food Safety Research National Programs will develop fit-for-purpose, customized solutions for producers so they can make decisions that are optimal for their location, commodity, management type, and scale of production to promote food safety, food security and protect the U.S. food supply.

Means to Achieve Change

USDA/ARS current research infrastructure and expertise, along with established national and international partnerships, will be leveraged to benefit growers, industry, and consumers by accelerating the rates of scientific discovery, development of innovative countermeasures for biological threats, and effective technology transfers. To do so, USDA/ARS requests an increase of \$18,860,000 directed towards the following thrusts:

- Develop computational analysis and predictive modeling systems. (\$7,900,000). ARS will:
 - Apply computational analysis, mathematical models, and genomic, proteomic, and metabolomic technologies to identify and forecast potential threats to plant health and food safety.
 - Develop scalable, user-friendly and rapidly deployable mechanical and biological systems, including "smart plants" (plants that detect and report a disease or pest attack), for early detection of plant pests, pathogens and weeds and to enable real-time supply chain tracking of contaminants with compact portable or handheld devices or drones for non-destructive food sampling/inspection.
 - Utilize artificial intelligence (AI) and machine learning (ML) to interpret large data sets that aid in identifying the mechanisms and pathways for introduction, transmission, and spread of emerging and endemic diseases.
- Apply systematic genomic, proteomic, and metabolomic technologies and leverage data analytics that develop decision support tools that inform producers and enhance prediction and prevention of critical issues (\$5,000,000). ARS will:

- Identify genetic mechanisms and on-farm management factors that enable new and emerging plant pests and pathogens, weeds, and foodborne pathogens to adapt to hosts, enhance their virulence and achieve efficient transmission.
 - Advance genomic, proteomics, and metabolomics technology systems to identify pest vulnerabilities, develop faster and affordable diagnostic tools, and monitor pest populations to predict spread.
 - Utilize AI and ML to rapidly interpret large data sets needed to identify and analyze the introduction, transmission, and spread of emerging and endemic diseases.
- Develop intervention and mitigation systems that focus on preventative rather than reactive approaches to maintain food safety and prevent the spread of plant diseases and pests. (\$5,960,000). ARS will:
 - Leverage AI, nanotechnology, genome editing, gene drives, and novel mitigation delivery systems to effectively contain plant pests.
 - Develop biologically based control methods and innovative countermeasures, including smart plants, for rapid commercial application that utilize essential microbial genetic resources vital for addressing plant pest emergencies.
 - Develop tools to reduce or eliminate foodborne threats in food animals and crops during pre-and postharvest production and processing.

Expected Outcomes

- Protect U.S. agriculture producers and consumers through crop protection and food safety research.
- Advance crop production and protection and food safety technologies to pre-emptively identify and mitigate new and emerging plant pests and pathogens, weeds, and foodborne contaminants.
- Develop user-friendly predictive models to help farmers adapt effective control measures that will enhance the quality and purity of U.S. crop products, thereby bolstering the demand for those products in international trade.
- Support producer decision making that improves the effectiveness of pest and pathogen mitigation methods and food safety measures, giving them a favorable return on investment and profitability that protects the consumer and reduces the need for product recalls.
- Develop innovative AI-embedded commercial portable detection systems for automated screening of threat agents.

Partnerships and Collaborations

Engagement with other federal agencies such as USDA-APHIS, U.S. Forest Service, Bureau of Land Management, Food & Drug Administration, USDA-Food Safety Inspection Service, Department of Health and Human Services, Centers for Disease Control and Prevention, Department of Homeland Security, and the Environmental Protection Agency. Partnerships with industry, producers and commodity groups across geographic regions to address the highest priority needs at both regional and national scales. Collaborations with regional land grant universities and extension personnel to ensure research products are translated into fit-for-purpose products that directly benefit farmers.

GEOGRAPHIC BREAKDOWN OF OBLIGATIONS AND FTEs**Table ARS-14. Geographic Breakdown of Obligations and FTEs for Agricultural Research (thousands of dollars, FTEs)**

State/Territory/Country	2023 ⁷ Actual	FTEs	2024 Actual	FTEs	2025 Estimated	FTEs	2026 Estimated	FTEs
Alabama								
Auburn	\$23,889	45	\$25,595	48	\$27,848	48	\$23,469	43
Total	23,889	45	25,595	48	27,848	48	23,469	43
Arizona								
Maricopa	11,164	56	11,146	56	12,414	56	10,522	48
Tucson	6,849	43	6,836	43	6,817	43	6,412	36
Total	18,013	99	17,982	99	19,231	99	16,934	84
Arkansas								
Booneville	4,696	30	4,868	27	4,114	27	4,114	26
Fayetteville	3,548	15	2,894	18	3,214	18	2,868	14
Jonesboro	1,322	8	1,326	9	1,493	9	672	8
Little Rock	11,127	5	12,347	7	11,818	7	11,818	7
Stuttgart	9,297	49	8,653	45	8,603	45	8,373	34
Total	29,990	107	30,088	106	29,242	106	27,845	89
California								
Albany	41,056	171	46,178	176	44,059	176	44,139	133
Davis	21,418	78	22,297	97	21,330	97	19,353	59
Parlier	15,676	82	17,305	88	17,156	88	18,497	80
Riverside	5,954	30	7,452	31	4,932	31	-	-
Salinas	9,284	51	8,474	51	9,280	51	12,349	65
Total	93,388	412	101,706	443	96,757	443	94,338	337
Colorado								
Akron	-	1	-	-	-	-	-	-
Fort Collins	25,859	140	25,968	139	25,315	139	18,761	102
Total	25,859	141	25,968	139	25,315	139	18,761	102
Delaware								
Newark	2,114	13	2,144	13	2,129	13	-	-
Total	2,114	13	2,144	13	2,129	13	-	-
District of Columbia								
National Arboretum	14,176	61	13,099	58	15,106	58	15,106	54
Headquarters Federal Administration ^a	193,147	490	200,204	499	170,585	499	156,862	285
Total	207,323	551	213,303	557	185,691	557	171,968	339
Florida								
Canal Point	4,447	29	4,572	28	4,931	28	4,931	24
Fort Lauderdale	2,980	30	2,988	30	2,589	30	2,589	14
Fort Pierce	19,841	85	17,143	73	19,098	73	17,423	55
Gainesville	12,039	77	11,541	71	12,708	71	11,372	67
Miami	5,686	27	7,203	29	6,331	29	6,331	27
Total	44,993	248	43,447	231	45,657	231	42,646	187
Georgia								
Athens	43,845	148	43,928	137	45,704	137	53,366	118
Byron	7,769	32	9,802	35	9,640	35	8,755	25
Dawson	6,635	28	6,824	29	7,225	29	7,074	24
Griffin	4,233	16	2,823	17	2,560	17	2,560	16
Tifton	11,148	69	12,188	67	12,415	67	12,051	62
Total	73,630	293	75,565	285	77,544	285	83,806	245
Hawaii								

⁷ Federal Administration contains GP funding for NOAA Working Group on Kelp and Seagrass in 2023, 2024, and 2025.

State/Territory/Country	2023 ⁷		2024		2025		2026	
	Actual	FTEs	Actual	FTEs	Estimated	FTEs	Estimated	FTEs
Hilo.....	16,339	72	15,911	72	16,441	72	16,441	63
Total.....	16,339	72	15,911	72	16,441	72	16,441	63
Idaho								
Aberdeen	8,081	37	8,534	38	9,270	38	8,658	29
Boise	3,215	18	3,119	21	3,053	21	1,755	18
Dubois	2,923	15	3,055	18	3,137	18	2,980	18
Kimberly	5,873	41	5,639	38	5,911	38	5,475	28
Total.....	20,092	111	20,347	115	21,371	115	18,868	93
Illinois								
Peoria	36,223	157	33,214	154	36,221	154	37,050	121
Urbana.....	6,764	30	6,024	30	5,959	30	-	-
Total.....	42,987	187	39,238	184	42,180	184	37,050	121
Indiana								
West Lafayette	8,252	52	8,100	52	8,432	52	7,721	44
Total.....	8,252	52	8,100	52	8,432	52	7,721	44
Iowa								
Ames.....	58,258	322	60,017	325	63,524	325	63,138	275
Total.....	58,258	322	60,017	325	63,524	325	63,138	275
Kansas								
Manhattan	153,897	289	163,972	305	171,170	305	175,703	237
Total.....	153,897	289	163,972	305	171,170	305	175,703	237
Kentucky								
Bowling Green.....	2,692	15	3,112	16	2,764	16	2,349	12
Lexington	4,476	12	4,305	13	4,512	13	4,512	11
Total.....	7,168	27	7,417	29	7,276	29	6,861	23
Louisiana								
Baton Rouge	3,490	20	3,616	23	3,258	23	3,258	19
Houma.....	6,610	43	6,107	45	6,500	45	6,306	34
New Orleans	25,478	89	25,564	90	26,940	90	26,823	77
Total.....	35,578	152	35,287	158	36,698	158	36,387	130
Maine								
Orono	9,576	26	14,357	28	17,231	28	16,051	21
Total.....	9,576	26	14,357	28	17,231	28	16,051	21
Maryland								
Beltsville	130,072	513	144,719	520	132,967	520	127,912	413
National Ag Library	31,670	70	33,414	73	28,474	73	28,474	62
Frederick.....	6,777	27	6,849	29	6,847	29	8,764	33
Total.....	168,519	610	184,982	622	168,288	622	165,150	508
Massachusetts								
Boston	17,247	6	21,229	6	17,573	6	17,573	6
Total.....	17,247	6	21,229	6	17,573	6	17,573	6
Michigan								
East Lansing.....	2,794	11	3,007	10	2,696	10	2,696	5
Total.....	2,794	11	3,007	10	2,696	10	2,696	5
Minnesota								
Morris	3,005	18	3,228	21	3,463	21	2,567	14
St. Paul.....	13,656	61	13,335	59	13,416	59	12,492	41
Total.....	16,661	79	16,563	80	16,879	80	15,059	55
Mississippi								
Mississippi State	22,412	66	22,308	66	24,159	66	23,602	53
Oxford	15,421	61	15,529	63	16,025	63	15,529	54
Poplarville	6,109	30	5,935	28	6,160	28	6,160	21
Stoneville	50,715	217	51,575	221	57,820	221	55,720	180
Total.....	94,657	374	95,347	378	104,164	378	101,011	308
Missouri								
Columbia	14,542	58	14,315	64	14,398	64	15,467	55

