



Plant Protection Act Section 7721 Fiscal Year 2022 Spending Plan

Plant Pest and Disease Management and
Disaster Prevention Program

February 2022

Contents

Summary	3
Information for Cooperators	3
Funding by Goal Area.....	4
Funding by State	4

Alabama	Nebraska
Alaska	Nevada
Arizona	New Hampshire
Arkansas	New Jersey
California	New Mexico
Colorado	New York
Connecticut	North Carolina
District of Columbia	North Dakota
Delaware	Ohio
Florida	Oklahoma
Georgia	Oregon
Guam	Pennsylvania
Hawaii	Puerto Rico
Idaho	Rhode Island
Illinois	South Carolina
Indiana	South Dakota
Iowa	Tennessee
Kansas	Texas
Kentucky	Utah
Louisiana	Vermont
Maine	Virginia
Maryland	Washington
Massachusetts	West Virginia
Michigan	Wisconsin
Minnesota	Wyoming
Mississippi	National
Missouri	Tribal Nations
Montana	

Summary

The U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) is allocating \$70.725 million to support 372 projects under the Plant Protection Act's Section 7721 (PPA 7721) to strengthen the nation's infrastructure for pest detection and surveillance, identification, threat mitigation, and safeguard the nursery production system. This amount includes \$63.225 million to fund 344 projects for the Plant Pest and Disease Management and Disaster Prevention Program (PPDMDPP). This amount includes direct program costs. Approximately \$15.5 million of the PPDMDPP funding will be reserved for responding to pest and plant health emergencies throughout the year. Selected projects will be carried out by State and Federal agencies, Tribal nations, nongovernmental organizations, and private entities in 48 states, Guam, and Puerto Rico. By working with these collaborators, USDA will leverage and extend its ability to protect, detect, and respond to plant pests and diseases at local and regional levels.

Since 2009, USDA has supported more than 4,800 projects and provided nearly \$740 million in PPA 7721 funding. These projects have played a significant role in our efforts to protect American agriculture and educate the public about the threat posed by invasive species. The PPA 7721 received nearly 550 submissions requesting over \$111 million in funding, during the seven-week open period last summer. USDA is funding approximately 67 percent of the projects suggested. USDA appreciates all the suggestions received and recognizes the great interest in carrying out work that helps protect U.S. agriculture and the environment from invasive plant pests and pathogens. We thank all applicants for their interest in the PPA 7721 funding.

Information for Cooperators

Congratulations on receiving funding approval for your project suggestion under the PPDMDPP! In this FY2022 Spending Plan, you will find our funding level by the project submission's title and state listed on the application. If your project is national in scope, you can view your funding level by searching for project's title under the 'National' section. Note: Sub-cooperators, please contact the main project applicant to determine if you were approved for funding.

As a next step, USDA will assign the Agency Authorized Departmental Officer's Designated Representative (ADODR) to each project to guide the cooperative agreement process. The ADODR will contact you in the coming weeks to collaboratively work on the project work plan and financial plan.

In the meantime, if you have not had a previous APHIS cooperative agreement, please obtain an ezFedGrants account. All APHIS cooperative agreements are required to be processed and completed using the ezFedGrants system. PPA 7721 funding recipients must have an eAuthentication (eAuth) account with Level 2 access to use the system. For additional information, please reference the ezFedGrants user guide or visit the USDA's ezFedGrants website.

Funding by Goal Area

Goal	Goal Area Description	Funding Level
1A	Enhance Plant Pest/Disease Analysis	\$1,985,345
1S	Enhance Plant Pest/Disease Survey	\$14,300,000
2	Target Domestic Inspection Activities at Vulnerable Points in the Safeguarding Continuum	\$6,250,000
3	Pest Identification and Detection Technology Enhancement	\$6,250,000
4	Safeguard Nursery Production	\$1,542,494
5	Outreach and Education	\$3,500,000
6	Enhance Mitigation Capabilities	\$13,294,927

Note: Additional funding includes Rapid Response and direct costs (\$16,102,234)

Funding by State

Alabama

Goal	Project	Title	Cooperator Type	Funding Level
N/A	N/A	No projects were submitted	N/A	\$0
TOTAL				\$0

Alaska

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0119	AKF2022 Defoliating Moth Survey	State Government	\$84,562
5	5.0085	First Detector Training and Engagement in Alaska; Invasive Slugs	Academia	\$35,882
TOTAL				\$120,444

Arizona

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0257	Nursery and Retail Greenhouse Crops Pest Survey	State Government	\$50,000
1S	1S.0262	Tropical Hosts, Palm Commodity Survey	State Government	\$100,000
3	3.0581	Improving the identification Capacity of Hyperdiverse Conotrachelus Weevils from Mexico, the U.S., and Canada	Academia	\$80,817
6	6.0230	Towards Field Deployment of Smart Molecular Insecticide (RNAi-based) Targeting Mormon Crickets: Year 1 of 2	APHIS	\$206,077
TOTAL				\$436,894