State/Territory/Country	2023 ⁷		2024		2025		2026	
	Actual	FTEs	Actual	FTEs	Estimated	FTEs	Estimated	FTEs
Total	14,542	58	14,315	64	14,398	64	15,467	55
Montana								
Miles City	5,252	24	4,903	24	4,872	24	4,099	24
Sidney	5,585	38	6,140	35	6,670	35	5,936	31
Total	10,837	62	11,043	59	11,542	59	10,035	55
Nebraska								
Clay Center	27,562	105	25,111	103	25,323	103	25,792	93
Lincoln	12,321	55	11,686	59	12,860	59	12,385	42
Total	39,883	160	36,797	162	38,183	162	38,177	135
Nevada								
Reno	2,400	11	2,366	9	2,410	9	2,410	9
Total	2,400	11	2,366	9	2,410	9	2,410	9
New Mexico								
Las Cruces	9,098	47	11,908	53	11,641	53	7,830	32
Total	9,098	47	11,908	53	11,641	53	7,830	32
New York								
Geneva	7,172	33	6,756	35	8,161	35	8,161	29
Orient Point.....	-	2	-	-	-	-	-	-
Ithaca	21,664	51	17,948	55	14,381	55	15,405	45
Total	28,836	86	24,704	90	22,542	90	23,566	74
North Carolina								
Raleigh	14,615	69	13,985	69	14,647	69	11,912	53
Total	14,615	69	13,985	69	14,647	69	11,912	53
North Dakota								
Fargo	37,247	104	37,719	108	40,659	108	40,368	94
Grand Forks	8,962	28	9,607	28	10,233	28	10,233	11
Mandan	7,544	40	9,478	42	9,825	42	630	40
Total	53,753	172	56,804	178	60,717	178	51,231	145
Ohio								
Columbus	2,103	15	2,118	15	2,294	15	918	6
Wooster	10,058	51	11,050	52	9,589	52	9,398	43
Total	12,161	66	13,168	67	11,883	67	10,316	49
Oklahoma								
El Reno	17,832	78	14,748	74	16,154	74	13,291	59
Stillwater.....	-	3	-	-	-	-	-	-
Woodward	-	2	-	1	-	1	-	-
Total	17,832	83	14,748	75	16,154	75	13,291	59
Oregon								
Burns.....	5,319	37	5,187	30	5,524	30	4,936	28
Corvallis.....	23,913	100	24,939	102	22,011	102	20,879	86
Newport.....	2,636	4	2,951	5	2,731	5	2,683	4
Pendleton.....	5,525	21	5,446	21	5,864	21	4,825	14
Total	37,393	162	38,523	158	36,130	158	33,323	132
Pennsylvania								
University Park	6,933	38	6,806	34	7,242	34	5,137	32
Wyndmoor.....	34,119	143	31,761	138	33,056	138	34,207	106
Total	41,052	181	38,567	172	40,298	172	39,344	138
South Carolina								
Charleston	11,668	33	13,649	29	12,651	29	12,651	25
Florence.....	5,434	26	5,608	28	5,903	28	5,158	21
Total	17,102	59	19,257	57	18,554	57	17,809	46
South Dakota								
Brookings.....	4,332	25	3,913	27	3,715	27	3,344	25
Total	4,332	25	3,913	27	3,715	27	3,344	25
Texas								
Bushland.....	7,568	39	7,309	35	7,655	35	4,317	34

State/Territory/Country	2023 ⁷		2024		2025		2026	
	Actual	FTEs	Actual	FTEs	Estimated	FTEs	Estimated	FTEs
College Station	19,610	73	28,001	72	38,352	72	38,352	60
Houston	15,887	7	18,525	8	16,070	8	16,070	7
Kerrville	11,268	42	11,790	42	12,257	42	11,660	38
Lubbock	10,332	64	10,418	61	10,633	61	10,164	49
Temple	4,462	29	5,276	29	4,930	29	2,413	25
Total	69,127	254	81,319	247	89,897	247	82,976	213
Utah								
Logan	10,801	73	10,888	72	10,136	72	9,240	56
Total	10,801	73	10,888	72	10,136	72	9,240	56
Vermont								
Burlington	11,266	5	11,738	10	13,073	10	2,975	4
Total	11,266	5	11,738	10	13,073	10	2,975	4
Washington								
Pullman	27,556	116	28,389	120	29,521	120	27,618	104
Wapato	8,956	55	9,098	58	10,307	58	10,307	54
Wenatchee	3,595	22	3,389	25	3,965	25	3,965	20
Total	40,107	193	40,876	203	43,793	203	41,890	178
West Virginia								
Kearneysville	11,018	46	9,450	44	10,177	44	9,921	36
Leetown	9,398	30	9,519	29	10,176	29	9,623	26
Total	20,416	76	18,969	73	20,353	73	19,544	62
Wisconsin								
Madison	31,728	119	32,261	124	33,096	124	31,909	101
Total	31,728	119	32,261	124	33,096	124	31,909	101
Puerto Rico								
Mayaguez	3,990	30	3,803	30	3,744	30	4,510	28
Total	3,990	30	3,803	30	3,744	30	4,510	28
Other Countries								
France, Montpellier	6,986	1	4,267	1	3,148	1	3,148	1
Total	6,986	1	4,267	1	3,148	1	3,148	1
Extramural & Funds								
Administered from								
Headquarters Held Funds	48,201	-	38,203	-	43,633	-	43,133	-
Repair & Maintenance of								
Facilities	26,556	-	23,454	-	23,144	-	23,144	-
Obligations	1,744,238	6,219	1,787,448	6,285	1,790,168	6,285	1,700,000	4,965
Lapsing Balances	2,071	-	2,209	-	-	-	-	-
Bal. Available, EOY	1,581	-	1,605	-	-	-	-	-
Total, Available	1,747,890	6,219	1,791,262	6,285	1,790,168	6,285	1,700,000	4,965

CLASSIFICATION BY OBJECTS**Table ARS-15. Classification by Objects (thousands of dollars)**

Item No.	Item	2023 Actual	2024 Actual	2025 Estimated	2026 Estimated ⁸
Personnel Compensation:					
	Washington D.C.	\$46,439	\$58,532	\$58,594	\$50,363
	Personnel Compensation, Field	492,626	523,483	524,037	450,421
11	Total personnel compensation	539,065	582,015	582,631	500,784
12	Personal benefits	214,150	229,806	229,948	198,119
13.0	Benefits for former personnel	184	143	-	-
	Total, personnel comp. and benefits	753,399	811,964	812,579	698,903

⁸ This table assumes a reduced 2026 FTE baseline due to 2025 voluntary staff separations and administrative cost efficiencies.

Item No.	Item	2023 Actual	2024 Actual	2025 Estimated	2026 Estimated ⁸
Other Objects:					
21.0	Travel and transportation of persons	11,202	12,995	13,017	13,330
22.0	Transportation of things.....	959	1,731	1,734	1,776
23.1	Rental payments to GSA	4,506	4,293	3,600	3,495
23.2	Rental payments to others	2,664	3,786	3,792	3,884
23.3	Communications, utilities, and misc. charges.....	49,237	46,254	47,029	48,352
25.1	Advisory and assistance services.....	66,366	85,019	85,158	87,206
25.2	Other services from non-Federal sources	54,838	40,441	40,507	41,482
25.3	Other goods and services from Federal sources	57,936	146,297	146,538	150,061
25.4	Operation and maintenance of facilities.....	11,287	7,605	7,618	7,801
25.5	Research and development contracts.....	388,846	305,967	306,971	314,352
25.7	Operation and maintenance of equipment ...	42,420	23,099	23,137	23,693
26.0	Supplies and materials.....	96,458	86,874	87,017	89,110
31.0	Equipment	95,048	76,805	76,932	78,781
32.0	Land and structures	59,384	71,276	71,393	73,110
41.0	Grants, subsidies, and contributions	49,688	63,042	63,146	64,664
	Total, Other Objects	990,839	975,484	977,589	1,001,097
99.9	Total, new obligations	1,744,238	1,787,448	1,790,168	1,700,000
DHS Building Security Payments (included in 25.3).....					
		\$229	\$219	\$219	\$219
Information Technology Investments:					
Major Investment 1					
Scientific Computing Initiative (SCINet)					
11	Internal Labor	\$943	\$943	\$943	\$943
25.2	Outside Services (Consulting)	10,200	12,400	11,000	12,500
	Total Major Investment 1	11,143	13,343	11,943	13,443
	Mission Area Standard Investment Totals.....	60,226	60,226	61,226	61,226
25.3	Mission Area WCF Transfers	42,883	53,206	52,036	52,984
	Total Non-Major Investment	103,109	113,432	113,262	114,210
	Total IT Investments	114,252	126,775	125,205	127,653
Cybersecurity					
	Human Capital.....	-	\$12	\$13	\$17
	Identify	\$535	510	560	560
	Protect	1,542	1,745	1,695	1,695
	Detect	310	195	195	195
	Respond	200	210	210	210
	Recover	150	152	152	152
	Total Cybersecurity	2,737	2,824	2,825	2,829
Position Data:					
	Average Salary (dollars), ES Position	\$184,973	\$201,474	\$201,687	\$216,693
	Average Salary (dollars), GS Position.....	\$79,845	\$85,323	85,413	92,939
	Average Grade, GS Position.....	10.8	10.8	10.8	10.8

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STATUS OF PROGRAMS

The Agricultural Research Service (ARS) is the U.S. Department of Agriculture's chief scientific in-house research agency. Our mission is to deliver scientific solutions to national and global agricultural challenges. ARS' major research programs -- New Products/Product Quality/Value Added; Livestock/Crop Production; Food Safety; Livestock/Crop Protection; Human Nutrition; and Environmental Stewardship -- address the Department's goals and priorities. A brief summary of the agency's selected 2024 accomplishments and current activities, including the National Agricultural Library, are detailed below.

Program Evaluations

In 2024, ARS conducted retrospective reviews of its Food Safety Program. Overall, the programs were found to have had high impact (i.e., significant benefit or influence). The programs were evaluated by experts who represented government, private industry, customer/stakeholder groups, and nonprofits. Performance was evaluated based on the quality of the research leading to actual impact, or progress toward anticipated benefits. The panel of experts provided recommendations that ARS managers can use in making future management decisions.

New Products/Product Quality/Value Added***Current Activities:***

ARS' New Products/Product Quality/Value Added research program is directed toward: Improving the efficiency and reducing the cost for the conversion of agricultural products into biobased products and biofuels; developing new and improved products for domestic and foreign markets; and providing higher quality, healthy foods.

Selected Examples of Recent Progress

New biodiesel from pennycress reduces greenhouse gases. Biodiesel can reduce greenhouse gas emissions and improve air quality. Using winter cover crops such as field pennycress developed for U.S. Midwest production can produce high amounts of oil suitable to meet this increased demand. ARS researchers in Peoria, Illinois, and university collaborators developed new varieties of pennycress for industrial applications such as biodiesel. They investigated a new variety of high oleic pennycress (HOP) oil as a biofeedstock for producing biodiesel fuel and found HOP biodiesel exhibited exceptional fuel cold flow properties (winter acceptability) and good lubricity (reduced engine wear). Additionally, HOP biodiesel can be used as an additive to conventional diesel to improve the performance of petroleum diesel. Developing industrial applications for HOP could enhance sustainability and profitability for U.S. farmers.

New dual-arm apple harvesting robot. Labor for harvesting is the single largest cost in the production of apples and other tree fruits, so harvest automation is urgently needed to control rising costs and mitigate growing labor shortages. Building on previously developed single-arm robotic harvesting technology, ARS researchers in East Lansing, Michigan, and Michigan State University collaborators developed a new dual-arm harvesting robot to enhance fruit harvest efficiency and cost effectiveness. Compared to the single-arm robot, the new robot improved harvesting efficiency up to 34 percent and shows significant potential for further performance enhancement. This new robot design provides a commercially viable solution to automated apple harvesting, which is critical to the long-term sustainability and global competitiveness of the U.S. apple industry.

Livestock Production

Current Activities:

ARS' Livestock Production research program is directed toward fostering an abundant, safe, nutritionally wholesome, and competitively priced supply of animal products produced in a viable, competitive, and sustainable animal agriculture sector of the U.S. economy. This is accomplished by: safeguarding and utilizing animal genetic resources, associated genetic and genomic databases, and bioinformatic tools; developing a basic understanding of food animal physiology to address priority issues related to animal production, animal well-being, and product quality and healthfulness; and developing information, best management practices, novel and innovative tools, and technologies that improve animal production systems, enhance human health, and ensure domestic food security. The research is heavily focused on the development and application of genomics technologies to increase the efficiency and product quality of beef, dairy, swine, poultry, aquaculture, and sheep systems. Areas of emphasis include increasing the efficiency of nutrient utilization; increasing animal well-being and reducing stress in production systems; increasing reproductive rates and breeding animal longevity; developing and evaluating non-traditional production systems (e.g., organic and natural); and evaluating and conserving animal genetic resources.

Selected Examples of Recent Progress

Genes linked with heifer puberty and cow fertility. Cattle fertility is valuable to the beef industry, but it is very difficult to identify and understand the genes linked to fertility. ARS scientists at Clay Center, Nebraska and University of Queensland cooperators discovered 87 genes tied to fertility and provided additional confirmation about how the PLAG1 gene in cattle affects cattle physiology, particularly in *Bos indicus* cattle; *B. indicus* heifers with two copies of the favorable allele reached puberty 18 days earlier, had a 70 percent increase in heifer pregnancy rates, and reached maturity at 18 kg less body weight. These newly discovered genes will offer improved genomic testing to help breed for improved cattle fertility.

A novel test for detecting risk factors in salmonoid fish health. Fish farmers need faster methods to assess animal health and wellbeing. ARS researchers at Leetown, West Virginia, and collaborators from St. George's University and a private company found seven proteins present in rainbow trout that correlate with bacterial infection. The researchers developed a test to detect these proteins that can be completed in 2 hours or less. The test is commercially available, providing fish farmers with a fast method to assess rainbow trout and Atlantic salmon health during production.

Crop Production

Current Activities:

ARS' Crop Production research program focuses on developing and improving ways to reduce crop losses while protecting and ensuring a safe and affordable food supply. The program concentrates on production strategies that are environmentally friendly, safe to consumers, and compatible with sustainable and profitable crop production systems. Research activities are directed at safeguarding and utilizing plant genetic resources and their associated genetic, genomic, and bioinformatic databases that facilitate selection of varieties and/or germplasm with significantly improved traits. Research activities attempt to minimize the impacts of crop pests while maintaining healthy crops and safe commodities that can be sold in markets throughout the world. The agency is conducting research to discover and exploit naturally occurring and engineered genetic mechanisms for plant pest control, develop agronomic germplasm with durable defensive traits, and transfer genetic resources for commercial use. ARS provides taxonomic information on invasive species that strengthens prevention, aids in detection/identification, and increases control through tactics that restore habitats and biological diversity.

Selected Examples of Recent Progress

New genomic tools accelerate cotton breeding. With an overall business value worth \$100+ billion, cotton is the most valuable fiber crop grown in the United States. Cotton production is threatened by extreme weather and numerous pests and diseases, so effective breeding for host-plant resistance/tolerance is crucial for protecting yields and producer profits. But cotton's narrow genetic base can limit future genetic gains from traditional plant breeding approaches. ARS researchers in College Station, Texas, and Texas A & M collaborators developed high-quality genome sequences for three American 'Upland' cotton cultivars and the cotton standard genetic reference line. The genome sequences revealed variations among these four Upland cotton genomes for sequences associated with gene regulation, agronomic traits, and incorporating genes from American 'Pima' cotton. They also identified genes for cotton fiber development that can contribute to the enhanced fiber quality required in modern cotton processing and products. This new genetic knowledge provides a superior foundation to accelerate breeding cotton cultivars with superior fiber yield, quality, and agronomic performance.

'NutriHi', a lettuce with high nutrient content. Lettuce is one of the most consumed fresh-market vegetables in the United States. ARS researchers in Salinas, California, developed and released 'NutriHi', a leaf lettuce variety that has 100-107 percent more vitamin A and vitamin C and 35-158 percent more minerals than other lettuce cultivars. Vitamin and mineral concentrations in NutriHi lettuce were similar or higher than concentrations in spinach, which is considered a "super food" due to its high nutrient content. In addition, NutriHi performed well in the Salinas Valley, the most important lettuce producing region of the United States, with a high percentage of plants of adequate size, shape, and uniformity. Increasing the nutrient density of food is important to human health and well-being, and NutriHi provides those benefits.

Food Safety***Current Activities:***

ARS' Food Safety research program is designed to yield science-based knowledge on the safe production, storage, processing, and handling of plant and animal products, and on the detection and control of pathogenic bacteria and fungi, parasites, chemical contaminants, and plant toxins. All of ARS' research activities involve a high degree of cooperation and collaboration with USDA's Research, Education, and Economics agencies, as well as with the FSIS, APHIS, FDA, CDC, DHS, and the EPA. The agency also collaborates in international research programs to address and resolve global food safety issues. Specific research efforts are directed toward developing new technologies that assist ARS stakeholders and customers, including regulatory agencies, industry, and commodity and consumer organizations in detecting, identifying, and controlling foodborne diseases that affect human health.

Selected Examples of Recent Progress:

Inactivation of avian influenza virus (AIV) in beef patties. Since 2022, approximately 100 million poultry have been lost in the United States alone due to AIV. In 2024, AIV was detected in dairy cows and in raw milk from dairy cattle infected with AIV. Culled dairy cows comprise about 10 percent of U.S. beef production. ARS scientists in Wyndmoor, Pennsylvania, and Athens, Georgia, inoculated ground beef patties (20 percent fat) with high levels of AIV. Cooking inoculated ground beef patties to a rare degree of doneness (about 120°F) reduced AIV by about 300 to 500 fold per gram of patty, while cooking patties to a medium degree of doneness (about 145°F) or to well done (about 160°F and the FSIS-recommended minimum internal temperature for ground beef) reduced infectious virus levels at least 500,000 fold per gram of patty (no infectious virus could be detected). Results from this small study suggest that the current risk for humans becoming infected with AIV from a beef source is negligible when patties are heated to FSIS temperature recommendations.