Arkansas

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0241	Phytophthora Ramorum Nursery and/or Enrions Survey	State Government	\$20,000
3	3.0184	Development of Diagnostics for Three New Blueberry Viruses	Academia	\$88,230
5	5.0314	Forest Pest Outreach Project	State Government	\$39,364
TOTAL				\$147,594

California

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0476	Asian Defoliator Survey	State Government	\$446,000
1S	1S.0531	Exotic Fruit Fly Survey	State Government	\$4,500,000
1S	1S.0541	Solanaceous Commodity Survey	State Government	\$100,000
1S	1S.0534	Spotted Lantern Fly Survey	State Government	\$100,000
1S	1S.0537	Stone Fruit Commodity Survey	State Government	\$300,000
2	2.0352	Differential Phase Contrast X-ray Imaging for Detection of Pests in Plants using AI	Academia	\$268,500
2	2.0426	California Agriculture Detector Dog Team Program	State Government	\$4,000,000
3	3.0057	Targeted Identification of Pheromones and Related Attractants for Invasive Cerambycid Beetles	Academia	\$209,814
3	3.0179	Diagnostic Tools for Quarantine Significant Bean Beetles (Chrysomelidae: Bruchinae)	Academia	\$149,024
3	3.0285	Improving Diagnosis of Grapevine and Prunus Diseases of Phytosanitary Significance using High Throughput Sequencing	State Government	\$155,998
3	3.0335	Enhancing Diagnostics of Regulated Plant Parasitic Nematodes	State Government	\$75,569
3	3.0459	Developing a Rapid Diagnostics Tool for Exotic and Recurrent Phytophthora Species Associated with Nursery Crops	Academia	\$144,855
4	4.0178	National Ornamentals Research Site at Dominican University of California	Academia	\$350,000
6	6.0082	Navel Orangeworm SIT: Improving Insect Quality, Quantifying Field Performance, and Evaluating Standing Population	Non-APHIS Federal	\$1,216,675
6	6.0364	Postharvest Treatments for Spotted Lanternfly	Non-APHIS Federal	\$115,983
6	6.0388	Biological Control to Bagrada Bug	APHIS	\$228,803
6	6.0414	Effects of Inorganic Bromide in Pregnant Cattle and Calves exposed in utero: the sequel	Academia	\$92,695
6	6.0451	Eliminating Transmission of Xylella Fastidiosa by the Glassy-winged Sharpshooter Using CRISPR	Academia	\$111,407

6	6.0576	Emergency Health Response Teams	State Government	\$2,000,000
TOTAL				\$14,565,323

Colorado

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0067	Stone Fruit Survey	State Government	\$38,073
1S	1S.0131	Grape Survey	State Government	\$19,806
3	3.0226	Identification Resources for Plusiinae pests (Lepidoptera)	APHIS	\$80,358
3	3.0227	Diagnostic Tools to Identify Exotic Tortricidae that Threaten U.S. Agriculture	APHIS	\$239,006
3	3.0279	Molecular Research to Support the Asian Giant Hornet Response	APHIS	\$241,534
TOTAL				\$618,777

Connecticut

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0026	Grape Commodity Survey	State Government	\$40,096
1S	1S.0030	Phytophthora Ramorum Survey	State Government	\$25,000
1S	1S.0120	Tree Fruits, Stone Fruit Commodity Survey	State Government	\$33,336
6	6.0251	Enhancing Spotted Lanternfly Mitigation by Testing for Adaptation to Cold Climates in the Invaded Landscape	Non-APHIS Federal	\$57,923
TOTAL				\$156,355

District of Columbia

Goal	Project	Title	Cooperator Type	Funding Level
N/A	N/A	No projects submitted	N/A	\$0
TOTAL				\$0

Delaware

Goal	Project	Title	Cooperator Type	Funding Level
6	6.0158	Protection of North American Ash Industry and Forests with Biological Control	Non-APHIS Federal	\$182,130
6	6.0244	Biological Control of Asian Longhorned Beetle	Non-APHIS Federal	\$82,680
TOTAL				\$264,810