Lethality process parameters for pathogen inactivation in ready-to-eat (RTE) meat products. ARS scientists in Wyndmoor, Pennsylvania, worked with an industry partner to develop and validate processing conditions for cured, restructured, smoked boneless ham and cured pork necks following FSIS recommended lethality (Appendix A) performance guidelines. Hams and pork necks were inoculated with multi-strain cocktails of Salmonella or Listeria at about 10 to 100 million cells/product, and then cooked within a commercial smokehouse under different temperature, time, smoking, and relative humidity (RH) cycles. Results populated data gaps related to time, temperature, and RH parameters that are now elaborated in Appendix A. These data established reductions of about 60 thousand to 80 million cells of Lm and Sal in hams and pork necks. These findings will help processors meet current regulatory guidelines for killing pathogens in large meat products.

Livestock Protection

Current Activities:

ARS' Livestock Protection research program is directed at protecting and ensuring the safety of the Nation's agriculture and food supply through improved disease detection, prevention, control, and treatment. Basic and applied research approaches are used to solve animal health problems of high national priority. Emphasis is given to methods and procedures to control animal diseases through the discovery and development of diagnostics, vaccines, biotherapeutics, animal genomics applications, disease management systems, animal disease models, and farm biosecurity measures. The research program has the following strategic objectives: establish ARS laboratories into a fluid, highly effective research network to maximize use of core competencies and resources; use specialized high containment facilities to study zoonotic and emerging diseases; develop an integrated animal and microbial genomics research program; establish core competencies in bovine, swine, ovine, and avian immunology; launch a biotherapeutic discovery program providing alternatives to animal drugs; build a technology driven vaccine and diagnostic discovery research program; develop core competencies in field epidemiology and predictive biology; establish a best-in-class training center for our Nation's veterinarians and scientists; and develop a model technology transfer program to achieve the full impact of ARS research discoveries. ARS' animal research program includes: biodefense research, animal genomics and immunology, zoonotic diseases, respiratory diseases, reproductive and neonatal diseases, enteric diseases, parasitic diseases, and transmissible spongiform encephalopathies.

Selected Examples of Recent Progress:

Dairy products free of infectious highly pathogenic avian influenza virus. In March 2024, USDA reported the first known outbreak of highly pathogenic avian influenza virus (HPAIV) in dairy cows and reported HPAIV was present in milk. These reports quickly raised concerns about the potential impact HPAIV might have on human health. At the request of the U.S. Food and Drug Administration, ARS researchers in Athens, Georgia, tested retail milk and dairy products for HPAIV. Although researchers detected pieces of the virus in about 20 percent of the products tested, they found no infectious virus. This confirmed that milk safety programs that include pasteurization and diversion of poor-quality milk, have succeeded in keeping HPAIV out of the commercial milk supply.

Biodegradable peptides inactivate fire ant colonies. ARS scientists in Gainesville, Florida, and Corvallis, Oregon, used their patented technology to discover a way to disable fire ant pheromone biosynthesis activating neuropeptide (PBAN) receptors, which can start important biochemical reactions in insects. Fire ant colonies that consumed peptides developed by the researchers to disable the PBAN receptors experienced high worker mortality and queen death or sterilization. The project currently has a NIFA-funded SBIR phase II grant and is actively seeking a commercial partner to develop a new fire ant bait that is biodegradable and specifically targets fire ants.

Crop Protection

Current Activities:

ARS' Crop Protection research program is directed to protect crops from insect and disease loss through research to understand pest and disease transmission mechanisms, and to identify and apply new technologies that increase our understanding of virulence factors and host defense mechanisms. The program's research priorities include: identification of genes that convey virulence traits in pathogens and pests; factors that modulate infectivity, gene functions, and mechanisms; genetic profiles that provide specified levels of disease and insect resistance under field conditions; and mechanisms that reduce the spread of pests and infectious diseases. ARS is developing new knowledge and integrated pest management approaches to control pest and disease outbreaks as they occur. Its research will improve the knowledge and understanding of the ecology, physiology, epidemiology, and molecular biology of emerging diseases and pests. This knowledge will be incorporated into pest risk assessments and management strategies to minimize chemical inputs and increase production. Strategies and approaches will be available to producers to control emerging crop diseases and pest outbreaks and address quarantine issues.

Selected Examples of Recent Progress:

Culturing the bacterium that causes citrus greening disease. Citrus greening or Huanglongbing (HLB) is a citrus disease that has caused more than 70 percent yield losses in Florida's commercial citrus groves. To date, the bacterium that is strongly associated with this disease has not been cultured outside of a living host, which complicates efforts to rapidly test control methods. ARS researchers in Fort Pierce, Florida, and University of Florida and Clemson University collaborators developed a semi-selective artificial culture medium and protocol and used the culture in a laboratory setting to successfully infect citrus seedlings and reproduce typical HLB symptoms. Results from the new culturing method, which were published in *Horticulture Research*, enabled the researchers to prove the bacterium was responsible for HLB. This culturing system provides enormous opportunities for accelerating HLB research and better solutions for HLB control.

Pheromones enhance the efficacy of beneficial nematodes for controlling pecan weevil. Pecan weevil is a major pest of pecans, and while chemical insecticides are used for its control, these pesticides can be harmful to humans and the environment. Beneficial nematodes (small round worms) are safe biocontrol agents that are commercially available, but their efficacy in controlling pecan weevil can be variable and expensive. Exposing the nematodes to specialized pheromones results in greater dispersal levels and more effective pecan weevil infections. In the first-ever field tests using these pheromones, ARS scientists in Byron, Georgia, documented increased pecan weevil control when using nematodes with the pheromones compared to nematode application without pheromones. This discovery may lead to greatly improved biological control of pecan weevil, and the nematode-pheromone approach could be applicable to controlling many other pests in various cropping systems.

Human Nutrition

Current Activities:

Maintenance of health throughout the lifespan along with prevention of obesity and chronic diseases via food-based recommendations are the major emphases of ARS' Human Nutrition research program. These health-related goals are based on the knowledge that deficiency diseases are no longer primary public health concerns in the U.S. Excessive consumption has become the primary nutrition problem in the American population. This is reflected by increased emphasis on prevention of obesity from basic science through intervention studies to assessments of large populations. The agency's research program also actively studies bioactive components of foods that have no known requirements but have health promoting qualities. Four areas of research are emphasized: nutrition monitoring; the scientific basis for dietary recommendations; prevention of obesity and related diseases; and life stage nutrition and metabolism.

Selected Examples of Recent Progress:

Ultra-processed foods as part of a healthy diet. ARS scientists in Grand Forks, North Dakota, demonstrated that foods meeting the broadest classification of an ultra-processed food (UPF) currently include many nutrient-dense foods recommended in dietary guidance. They developed a sample menu for a nutrient-dense diet that is aligned with Dietary Guidelines for Americans (DGA) recommendations, obtains 91 percent of its energy from UPFs, and scored 86 out of 100 points for diet quality. This research is valuable for the nutrition science research community, as it demonstrates that the definition of UPFs needs further refinement before becoming a usable framework for impacting public health. Questions about the nutritional value of UPFs have been a popular media topic, so this research is also valuable for policymakers, consumers, and the food industry; the researchers also received invitations to present this work at plenary sessions in national and international scientific meetings and conferences, and the research publication resulted in several letters to the editor. The Dietary Guidelines Scientific Advisory Committee will investigate the relationship between UPF intake and cardiometabolic health outcomes for the first time for the 2025-2030 DGA.

Improving nutrition security to combat diabetes. Not having enough nutritious food and having a poor diet increases the risk of diabetes. Researchers at the Children's Nutrition Research Center in Houston, Texas, conducted a study to investigate how the Supplemental Nutrition Assistance Program (SNAP) affects food security (having enough food), nutrition security (having adequate nutrients), and factors associated with diabetes. Results for adults across five U.S. states indicate that people with a higher nutrition security score were less likely to have diabetes, even after considering other factors such as age and income. This study highlights the importance of not just feeding people but feeding them healthy, nutrient-rich foods to prevent chronic diseases such as diabetes. Improving nutrition security to reduce diabetes risk, which can drive healthier consumer choices, influences agricultural practices and guides public health policies for broader societal and environmental benefits.

Environmental Stewardship

Current Activities:

ARS' Environmental Stewardship research program emphasis is on developing technologies and systems that support sustainable production and enhance the Nation's vast renewable natural resource base. The agency is currently developing the scientific knowledge and technologies needed to meet the challenges and opportunities facing U.S. agriculture in managing water resource quality and quantity under different climatic regimes, production systems, and environmental conditions. ARS' research also focuses on developing measurement, prediction, and control technologies for emissions of greenhouse gases, particulate matter, ammonia, hydrogen sulfide, and volatile organic compounds affecting air quality and land-surface climate interactions. The agency is a leader in developing measurement and modeling techniques for characterizing gaseous and particulate matter

emissions from agriculture. In addition, ARS is evaluating strategies for enhancing the health and productivity of soils, including developing predictive tools to assess the sustainability of alternative land management practices. Finding mechanisms to aid agriculture in adapting to changes in atmospheric composition and climatic variations is also an important component of this program. ARS' range and grazing land research objectives include the conservation and restoration of the Nation's range land and pasture ecosystems and agroecosystems through improved management of fire, invasive weeds, grazing, global change, and other agents of ecological change. The agency is currently developing improved grass and forage legume germplasm for livestock, conservation, bioenergy, and bioproduct systems as well as grazing-based livestock systems that reduce risk and increase profitability. In addition, ARS is developing whole system management strategies to reduce production costs and risks.