Florida

Goal	Project	Title	Cooperator Type	Funding Level
1A	1A.0424	A Smart Surveillance and Mitigation Platform	Academia	\$99,429
1A	1A.0466	Bioeconomic Modeling-Based Trapping Strategies for High Risk, Invasive Fruit Fly Pest Surveillance	Academia	\$67,409
1A	1A.0525	Predicting Dispersal Risk Following Major Weather Events to Guide Rapid Response Efforts	Academia	\$127,763
1S	1S.0078	Fruit Fly Detection	State Government	\$1,000,000
1S	1S.0368	Survey for Tomato Leafminer, Old World Bollworm, and Pest of Tomato	State Government	\$160,000
2	2.0269	Identification of Giant African Snail Odors to Aid Detector Dog Training	APHIS	\$125,837
2	2.0365	Florida Detector Dog Inspection and Enhanced Domestic Pest Detection	State Government	\$1,350,000
3	3.0222	Improved Surveillance and Diagnostics of Old World Bollworm (OWB) in Florida	Academia	\$79,338
3	3.0527	Advancing Molecular Methods for Improved Diagnosis of Invasive Thrips	Academia	\$83,911
5	5.0448	Florida First Detector	Academia	\$74,279
6	6.0008	Establishment and Evaluation of Brazilian Peppertree Biological Control	Non-APHIS Federal	\$200,000
6	6.0211	Advancing Species Sensitivity Distributions as a Method for Setting Generic Phytosanitary Irradiation Doses	APHIS	\$65,815
6	6.0297	Biological Control of Cactus Moth, <i>Cactoblastis Cactorum</i> (Berg)	State Government	\$91,153
6	6.0302	Black Bean Bug Survey and Control	State Government	\$80,341
6	6.0480	Application of Novel and Effective Oviposition Deterrents for <i>Bactrocera</i> and Other Invasive Fruit Flies	APHIS	\$175,262
6	6.0549	Registration of <i>Verticillium Nonalfalfae</i> to Control Tree-of-Heaven	Private Entity	\$301,326
6	6.0559	Establishment and Evaluation of <i>Lilioceris egena</i> for Air Potato Biocontrol	Non-APHIS Federal	\$252,808
6	6.0589	Phytosanitary Irradiation of Thripidae/ Phlaeothripidae and Pseudococcidae	APHIS	\$55,552
TOTAL				\$4,390,223

Georgia

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0035	Forest Trees and Shrubs, Forest Pest Survey	State Government	\$51,975
1S	1S.0036	Field Crop Pest Survey	State Government	\$30,000
1S	1S.0039	Nursery and Retail Plant Pest Survey	State Government	\$21,980
5	5.0197	First Detector Network	Academia	\$42,240

5	5.0495	Improving Efficiency of Integrating Bugwood Center Resources in Outreach and Education Websites	Academia	\$86,107
TOTAL				\$232,302

Guam

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0363	Guam Combined Survey	Academia	\$45,000
2	2.0345	Target Domestic Inspection	State Government	\$46,754
6	6.0491	Invasive Hornet Mitigation Program	Academia	\$41,936
TOTAL				\$133,690

Hawaii

Goal	Project	Title	Cooperator Type	Funding Level
3	3.0271	Integrative Identification Methods for Bactrocera Fruit Flies	Academia	\$365,494
3	3.0276	Identification of Oriental Fruit Fly Larvae and Trap-captures	Academia	\$248,705
3	3.0624	Developing Molecular Diagnostic Tools to Determine Strain and Mating Status of Fruit Fly Incursions	Non-APHIS Federal	\$120,880
6	6.0137	Systems Approach for the Management of Coffee Berry Borer in Hawaii and Puerto Rico with Emphasis on Biological Control	Non-APHIS Federal	\$275,110
6	6.0346	Auto-dissemination of a Microbial Insecticide to Control Invasive Fruit Flies	Academia	\$175,694
6	6.0479	Determine the Prevalence of Spinosad Resistance in Invasive Fruit Flies in Hawaii and Test Alternative Bait-insecticides	Academia	\$165,041
TOTAL				\$1,350,924

Idaho

Goal	Project	Title	Cooperator Type	Funding Level
3	3.0470	Developing Tools for Improved Detection of Anguina Agrostis, Anguina Tritici and Identification of New Anguinid Nematode	Academia	\$188,646
6	6.0068	PCN Immunity	Academia	\$782,844
6	6.0069	Protecting the U.S. Potato Industry Against Exotic Viroid Pathogens Impacting Trade	Academia	\$105,159
6	6.0600	Nez Perce Tribe Bio-control Project Noxious/Invasive Weed Survey and Control	Tribal Nation	250,000
TOTAL				\$1,326,649

Illinois

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0370	Asian Defoliator Survey	Academia	\$45,339
1S	1S.0372	Orchard Commodity Survey	Academia	\$32,398
5	5.0185	Forest Pest Outreach	Non-Profit	\$84,455
TOTAL				\$162,192

Indiana

Goal	Project	Title	Cooperator Type	Funding Level
1A	1A.0378	NPDN Analysis – Making Diagnostic Lab Data Available to a Wider Audience – Part II	Academia	\$48,571
1S	1S.0043	Exotic Wood Borer/Bark Beetle Survey	State Government	\$77,026
1S	1S.0075	Specialty Crops Survey	State Government	\$10,788
5	5.0100	Forest Pest Outreach and Survey Project	State Government	\$75,491
TOTAL				\$211,876

Iowa

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0003	Walnut Twig Beetle/Thousand Canker Disease Survey	State Government	\$10,000
TOTAL				\$10,000