Selected Examples of Recent Progress:

Low-cost soil water sensor for irrigation scheduling. Due to declines in the Ogallala aquifer, farmers in the Southern High Plains cannot fully irrigate crops, so careful irrigation management is essential to avoid reducing yields and quality. The gold standard for accurate irrigation scheduling costs upwards of \$10,000 per sensor and is subject to regulatory concerns and high labor costs. ARS scientists and Texas AgriLife (Bushland) collaborators tested two new soil water sensors in field trials and found both sensors were substantially cheaper than the gold standard but only one was shown to be as accurate as the gold standard and useful for irrigation scheduling. This sensor, which was developed by ARS at Bushland, Texas, and Acclima, Inc., is the TDR-315 and costs about \$300 per unit. This technology will enable producers to more efficiently use limited water resources while maintaining crop yields and quality.

Artificial intelligence accelerates alfalfa breeding. Traditional plant breeding is often a slow, laborious process that includes many steps of manual phenotypic assessment. Artificial intelligence (AI) holds great promise for replacing these manual steps and accelerating plant assessments in breeding programs. ARS scientists in St. Paul, Minnesota, analyzed 15,000 root systems of alfalfa plants using digital images as input into an AI model to test its ability to predict root types. Initial model results were 64 percent accurate at predicting root type, and the model was improved an additional 11 to 13 percent by applying machine learning. This method can be used by non-specialists, requires only a phone camera, and reduces the time for identifying root types from 22 to 2 weeks while reducing human errors during sampling and plant selection. The AI method has accelerated the breeding process and the accuracy of selecting for developing plants with diverse traits such as more fibrous roots with more nitrogen-fixing root nodules, a deep tap root for drought tolerance, and highly branched roots for wet soil tolerance.

Library and Information Services

Current Activities:

The National Agricultural Library (NAL) is the largest and most accessible agricultural research library in the world. It provides services directly to the staff of USDA and to the public, primarily via its web site, <http://www.nal.usda.gov>. NAL, which was created with the USDA in 1862, was named a national library 100 years later, in 1962, by Congress as "the primary agricultural information resource of the United States." NAL is the premier library for collecting, managing, and disseminating agricultural knowledge.

Selected Examples of Recent Progress:

USDA public access implementation plan and Open Science. In accordance with USDA's 2023 "Implementation Plan to Increase Public Access to USDA-Funded Research Results", the National Agricultural Library (NAL) published a public notice, held a stakeholder listening session, and participated in two Tribal Consultations during the first and second quarters of 2024. NAL and OCS posted an addendum to the plan on <https://www.nal.usda.gov/services/public-access> and submitted

it to the Office of White House Office of Science and Technology Policy as required by the 2022 OSTP memorandum "Ensuring Free, Immediate, and Equitable Access to Federally Funded Research". Overall, NAL held 35 public access and open science events in 2024 reaching over 1,300 attendees.

NAL Research Support Services expand public access to USDA-funded research. NAL services include PubAg, USDA's public repository for full-text scholarly publications and the Ag Data Commons, a scientific research data catalog and repository that helps the agricultural research community share and discover data generated from USDA-funded research. NAL works closely with the USDA research community to meet Federal open-access requirements to support scientific integrity and data reuse. In 2024, both PubAg and Ag Data Commons completed and operationalized transitions to commercial off-the-shelf Software as a Service (SaaS) platforms, which has reduced costs and improved operational performance and customer service. These technology updates ensure the scalability required for implementing the White House OSTP memorandum "Ensuring Free, Immediate, and Equitable Access to Federally Funded Research."

ACCOUNT 2: BUILDINGS AND FACILITIES**PROJECT STATEMENTS****Table ARS-16. Project Statement on Basis of Appropriations (thousands of dollars, FTEs)**

Item	2023 Actual	2024 Actual	2025 Estimated	2026 Estimated	Inc. or Dec.
Discretionary Appropriations:					
Buildings and Facilities	\$17,600	-	-	-	-
Community Based Projects.....	56,697	\$57,164	-	-	-
Subtotal	74,297	57,164	-	-	-
Supplemental Appropriations:					
Disaster Relief	58,000	-	\$42,500	-	-\$42,500
Subtotal	58,000	-	42,500	-	-42,500
Total Adjusted Approp	132,297	57,164	42,500	-	-42,500
Total Appropriation.....	132,297	57,164	42,500	-	-42,500
Recoveries, Other	1,448	55,573	-	-	-
Bal. Available, SOY.....	61,441	146,826	122,197	\$103,574	-18,623
Total Available	195,186	259,563	164,697	103,574	-61,123
Bal. Available, EOY	-146,826	-122,197	-103,574	-30,757	+72,817
Total Obligations	48,360	137,366	61,123	72,817	+11,694

Table ARS-17. Funding Detail on Basis of Appropriations (thousands of dollars, FTEs)

Allocations	2023 Actual	2024 Actual	2025 Estimated	2026 Estimated	Inc. or Dec.
Buildings and Facilities					
Beltsville, MD, Beltsville Area Research Center, Building 002	\$500	-	-	-	-
Beltsville, MD, Beltsville Area Research Center, Building 005	11,200	-	-	-	-
Beltsville, MD, Beltsville Area Research Center, Building 308	500	-	-	-	-
Beltsville, MD, Beltsville Area Research Center, Infrastructure.....	5,400	-	-	-	-
Subtotal	17,600	-	-	-	-
Community Based Projects					
Albany, CA, Western Regional Research Center	-	\$500	-	-	-
Athens, GA, U.S. National Poultry Research Center	1,000	-	-	-	-
Booneville, AR, Wastewater Treatment Plant Rehabilitation	117	-	-	-	-
Burns, OR, Range and Meadow Forage Management Research.....	408	-	-	-	-
Charleston, SC, U.S. Vegetable Laboratory.....	-	500	-	-	-
Columbia, MO, Center for Agricultural Animal Genetic Engineering and Health.....	4,000	3,000	-	-	-
El Reno, OK, Grazinglands Research Laboratory	1,260	-	-	-	-
El Reno, OK, Oklahoma and Central Plains Greenhouse Renovation Project	-	1,200	-	-	-
Hilo, HI, U.S. Pacific Basin Agricultural Research Center .	1,215	-	-	-	-
Houma, LA, Sugarcane Research.....	4,000	5,000	-	-	-
Houston, TX, Children's Nutrition Research Center	7,115	-	-	-	-
Kimberly, ID, Idaho Center for Agriculture, Food, and the Environment	1,000	2,000	-	-	-
Las Cruces, NM, Range Management Research Unit	2,831	-	-	-	-
Lincoln, NE, National Center for Resilient and Regenerative Precision.....	-	25,000	-	-	-
Madison, WI, Facilities Maintenance and Repair	-	1,000	-	-	-

Allocations	2023 Actual	2024 Actual	2025 Estimated	2026 Estimated	Inc. or Dec.
Madison, WI, Marshfield Agricultural Research Station ...	6,000	-	-	-	-
Maricopa, AZ, U.S. Arid Land Agricultural Research Center	1,478	-	-	-	-
Orono, ME, National Cold Water Marine Aquaculture Center	3,500	-	-	-	-
Orono, ME, New England Plant, Soil, and Water Research Laboratory.....	-	10,000	-	-	-
Pendleton, OR, Columbia Plateau Conservation Research Center	700	-	-	-	-
Peoria, IL, Capital Improvements.....	3,500	-	-	-	-
Peoria, IL, National Center for Agricultural Utilization Research Center.....	-	1,269	-	-	-
Prosser, WA, Facility Upgrades	-	3,000	-	-	-
Raleigh, NC, Central Crops Research Station	1,000	1,475	-	-	-
St. Paul, MN, Cereal Disease Laboratory.....	7,000	1,000	-	-	-
Stillwater, OK, Hydraulic Engineering Research Unit.....	3,254	-	-	-	-
Stillwater, OK, Wheat, Peanut, and Other Field Crops Research Unit.....	4,177	-	-	-	-
Tucson, AZ, Facility Upgrades.....	698	-	-	-	-
Urbana, IL, Capital Improvements	500	1,220	-	-	-
Wenatchee, WA, Deferred Maintenance	400	-	-	-	-
Woodward, OK, Southern Plains Range Research Center	1,544	-	-	-	-
Wooster, OH, Greenhouse Research Facility	-	1,000	-	-	-
Subtotal	56,697	57,164	-	-	-
Disaster Relief Supplemental					
Auburn, AL, National Soil Dynamics Research Laboratory	28,000	-	-	-	-
Ft. Pierce, FL, United States Horticultural Research Laboratory	-	-	\$14,500	-	-\$14,500
Houma, LA, Sugarcane Research Laboratory.....	-	-	28,000	-	-28,000
Madison, WI, U.S. Dairy Forage Research Center.....	10,000	-	-	-	-
Pullman, WA, Crop and Land Management Research Laboratory	20,000	-	-	-	-
Subtotal	58,000	-	42,500	-	-42,500
Total Allocations.....	132,297	57,164	42,500	-	-42,500

Table ARS-18. Project Statement on Basis of Obligations (thousands of dollars, FTEs)