Kansas

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0325	Agroforestry Pest Survey	State Government	\$15,500
TOTAL				\$15,500

Kentucky

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0115	Phytophthora Ramorum Survey	Academia	\$20,000
1S	1S.0118	Asian Defoliator Survey	Academia	\$15,000
1S	1S.0127	Grape Commodity Survey	Academia	\$23,678
1S	1S.0160	Solanaceous Commodity Survey	Academia	\$29,606
1S	1S.0410	Spotted Lanternfly Survey	Academia	\$42,720
3	3.0266	Population Genomics, Diagnostic Strain Determination, and SIT Characterization for the Mexican Fruit Fly	Academia	\$142,504
5	5.0166	Invasive Pest Outreach: Focus Firewood	Academia	\$12,927
5	5.0389	Invasive Pest Outreach	Academia	\$30,985
5	5.0397	Spotted Lanternfly Outreach	Academia	\$45,974
6	6.0298	Japanese Beetle Control Near Airports and Cargo Transportation Facilities: Testing field efficacy of the product	Academia	\$107,210
TOTAL				\$470,604

Louisiana

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0014	Sudden Oak Death (Phytophthora ramorum) Survey	State Government	\$20,000
1S	1S.0015	Citrus Commodity Survey	State Government	\$13,000

1S	1S.0016	Solanaceous Commodity Survey	State Government	\$17,000
TOTAL				\$50,000

Maine

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0334	State of Maine Exotic Woodborer and Bark Beetle Survey	State Government	\$47,031
1S	1S.0416	Cyst Nematode Survey	State Government	\$35,000
1S	1S.0425	Small Fruit Pest Survey	State Government	\$16,985
1S	1S.0557	Vegetable Crop Pest Survey	State Government	\$15,000
5	5.0291	Tribes in Maine Invasive Species Project	Academia	\$74,920
5	5.0304	Increasing Awareness of Firewood Movement as Pathway for Invasive Forest Pests	State Government	\$19,506
5	5.0369	Outreach and Education to Protect Maine Forests from Invasive Plants	State Government	\$22,792
TOTAL				\$231,234

Maryland

Goal	Project	Title	Cooperator Type	Funding Level
1A	1A.0037	Improving Predictive Modeling and Surveillance Allocation with the Cost-Effective Surveillance Allocation Tool 2.0	Academia	\$125,848
1S	1S.0506	Phytophthora ramorum Nursery Survey	State Government	\$14,500
1S	1S.0520	Nursery and Retail Plants Survey	State Government	\$24,299
1S	1S.0556	Asian Defoliator Survey	State Government	\$25,000
1S	1S.0562	Walnut Twig Beetle/Thousand Cankers Disease Survey	State Government	\$14,000
1S	1S.0565	Oak Commodity Survey	State Government	\$13,500
3	3.0073	Development of a Sensitive and Portable Detection Method for the Detection of Phytoplasmas with CRISPR-Cas12a	Academia	\$116,727
3	3.0350	Specimen Imaging and Georeferencing of Undocumented Plant Pathogens Collected in the United States	Non-APHIS Federal	\$105,200
3	3.0412	Validation of Real-time and Conventional RT-PCR assays for the Detection of Cotton Leafroll Dwarf Virus (CLRDV)	APHIS	\$127,325
3	3.0422	Development of a TaqMan rtPCR Diagnostic Assay for Ceratocystis Manginecans, Causal Agent of Mango Sudden Decline	Non-APHIS Federal	\$124,680
3	3.0437	Leveraging High-Throughput Sequencing Technologies to Detect and Genotype R. Solanacearum Directly from Plant Samples	APHIS	\$97,523
3	3.0563	Viral Diversity and Recombination Rates in US Honey Bee Commercial Operations	Non-Profit	\$71,338

6	6.0013	Synergies of Biocontrol and Systemic Insecticides to Protect Ash from Emerald Ash Borer	Academia	\$184,963
6	6.0306	Linking Colony Miticide Residues in Beeswax to Varroa Mite Resistance Management	Academia	\$109,859
TOTAL				\$1,154,762