Item	2023 Actual	2024 Actual	2025 Estimated	2026 Estimated	Inc. or Dec.
Discretionary Obligations:					
<u>Buildings and Facilities</u>					
Buildings and Facilities	\$16,384	\$64,796	\$1,749	\$7,294	+\$5,545
ARS Co-Located Facilities	796	2,395	-	-	-
Community Based Projects.....	10,785	32,002	44,874	40,523	-4,351
Subtotal Disc Obligations.....	27,965	99,193	46,623	47,817	+1,194
Supplemental Obligations:					
Emergency Supplemental	395	173	-	-	-
Disaster Relief	20,000	38,000	14,500	25,000	+10,500
Subtotal Supp Obligations	20,395	38,173	14,500	25,000	+10,500
Total Obligations	48,360	137,366	61,123	72,817	+11,694
Balances Available, EOY:					
Buildings and Facilities	146,826	122,197	103,574	30,757	-72,817
Total Bal. Available, EOY	146,826	122,197	103,574	30,757	-72,817

Total Available	195,186	259,563	164,697	103,574	-61,123
Less:					
Recoveries, Other	-1,448	-55,573	-	-	-
Bal. Available, SOY.....	-61,441	-146,826	-122,197	-103,574	+18,623
Total Appropriation.....	132,297	57,164	42,500	-	-42,500

Table ARS-19. Funding Detail on Basis of Obligations (thousands of dollars, FTEs)

Allocations	2023 Actual	2024 Actual	2025 Estimated	2026 Estimated	Inc. or Dec.
Buildings and Facilities					
Athens, GA, Southeast Poultry Research Center..	\$2,023	\$756	\$367	-	-\$367
Beltsville, MD, Beltsville Area Research Center, Building 001	-	14,512	-	-	-
Beltsville, MD, Beltsville Area Research Center, Buildings 002, 005 and 308.....	1,753	1,690	-	-	-
Beltsville, MD, Beltsville Area Research Center, Building 002	-	2,096	-	-	-
Beltsville, MD, Beltsville Area Research Center, Building 003	-	2,624	-	-	-
Beltsville, MD, Beltsville Area Research Center, Building 004	-	11,496	-	-	-
Beltsville, MD, Beltsville Area Research Center, Building 005	11,321	-	-	-	-
Beltsville, MD, Beltsville Area Research Center, Building 010A	-	11,523	-	-	-
Beltsville, MD, Beltsville Area Research Center, Building 307	97	-	-	\$94	+94
Beltsville, MD, Beltsville Area Research Center, Building 308	-	500	-	-	-
Beltsville, MD, Beltsville Area Research Center, Infrastructure	-	-	-	3,200	+3,200
Corvallis, OR, National Clonal Germplasm Repository.....	-	-	28	-	-28
Ft. Detrick, MD, Foreign Disease-Weed Research Center	-	837	1,000	4,000	+3,000
Mandan, ND, Land Acquisition	-	2,200	-	-	-
Prairie du Sac, WI, Dairy Forage Research Center	-	15,200	-	-	-
Salinas, CA, U.S. Agricultural Research Station ...	821	453	8	-	-8
Temple, TX, Grassland, Soil and Water Research Laboratory	98	533	81	-	-81
Tucson, AZ, Southwest Watershed Research Laboratory	271	377	265	-	-265
Subtotal	16,384	64,797	1,749	7,294	+5,545
ARS Co-Located Facilities					
Auburn, AL, National Soil Dynamics Laboratory...	24	1,187	-	-	-
Columbia, MO, University of Missouri.....	772	-	-	-	-
Geneva, NY, Grape Genetics Research Center	-	1,000	-	-	-
Raleigh, NC, Raleigh Research Laboratory	-	208	-	-	-
Subtotal	796	2,395	-	-	-
Community Based Projects					
Albany, CA, Western Regional Research Center ..	-	-	400	100	-300
Athens, GA, U.S. National Poultry Research Center	739	-	261	-	-261

Allocations	2023 Actual	2024 Actual	2025 Estimated	2026 Estimated	Inc. or Dec.
Booneville, AR, Wastewater Treatment Plant Rehabilitation.....	-	117	-	-	-
Burns, OR, Range and Meadow Forage Management Research	-	-	408	-	-408
Charleston, SC, U.S. Vegetable Laboratory.....	-	-	-	500	+500
Columbia, MO, Center for Agricultural Animal Genetic Engineering and Health	-	-	1,000	6,000	+5,000
Dubois, ID, U.S. Sheep Experiment Station	290	1,856	1,900	75	-1,825
El Reno, OK, Grazinglands Research Laboratory..	105	1,088	67	-	-67
El Reno, OK, Oklahoma and Central Plains Greenhouse Renovation Project	-	-	250	950	+700
Hilo, HI, U.S. Pacific Basin Agricultural Research Center	-	-	99	965	+866
Houma, LA, Sugarcane Research	735	45	16,420	1,800	-14,620
Houston, TX, Children's Nutrition Research Center	526	2,348	2,500	1,500	-1,000
Kimberly, ID, Idaho Center for Agriculture, Food, and the Environment	6	-	2,794	200	-2,594
Las Cruces, NM, Range Management Research Unit	407	320	1,800	305	-1,495
Lincoln, NE, National Center for Resilient and Regenerative Precision.....	-	25,000	-	-	-
Madison, WI, Marshfield Agricultural Research Station.....	-	558	-	4,196	+4,196
Madison, WI, Research Facilities Maintenance and Repair	-	-	200	800	+600
Maricopa, AZ, U.S. Arid Land Agricultural Research Center	-	-	70	1,330	+1,260
Orono, ME, National Cold Water Marine Aquaculture Center.....	-	306	2,825	369	-2,456
Orono, ME, New England Plant, Soil and Water Research Laboratory.....	-	-	1,300	8,000	+6,700
Pendleton, OR, Columbia Plateau Conservation Research Center	-	-	700	-	-700
Peoria, IL, Capital Improvements.....	-	256	-	2,900	+2,900
Peoria, IL, National Center for Agricultural Utilization Research Center.....	400	-	5,000	369	-4,631
Prosser, WA, Facility Upgrades.....	-	-	-	2,200	+2,200
Raleigh, NC, Central Crops Research Station	-	-	200	2,000	+1,800
St. Paul, MN, Cereal Disease Laboratory	7,000	-	1,000	-	-1,000
Stillwater, OK, Hydraulic Engineering Research Unit	213	39	-	2,800	+2,800
Stillwater, OK, Wheat, Peanut, and Other Field Crops Research Unit	306	68	3,450	354	-3,096
Tucson, AZ, Facility Upgrades.....	58	-	630	10	-620
Urban, IL, Capital Improvements	-	-	800	800	-
Wenatchee, WA, Deferred Maintenance	-	-	400	-	-400
Woodward, OK, Southern Plains Range Research Center	-	-	400	1,100	+700
Wooster, OH, Greenhouse Research Facility	-	-	-	900	+900
Subtotal	10,785	32,001	44,874	40,523	-4,351
Disaster Relief Supplemental					

Allocations	2023 Actual	2024 Actual	2025 Estimated	2026 Estimated	Inc. or Dec.
Auburn, AL, National Soil Dynamics Research Laboratory	-	28,000	-	-	-
Ft. Pierce, FL, United States Horticultural Research Laboratory.....	-	-	13,500	-	-13,500
Houma, LA, Sugarcane Research Laboratory	-	-	1,000	25,000	+24,000
Madison, WI, U.S. Dairy Forage Research Center Pullman, WA, Crop and Land Management Research Laboratory.....	20,000	-	-	-	-
Subtotal	20,000	38,000	14,500	25,000	+10,500
Emergency Hurricane Supplemental					
Subtotal	395	173	-	-	-
Total	48,360	137,366	61,123	72,817	+11,694

CLASSIFICATION BY OBJECTS**Table ARS-20. Classification by Objects (thousands of dollars)**

Item No.	Item	2023 Actual	2024 Actual	2025 Estimated	2026 Estimated
Other Objects:					
32.0	Land and structures	\$48,360	\$137,366	\$61,123	\$72,817
99.9	Total, new obligations	48,360	137,366	61,123	72,817

STATUS OF CONSTRUCTION

Status of Construction Projects as of December 2024. Status of research facilities authorized or funded in prior years and reported as uncompleted in the 2025 Explanatory Notes, are as follows:

NOTE: Program of Requirement (POR): A study/document that defines the research program, associated space and equipment needs and associated design criteria. DESIGN: The design is either a conceptual design - designated as 35 percent - or a complete design designated as 100 percent. YEARS: All references to years are fiscal years.

Table ARS-21. Status of Construction

Location and Purpose	Year	Amount of Funds Provided	Description
Alabama, Auburn National Soil Dynamics Research Laboratory	2019 Design and Construction [2023 Supplemental] Total	\$43,300,000 [28,000,000] 71,300,000	Design completed 2nd Quarter 2024. Resolicit 3rd Quarter 2025 and award 4th Quarter 2025.
Arkansas, Stuttgart Waste Water Treatment Plant Rehabilitation	2023 Planning	\$117,000	Location completed spending funds in 2024 for repairs.
Arizona, Maricopa U.S. Arid Land Agricultural Research Center	2023 Planning	\$1,478,000	In the process of awarding a design contract for various deferred maintenance repairs.
Arizona, Tucson Southwest Watershed Research Center	2016 Design and Construction	\$12,400,000	Design/Programming completed 1st Quarter 2018. Construction contract awarded 4th Quarter 2018. Construction completion date is scheduled for 4th Quarter 2025.