Massachusetts

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0328	Orchard Commodity Survey Plan	State Government	\$25,000
1S	1S.0362	Spotted Lantern Fly Survey	State Government	\$35,000
3	3.0047	Developing Survey Tools for Agrilus Biguttatus and Other European Woodborers of Potential Concern with an Emphasis on VI	APHIS	\$79,000
3	3.0071	Color Trap and Lure Development for Coconut Rhinoceros Beetle	APHIS	\$30,000
3	3.0113	Pheromone for the European Woodwasp Sirex noctilio	APHIS	\$41,805
3	3.0114	Development of Real-Time and Droplet Digital PCR Methods for Khapra Beetle	Academia	\$78,976
3	3.0149	Lure and Color Trap Development for Monitoring of Citrus Longhorned Beetle Anaplophora Chinesis	APHIS	\$50,000
3	3.0171	Spotted Lanternfly Pheromones	APHIS	\$84,667
3	3.0195	Asian Giant Hornet (AGH) Lure Development	APHIS	\$97,188
4	4.0596	Sterile Insect Technique (SIT), Mating Disruption and Other IPM Tools to Eradicate Box Tree Moth Incursions	Academia	\$440,642
5	5.0274	Forest and Agricultural Pest Outreach	State Government	\$62,443
5	5.0337	Asian Longhorned Beetle Outreach Campaign	State Government	\$148,750
6	6.0091	Effects of Timing and Application Methods on Efficacy & Persistence of Systemic Imidacloprid Applied for HWA Control	APHIS	\$116,507
6	6.0122	Attract-and-Kill to Monitor and Manage the Khapra Beetle	Academia	\$155,200
6	6.0268	Facilitating Spread of the Microsporidian Pathogen, Ovavesicula Popillae, for Long-term Suppression of Japanese Beetle	Academia	\$152,350
6	6.0419	Developing Biological Control Methods for Roseau Cane Scale	APHIS	\$329,578
TOTAL				\$1,927,106

Michigan

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0400	Forest Trees and Shrubs, Forest Pest Survey	State Government	\$50,000
1S	1S.0432	Potato Cyst Nematode Survey	State Government	\$14,500
1S	1S.0436	Phytophthora Ramorum Survey	State Government	\$25,000

3	3.0327	Revision of Euwallacea Species Limits for Improved Diagnostics of Potential Invasive Species	Academia	\$166,173
6	6.0516	Enhancing Mitigation of European Cherry Fruit Fly Through Endosymbionts	Academia	\$76,156
TOTAL				\$331,829

Minnesota

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0049	Vegetable Crops, Vegetable Crops Pest Survey (Agricultural Pathways Survey of Fruit and Vegetable Pests)	State Government	\$117,671
1S	1S.0216	Taxon, Cyst Nematode Survey	State Government	\$54,000
1S	1S.0218	Nursery & Retail, Nursery and Retail Plants Pest Survey	State Government	\$80,000
3	3.0041	Increasing Capacity to Identify Phytoplasmas with RT-PCR and Sequencing of 16s rRNA	State Government	\$32,169
5	5.0065	Invasive Pest Outreach and First Detector	State Government	\$78,765
TOTAL				\$362,605

Mississippi

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0079	Pathway, Asian Defoliator Survey	Academia	\$39,209
1S	1S.0081	Vegetable Crops, Solanaceous Commodity Survey	Academia	\$37,445
1S	1S.0099	Forest Trees & Shrubs, Exotic Wood Borer/Bark Beetle Survey	State Government	\$15,000
1S	1S.0105	Forest Trees & Shrubs, Oak Commodity Survey	State Government	\$27,346
3	3.0108	Eastern Regional Screening Center	Academia	\$165,000
5	5.0086	Mississippi Bug Blues	Academia	\$88,242
5	5.0104	Farmers First Initiative	Academia	\$19,818
5	5.0107	Mississippi Bug Blues Educator Invasive Boxes	Academia	\$28,595
6	6.0228	Sonic Weaponry for Managing Rangeland Grasshoppers and Mormon Crickets	Academia	\$94,376
TOTAL				\$515,031

Missouri

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0180	Thousand Cankers Disease Survey	State Government	\$20,000
1S	1S.0386	Plum Pox Virus Survey	State Government	\$24,000
TOTAL				\$44,000

Montana

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0511	Terrestrial Mollusk Survey	State Government	\$18,500
1S	1S.0514	Nursery and Retail Plant Pest Survey	State Government	\$18,000
1S	1S.0526	Exotic Woodboring Beetle and Bark Beetle Survey	State Government	\$25,000
5	5.0018	Don't Move Firewood Outreach Campaign	Non-Profit	\$182,184
TOTAL				\$234,684

Nebraska

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0103	Khapra Beetle Survey	State Government	\$5,000
1S	1S.0111	Potato Cyst Nematode	State Government	\$37,000
TOTAL				\$42,000

Nevada

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0038	Asian Defoliator Survey	State Government	\$16,000
1S	1S.0042	Khapra Beetle Survey	State Government	\$5,000
1S	1S.0052	Palm Commodity Survey	State Government	\$14,000
1S	1S.0058	Vegetable Crops Pest Survey	State Government	\$16,000
1S	1S.0063	Field Crops, Cyst Nematode Survey	State Government	\$35,000
1S	1S.0064	Solanaceous Commodity Survey	State Government	\$30,592
1S	1S.0066	Nursery and Retail Plants Bundled Phytophthora Survey	State Government	\$25,000
5	5.0112	Invasive Pest Outreach	State Government	\$40,000
TOTAL				\$181,592
6	6.0024	Advancing Blueberry Plant Protection: Creating ID & Monitoring Tools for Parasitoids of Blueberry Gall Midge	Academia	\$107,571

New Hampshire

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0061	Forest, Trees and Shrubs, Forest Pest Survey	State Government	\$26,000

1S	1S.0062	Vegetable Crops Pest Survey	State Government	\$10,695
1S	1S.0072	Nursery & Retail, Nursery and Retail Plants Pest Survey	State Government	\$6,980
1S	1S.0074	Tree Fruits, Orchard Commodity Survey	State Government	\$5,170
5	5.0095	Traveler and Consumer Outreach and Education for Spotted Lanternfly	State Government	\$25,512
5	5.0249	Forest Pest Outreach Project	Academia	\$45,000
6	6.0024	Advancing Blueberry Plant Protection: Creating ID & Monitoring Tools for Parasitoids of Blueberry Gall Midge	Academia	\$107,571
6	6.0214	Movement Dynamics of Emamectin Benzoate in Ash: Impacts on Chemical and Biological Control of the Emerald Ash Borer	Academia	\$106,624
TOTAL				\$333,552

New Jersey

Goal	Project	Title	Cooperator Type	Funding Level
2	2.0236	Deployment of Detection Dogs in NY to Mitigate the Spread of Spotted Lanternfly	Non-Profit	\$42,298
5	5.0164	NJ Spotted Lanternfly Public Outreach and Business Awareness Program	State Government	\$250,000
TOTAL				\$292,298

New Mexico

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0004	Nut Pest Survey	State Government	\$35,000
TOTAL				\$35,000

New York

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0295	Box Tree Moth Survey	State Government	\$276,714
1S	1S.0296	Orchard Commodity Survey	State Government	\$95,000
1S	1S.0299	Grape Commodity Survey	State Government	\$125,000
1S	1S.0300	Stone Fruit Commodity Survey	State Government	\$270,000
3	3.0130	NPDN and State Diagnostician Preparedness Training through the USDA-APHIS-Beltsville Laboratory and Other Experts	Academia	\$169,380
3	3.0315	Automation Scalability for Direct Testing of Potato Tubers to Safeguard US Seed Potato Health	Non-APHIS Federal	\$254,700
4	4.0575	Implementing New Apple Tree Certification in New York	State Government	\$90,000
6	6.0330	Deregulation and Enhanced Regulatory Activities of Golden Nematode	State Government	\$138,393

6	6.0293	Saint Regis Mohawk Tribe EAB Emergency Response	Tribal Nation	\$182,936
TOTAL				\$1,602,123

North Carolina

Goal	Project	Title	Cooperator Type	Funding Level
1A	1A.0248	Automated Host Mapping Tool for Spread Modeling and Field Operations Planning	Academia	\$115,954
1A	1A.0284	Analytical Support for OPEP Assessments and CAPS Datasheets	Academia	\$202,702
1A	1A.0387	Coupling Pest and Pathogen Spread and SAFARIS Phenological Forecasts with Tangible Landscape Visualization	Academia	\$137,446
1A	1A.0496	Adding Economic Optimization Modules to the Eradication Analysis & Decision Support Tool	Academia	\$125,866
1A	1A.0501	Advanced Modeling Capabilities for Exotic Plant Pathogens	Academia	\$64,474
1A	1A.0521	Trade Route Analytic Computing and Evaluation (TRACE)	Academia	\$224,150
1A	1A.0546	Developing New Predictive Modeling Approaches to Estimate Plant Pest Suitability	Academia	\$151,623
1A	1A.0584	Protecting US Fruit and Vegetable Industry from the Introduction of the Oriental Fruit Fly	Academia	\$99,884
1A	1A.0611	Develop, Validate and Deliver an Impact Assessment Rapid-Screening Framework for Rapid Prioritization of Exotic Pests	Academia	\$142,822
1A	1A.0615	Practical Applications of Models for Enhancing Sterile Insect Technique (SIT) and other Pest Surveillance Programs	Academia	\$111,308
1S	1S.0406	Phytophthora Ramorum Survey	State Government	\$14,500
1S	1S.0420	Vegetable Crops, Solanaceous Commodity Survey	State Government	\$14,000
1S	1S.0440	Small Fruits & Berries, Grape Commodity Survey	State Government	\$11,500
1S	1S.0449	Pathway, Asian Defoliator Survey	State Government	\$12,000
1S	1S.0453	Nursery & Retail, Nursery and Retail Plants Pest Survey: Box Tree Moth	State Government	\$11,000
3	3.0348	A Data Driven and Sensor Integrated Platform for Monitoring Emerging Phytophthora Diseases	Academia	\$308,523
5	5.0497	Invasive Species Outreach	State Government	\$22,000
6	6.0401	Establishing and Assessing Biological Control Agents of Emerald Ash Borer in North Carolina	Academia	\$64,832
6	6.0605	Evaluating and Optimizing the Delimitation Survey Expert System (DSES) for New Pest Response Teams Based on Field Use	Academia	\$146,178
TOTAL				\$1,980,762