Location and Purpose	Year	Amount of Funds Provided	Description
Arizona, Tucson Facility Upgrades	2023 Planning	\$698,000	Planning underway for various repair projects.
California, Albany Western Regional Research Center	2024 Design and Construction	\$500,000	Currently discussing possible projects and awaiting recommendations.
California, Davis Center for Advanced Viticulture and Tree Crop Research	2020 Design and Construction	\$76,200,000	Design completed 2nd Quarter 2023. Construction contract awarded 4th Quarter 2024. Construction completion planned 1st Quarter 2027.
California, Salinas Agricultural Research Station	2016 Design 2017 Construction 2018 Construction Total	\$1,300,000 30,200,000 <u>71,200,000</u> 102,700,000	A design update was awarded 1st Quarter 2017 and completed 4th Quarter 2018. Contract awarded 4th Quarter 2020. All work completed January 2025.
Florida, Ft. Pierce United States Horticultural Research Laboratory	[2025 Construction Supplemental]	[\$14,500,000]	Award design build construction contract in 4th Quarter of 2025 and complete 2nd Quarter 2027.
Georgia, Athens U.S. National Poultry Research Center	2015 Planning, Design, Construction 2016 Construction 2023 Planning Total	\$45,000,000 113,701,000 <u>1,000,000</u> 159,701,000	See list below for current status: - B43A Hatchery/Brooding completed 4th Quarter 2019 - B45 Laboratory/Office/Administration completed 1st Quarter 2022 - B47 BLS-3 Animal Holding/Laboratory completed 4th Quarter 2022 - B46 BSL-2 Animal Holding completed 2nd Quarter 2025 - Finalize Roadways, Sidewalks etc. completed 2nd Quarter 2025 - 2023 funds obligated for various roofing projects
Georgia, Tifton Southeast Watershed Research Laboratory	2019 Design and Construction	\$39,900,000	Design completed 2nd Quarter 2023. Construction awarded 1st Quarter 2024. Construction completed by 2nd Quarter 2027.
Hawaii, Hilo U.S. Pacific Basin Agricultural Research Center	2023 Planning	\$1,215,000	Working on SOW for design contract.
Idaho, Dubois U.S. Sheep Experiment Station	2022 Construction Design	\$4,200,000	Multiple projects in planning/design phase. Award for construction planned for 2025.

Location and Purpose	Year	Amount of Funds Provided	Description
Idaho, Kimberly Idaho Center for Agriculture, Food, and the Environment	2023 Planning 2024 Construction Total	\$1,000,000 <u>2,000,000</u> 3,000,000	Plan to award construction of Shop building by 4th Quarter 2025.
Illinois, Peoria New Greenhouse	2022 Construction Design	\$4,500,000	Design completion planned for 4th Quarter 2025 and Construction award planned for 2nd Quarter 2026.
Illinois, Peoria Capital Improvements	2023 Planning, Design, Construction 2024 Construction Total	\$3,500,000 <u>1,269,000</u> 4,769,000	Awarded design 2nd Quarter 2024.
Illinois, Urbana Capital Improvements	2023 Design 2024 Construction Total	\$500,000 <u>1,220,000</u> 1,720,000	Currently in planning stage.
Iowa, Ames National Laboratory for Agricultural and the Environment	2016 Design and Construction 2016 Reassigned to BARC Building 005 Total	\$13,500,000 <u>(138,941)</u> 13,361,059	Design awarded 4th Quarter 2016. Bridging documents completed 4th Quarter 2017. Construction awarded 4th Quarter 2018 and completed 4th Quarter 2020. Balance of funds from completed project reassigned to BARC Building 005 in 2023.
Kansas, Manhattan National Bio and Agro-Defense Facility (NBAF) Laboratory	2022 Design and Construction	\$10,600,000	
Kentucky, Lexington Forage Animal Research Laboratory	2020 Construction	\$65,900,000	Design completed 4th Quarter 2023.
Louisiana, Houma Sugarcane Research Unit	2022 Construction 2023 Planning 2024 Construction [2025 Design and Construction Supplemental] Total	\$10,000,000 4,000,000 5,000,000 <u>[28,000,000]</u> 47,000,000	Design funding provided in 2022 for construction of greenhouses. Awarded design 2nd Quarter 2023. Design completed 4th Quarter 2024. Solicit Greenhouse 3rd Quarter 2025 and award 4th Quarter. Solicit Laboratory A-E design update 3rd Quarter 2025.
Maine, Orono National Cold Water Marine Aquaculture Center	2023 Planning	\$3,500,000	Design awarded January 2024 and completed November 2024. Construction award in progress.
Maine, Orono	2024 Planning, Design and	\$10,000,000	In process to hire a firm to design

Location and Purpose	Year	Amount of Funds Provided	Description
New England Plant, Soil, and Water Laboratory	Construction		repair work in the laboratory building and greenhouse.
Maryland, Beltsville (BARC) Renovate Building 307	2016 Design and Construction 2016 Reassigned to BARC Building 002 Total	\$37,100,000 (1,583,624) 35,516,376	Construction was awarded 1st Quarter 2020. Beneficial occupancy taken in July 2022. Project closed and remaining funds redirected to BARC Building 002.
Maryland, Beltsville (BARC) Renovate Buildings 002, 005, and 308	2020 Design	\$12,300,000	Design awarded for Building 002 4th Quarter 2020 and completed 4th Quarter 2021. Design awarded for Building 005 4th Quarter 2020 and completed 3rd Quarter 2022. Award for 35 percent design of Building 308 executed in 4th Quarter 2020 and completed in the 3rd Quarter 2022.
Maryland, Beltsville (BARC) Renovate Building 001	2017 Reassigned from Frederick (Ft. Detrick)	\$16,000,000	Award A-E design contract by 4th Quarter 2025.
Maryland, Beltsville (BARC) Renovate Building 002	2016 Reassigned from BARC Bldg B307 2021 Construction 2023 Reassigned from BARC Infrastructure Total	\$1,583,624 24,500,000 500,000 26,583,624	Construction awarded 3rd Quarter 2022. Construction completion planned for 4th Quarter 2025.
Maryland, Beltsville (BARC) Renovate Building 003	2017 Reassigned from Frederick (Ft. Detrick)	\$10,000,000	Design awarded in 2024 and will be complete 4th Quarter 2025. Construction award in 2nd Quarter 2026.
Maryland, Beltsville (BARC) Renovate Building 004	2017 Reassigned from Frederick (Ft. Detrick)	\$12,450,000	Award A-E design contract by 4th Quarter 2025.
Maryland, Beltsville (BARC) Renovate Building 005	2016 Reassigned from Ames, Iowa (NLAE) 2022 Construction 2023 Construction (Reassigned - BARC) Total	\$138,941 34,805,000 11,200,000 46,143,941	Construction awarded 4th Quarter 2023. Construction completion planned for 4th Quarter 2026. 2023 funds reassigned from BARC Infrastructure.
Maryland, Beltsville (BARC) Renovate Building 010A	2017 Reassigned from Frederick (Ft. Detrick)	\$11,550,000	Award A-E design contract by 4th Quarter 2025.
Maryland, Beltsville (BARC) Renovate Building 308	2023 Design (Reassigned from BARC Infrastructure)	\$500,000	Design completed 4th Quarter 2022. Project on hold until the BARC Master Plan is finalized.

Location and Purpose	Year	Amount of Funds Provided	Description
Maryland, Beltsville BARC Infrastructure	2023 Planning 2023 Reassigned to BARC Building 002 2023 Reassigned to BARC Building 005 2023 Reassigned to BARC Building 308 2023 Reassigned to Mandan, ND Total	\$17,600,000 (500,000) (11,200,000) (500,000) <u>(2,200,000)</u> 3,200,000	Majority of funds reassigned to other projects. BARC water tower repair design in development.
Maryland, Frederick (Fort Detrick) Foreign Disease-Weed Science Research Laboratory	2016 Design 2017 Construction 2017 Reassigned to BARC Building 001 2017 Reassigned to BARC Building 003 2017 Reassigned to BARC Building 004 2017 Reassigned to BARC Building 010 Total	\$4,900,000 64,300,000 (16,000,000) (10,000,000) (12,450,000) <u>(11,550,000)</u> 19,200,000	Design/Programming awarded 4th Quarter 2016 and completed 2nd Quarter 2018. \$50M redirected to various repairs of Beltsville Agricultural Research Center (BARC). The remaining \$19.2M will be used to replace an existing greenhouse and to modernize various smaller Ft. Detrick facilities.
Minnesota, St. Paul Cereal Disease Laboratory	2023 Planning 2024 Design Total	\$7,000,000 <u>1,000,000</u> 8,000,000	Planning and Design funds for a new GSF Lab/Office building, GSF Headhouse and greenhouse. Planning contract awarded 3rd Quarter 2024. Completion of planning phase expected in 4th Quarter 2025.
Missouri, Columbia National Plant and Genetics Security Center	2020 Design and Construction	\$24,800,000	Design completed 4th Quarter of 2022. Construction awarded 3rd Quarter 2023. Completion planned for 4th Quarter 2025.
Missouri, Columbia Center for Agricultural Animal Genetic Engineering and Health	2022 Planning and Design 2023 Planning and Design 2024 Planning and Design Total	\$4,000,000 4,000,000 <u>3,000,000</u> 11,000,000	Design award 1st Quarter 2025.
Nebraska, Lincoln University of Nebraska National Center for Resilient Precision Agriculture	2021 Planning and Design 2022 Construction 2024 Construction Total	\$11,200,000 20,000,000 <u>25,000,000</u> 56,200,000	Lease finalized 1st Quarter 2024. POR completed 1st Quarter 2023. Design completed 4th Quarter 2023. Greenhouse construction has acceptable bids that are good until May 30, 2025. USACE will award 3rd Quarter 2025 pending approval to award by USDA and construction completion planned 3rd Quarter 2026.
New Mexico, Las	2023 Planning	\$2,831,000	Construction award for most repairs