North Dakota

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0092	Grape Commodity Survey	Academia	\$30,000

1S	1S.0210	Program Pest Survey, Potato Cyst Nematode Survey	State Government	\$81,750
1S	1S.0238	General/Cyst Nematode Survey	State Government	\$14,243
1S	1S.0282	Khapra Beetle Survey	State Government	\$7,000
TOTAL				\$132,993

Ohio

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0375	Grape Commodity Survey	State Government	\$32,665
1S	1S.0382	Orchard Commodity Survey	State Government	\$70,000
1S	1S.0384	Phytophthora Ramorum Nursery Soil/Container Mix and Retail Plant Survey	State Government	\$10,000
5	5.0552	Forest Pest Outreach	State Government	\$43,920
TOTAL				\$156,585

Oklahoma

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0090	Phytophthora Ramorum Nursery Survey	State Government	\$20,000
1S	1S.0446	Grape Commodity Survey	State Government	\$26,633
TOTAL				\$46,633

Oregon

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0169	Vegetable Crops, Solanaceous Commodity Survey	State Government	\$65,000
1S	1S.0188	Tree Fruits, Orchard Commodity Survey	State Government	\$90,000
1S	1S.0286	Pathway, Asian Defoliator Survey	State Government	\$237,639
1S	1S.0461	Pathway, Exotic Wood Borer/Bark Beetle Survey	State Government	\$41,971
2	2.0421	Rail Inspection Program	State Government	\$51,991
3	3.0452	Development of CRISPR-CAS Diagnostics for Detection of Phytophthora Ramorum	Academia	\$73,150
3	3.0181	Woodborer Workshop in Support of CAPS and Other Surveys	State Government	\$19,818
3	3.0326	Identification Guide to the Acmaeodera of America North of Mexico	State Government	\$13,669
3	3.0464	National Identification Center for Support of CAPS and Other Surveys	State Government	\$122,000

3	3.0528	Identification Guide to Pest Grasshoppers of Oregon: A Field Guide to Nymphs and Adults	State Government	\$13,669
4	4.0154	Safeguarding Oregon grapevine nurseries from introduced pathogens	State Government	\$95,121
4	4.0170	Surveying Oregon's Certified Prunus Nurseries for the Causal Agents of Little Cherry Disease	State Government	\$167,247
4	4.0187	Using Next-Generation Sequencing to Verify Virus-Free Status of Legacy materials in Certification Programs	State Government	\$109,496
6	6.0177	Enhancing Biological Control of Brown Marmorated Stink Bug Through Mass Rearing and Redistribution of T. Japonicus	State Government	\$69,994
6	6.0347	Spotted Wing Drosophila Biocontrol	State Government	\$122,029
6	6.0399	Develop Proactive Biocontrol Strategy Against Emerald Ash Borer in Oregon	State Government	\$69,616
6	6.0548	Biological Control of Exotic Scarab Populations Using Zone IPM	State Government	\$122,139
TOTAL				\$1,484,549

Pennsylvania

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0019	Pennsylvania Orchard Commodity Survey	State Government	\$80,000
1S	1S.0189	Pennsylvania Vegetable Pest Survey	State Government	\$35,000
1S	1S.0190	Pennsylvania P. ramorum Nursery Survey and regional support	State Government	\$30,000
1S	1S.0539	Asian defoliator survey	State Government	\$20,000
1S	1S.0545	Grape Commodity Survey	State Government	\$49,975
1S	1S.0564	Stone Fruit Survey	State Government	\$41,745
1S	1S.0569	Walnut Twig Beetle Survey	State Government	\$15,000
1S	1S.0578	Box Tree Moth	State Government	\$15,000
2	2.0349	Spotted Lanternfly Regulatory Canine	State Government	\$83,227
3	3.0221	2022 Screening and Identification Services for Wood-boring Insect Pests at Carnegie Museum	Non-Profit	\$48,000
3	3.0320	Improving the Cas12a-based DETECTR Assay for Field-Deployable Diagnosis of Citrus Huanglongbing	Academia	\$99,927
3	3.0430	Development of CRISPR/Cas-based Assay for Ralstonia Solanacearum R3b2 Detection Deployable at U.S. Port-of-Entry	Academia	\$99,339
5	5.0031	Forest Pest Outreach (FPO) FY2022	State Government	\$65,550
5	5.0415	Spotted Lanternfly Outreach	Academia	\$382,035
6	6.0128	Deployment of State Interactive Online Mapping Applications for Finding Properties with New Spotted Lanternfly Outbreaks	Academia	\$82,379