Location and Purpose	Year	Amount of Funds Provided	Description
Cruces Range Management Research Unit			planned 4th Quarter 2025. Construction completion planned 1st Quarter 2027. Repairs to Wooton Hall fire alarm construction award 4th Quarter. Construction completion planned for 3rd Quarter 2026.
New York, Geneva Grape Genetics Research Center	2019 Design and Construction	\$68,900,000	Design completed 1st Quarter 2024. Project on hold until the finalized easement agreement. Solicitation for construction projected for 3rd Quarter 2025.
North Carolina, Raleigh Central Crops Research Station	2023 Planning 2024 Construction Total	\$1,000,000 <u>1,475,000</u> 2,475,000	ARS is working to secure a lease for the land with the University.
North Carolina, Raleigh Plant Science Research	2019 Design and Construction	\$30,600,000	Permits completed 4th Quarter 2025 and construction solicitation issued 1st Quarter 2026.
North Dakota, Mandan Land Acquisition	2023 Reassigned from BARC Infrastructure	\$2,200,000	Land purchased for future project.
Ohio, Toledo/Wooster Greenhouse Research Facility	2024 Planning	\$1,000,000	Currently in planning stage.
Oklahoma, El Reno Grazinglands Research Laboratory	2023 Planning	\$1,260,000	Road projects completed 2nd Quarter 2025.
Oklahoma, El Reno, Oklahoma and Central Plains Research Center	2024 Planning	\$1,200,000	Planning for repairs to Headhouse/Greenhouse. Design award planned 3rd Quarter 2025 and construction award planned 2nd Quarter 2026.
Oklahoma, Stillwater Hydraulic Engineering Research Unit	2023 Planning	\$3,254,000	Hydraulic Engineering Siphon System Upgrades. Design completed 3rd Quarter 2025. Construction award planned for 1st Quarter 2026.
Oklahoma, Stillwater Wheat, Peanut, and Other Field Crops Research Unit	2023 Planning	\$4,177,000	Design complete. Anticipated award by 4th Quarter 2025.
Oklahoma,	2023 Planning	\$1,544,000	Design complete.

Location and Purpose	Year	Amount of Funds Provided	Description
Woodward Southern Plains Range Research Center			
Oregon, Burns Range and Meadow Forage Management Research	2023 Planning	\$408,000	Contracting package submitted 3rd Quarter 2025.
Oregon, Corvallis National Clonal Germplasm Repository	2020 Design and Construction	\$13,500,000	Design completed 4th Quarter 2022. Construction awarded 2nd Quarter 2023 and final acceptance 3rd Quarter 2025.
Oregon, Pendleton Columbia Plateau Conservation Research Center	2023 Planning	\$700,000	Design awarded 3rd Quarter 2023 and completed 3 rd Quarter 2024. Project resolicited with award planned for 4th Quarter 2025.
Pennsylvania, University Park Pasture Systems & Watershed Management Research	2019 Design and Construction	\$21,900,000	Design completed 3rd Quarter 2022. Construction awarded for 2nd Quarter 2023 and final acceptance 1st Quarter 2026.
South Carolina, Charleston	2024 Design and Construction	\$500,000	Planning repairs from the Deferred Maintenance list.
Texas, Houston Children's Nutrition Research Center	2016 Design and Construction 2023 Planning Total	\$29,200,000 <u>7,115,000</u> 36,315,000	Design completed 2nd Quarter 2022. Design Build Contract awarded 2nd Quarter 2023. Construction completion planned 2nd Quarter 2026. Designed awarded and complete for four projects (Flood Gate, Lighting, BAS and Critical Updates). Flood Gate and Lighting projects awarded construction.
Texas, Kerrville Knippling Bushland Laboratory	2017 Planning and Design 2018 Construction Total	\$3,700,000 <u>50,700,000</u> 54,400,000	The design was awarded 1st Quarter 2019 and completed 2nd Quarter 2021. Construction awarded 1st Quarter 2022. Construction completion planned for 1st Quarter 2026.
Texas, Temple Grassland Soil & Water Research Laboratory	2017 Planning and Design 2018 Construction Total	\$1,400,000 <u>18,700,000</u> 20,100,000	Design completed 4th Quarter 2019. Construction awarded 4th Quarter 2020. Construction completed 3rd Quarter 2023.
Washington, Prosser Deferred Maintenance	2024 Planning	\$3,000,000	Planning has begun to address critical utility needs (septic) at the Prosser worksite.

Location and Purpose	Year	Amount of Funds Provided	Description
Washington, Pullman Pullman ARS Research Laboratory Plant Biosciences Building	2019 Design and Construction [2023 Supplement Construction] Total	\$104,900,000 <u>[20,000,000]</u> 124,900,000	Design Build contract awarded 3rd Quarter 2023 with a beneficial occupancy planned for 1st Quarter 2026.
Washington, Wenatchee Deferred Maintenance	2023 Planning	\$400,000	Planning stage complete. Design completion planned 2nd Quarter 2025. Solicitation out by 3rd Quarter 2025.
Wisconsin, Prairie du Sac Dairy Forage Agriculture Research Center	2019 Design and Construction [Supplemental Construction] Total	\$71,700,000 <u>10,000,000</u> 81,700,000	Design completed 4th Quarter 2023. Anticipated contract award for 2nd Quarter 2025 and final acceptance 3rd Quarter 2027.
Wisconsin, Madison Maintenance and Repair	2024 Planning and Construction	\$1,000,000	Planning in progress.
Wisconsin, Madison Marshfield Agricultural Research Station	2023 Planning	\$6,000,000	Design completion planned 1st Quarter 2026.
Wisconsin, Madison Plant Germplasm Research Facility	2022 Planning/Design and Construction	\$39,700,000	Planning phase awarded 2nd Quarter 2025 and with estimated completion by 4th Quarter 2025.
Emergency Hurricane Supplemental Funding	2018 Planning, Design and Construction	\$22,000,000	St. Croix Electrical Distribution Project to be awarded for construction in 2025. Mayaguez and Isabella projected to be complete in 2025.

AGENCY-WIDE PERFORMANCE

Introduction

The Agriculture Research Service (ARS) was established November 2, 1953, within the Department of Agriculture and is the chief scientific in-house research agency. The agency's mission is to "deliver scientific solutions to national and global agricultural challenges."

The purpose of the Summary of Performance section is to provide an update on Performance and Evidence and Evaluation efforts, facilitating compliance with the Government Performance Results Modernization Act (GPRMA) and the Evidence Act of 2018, as well as departmental Key Performance Indicators (KPI). The Office of Budget and Program Analysis (OBPA) leads the Department in performance, evaluation, evidence, and risk management and chairs the Performance, Evaluation, Evidence Committee (PEEC) and the Enterprise Risk Management (ERM) committee. Each USDA Mission Area is represented on these committees.

The Research, Education, and Economics (REE) mission area and the Office of the Chief Scientist are jointly represented through the OCS' Strategic Planning, Program Evaluation, and Enterprise Risk Officer, whose team functions as the coordinating members on USDA's PEEC and ERM committees.

The Research, Education, and Economics (REE) mission area of the U. S. Department of Agriculture has Federal leadership responsibility for advancing scientific knowledge related to agriculture through research, extension, and education. The mission area office is led by the Under Secretary for the Research, Education, and Economics (REE) and Chief Scientist for USDA, whose responsibilities include oversight of the four agencies that comprise OCS/REE, the Agricultural Research Service (ARS), National Institute for Food and Agriculture (NIFA), Economic Research Service (ERS), and National Agricultural Statistics Service (NASS.) The National Agriculture Library, National Arboretum, and the Office of the Chief Scientist also fall under this mission area.

The mission of the Office of the Chief Scientist (OCS) is to provide strategic coordination of the science that informs the Department's and the Federal government's decisions, policies, and regulations that impact all aspects of U.S. food and agriculture, related landscapes, and communities.

Therefore, REE performance, evaluation, evidence and risk management efforts are coordinated and led by the Office of the Chief Scientist on behalf of the Mission Area. The OCS Strategic Planning, Program Evaluation, and Enterprise Risk Officer leads the Mission Area by chairing two committees: the OCS/REE Performance, Evaluation and Evidence Committee (OCS/REE-PEEC) and the OCS/REE Enterprise Risk Management (ERM) Committee. The two Mission Area committees are comprised of REE agency leaders in performance, evaluation, evidence and risk management, as well as the Mission Area's functional and operational leads as necessary.

Alignment to USDA Strategic Plan

ARS activities contribute to the success of USDA's overall mission to provide leadership on food, agriculture, natural resources, rural development, nutrition, and related issues using sound public policy, the best available science, and effective management, to the benefit of all Americans. USDA is currently developing the 2026-2030 Strategic Plan and will report alignment in the 2027 Explanatory Notes.

SUMMARY OF PERFORMANCE

USDA is currently developing the 2026-2030 Strategic Plan, including new KPIs. A more detailed report of the performance plan can be found at <https://www.usda.gov/our-agency/about-usda/performance>.