6	6.0213	Mathematical Modeling of the Spread of the Spotted Lanternfly to Design Optimal Protocols and Strategies for Control	Academia	\$112,852
TOTAL				\$1,260,029

Puerto Rico

Goal	Project	Title	Cooperator Type	Funding Level
6	6.0597	Research in Support of the Systems Approach for Mango Exported from Puerto Rico to the European Union	Academia	\$41,887
TOTAL				\$41,887

Rhode Island

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0254	Grape Commodity Pest Survey	State Government	\$22,692
1S	1S.0261	Nursery and Retail Pests Survey	State Government	\$31,919
1S	1S.0621	Forest Pest Survey	Academia	\$27,669
1S	1S.0625	Tree Fruits/Orchard Commodity Survey	Academia	\$28,939
5	5.0609	Forest and Agricultural Outreach	Academia	\$13,401
TOTAL				\$124,620

South Carolina

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0477	Phytophthora Ramorum Nursery Survey	State Government	\$21,585
1S	1S.0550	Grape Commodity Survey	State Government	\$35,787
1S	1S.0555	Solanaceous Commodity Survey	State Government	\$35,747
5	5.0452	Southeastern Regional Forest Health and Invasive Species Education Program	Academia	\$97,688
TOTAL				\$190,807

South Dakota

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0264	Program Pest Survey, Khapra Beetle Survey	State Government	\$6,779
6	6.0270	Selecting and Improving Varroa-Resistant Honeybee Stocks for Commercial Beekeeping	Non-Profit	\$93,139
TOTAL				\$99,918

Tennessee

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0055	Vegetable Crops, Solanaceous Commodity Survey	Academia	\$20,000
1S	1S.0148	Phytophthora Ramorum Nursery Survey	State Government	\$25,000
1S	1S.0220	Nursery Commodity Survey	State Government	\$83,618
1S	1S.0337	Tennessee Asian Defoliator Survey	Academia	\$45,000
3	3.0428	National Plant Protection Laboratory Accreditation Program Lab	State Government	\$39,426
5	5.0536	Forest Pest Outreach and Survey Project	Academia	\$56,253
6	6.0484	Post-Release Aftermath Assessment of Biological Control of Emerald Ash Borer to Enhance Mitigation in a Southern Climate	Academia	\$88,775
TOTAL				\$358,072

Texas

Goal	Project	Title	Cooperator Type	Funding Level
1A	1A.0198	Distribution Modeling of Crop Pests and Pathogens in a Changing Climate	Academia	\$57,828
1A	1A.0201	Predictive modeling of Molluscan Pests in a Changing Climate	Academia	\$82,268
1S	1S.0033	Cyst Nematode Survey	Academia	\$50,000
1S	1S.0046	Field Survey for Corn and Small Grain Priority Pests	Academia	\$40,000
1S	1S.0053	Exotic Wood Boring Beetle Survey	Academia	\$67,135
1S	1S.0530	Stone Fruit Commodity Survey	Academia	\$50,000
1S	1S.0532	Grape Commodity Survey	Academia	\$61,443
3	3.0140	Improve PCR Diagnostics of Xylella Fastidiosa Subsp. Multiplex in Pecan and Peach	Academia	\$118,671
3	3.0366	Y4 SNP-based Diagnostic Tools for the Rapid Identification of the Boll Weevil (Anthonomus grandis grandis) and Other Ant	APHIS	\$153,508
4	4.0123	Development of a Network of Field Deployable Infrared Thermography-Minirhizotron Device for Nondestructive Rapid Detect	Academia	\$140,000
5	5.0054	Continuation of Citrus Greening Educational, Outreach, and Management Program in the Gulf Coast	Academia	\$43,725
5	5.0311	Enhancing Outreach Tools and Opportunities	APHIS	\$15,375
6	6.0087	Effect of Hypoxia on Efficiency of Phytosanitary Irradiation Against Insect Pests	Academia	\$142,292
6	6.0129	Investigating the Efficiency of Cholate-Capped Zinc Ferrite Nanoparticles as Organometallic-Control Agents Against Rice Diseases?	Academia	\$98,909
6	6.0143	Microbial Control of Candidatus Liberibacter Asiaticus	Academia	\$208,216

6	6.0206	Optimizing Liposome Properties for Therapeutic Payload Delivery to HLB-infected Citrus Trees	Academia	\$247,354
6	6.0231	Microbiome Analysis of Cholate-Capped Manganese Ferrite Nanoparticles as Organometallic-Control Agents Against the Rice	Academia	\$95,935
6	6.0373	Targeted Antimicrobials to Maximize the Production and Health of Anastrepha Ludens, the Mexican Fruit Fly	Academia	\$278,234
6	6.0380	Testing the Efficacy of Bait Sprays with Insecticides of Different Modes of Action on Mexican Fruit Fly	APHIS	\$130,710
6	6.0392	Deployment of a Predatory Mite, Amblyseius Swirskii, to Enhance Suppression of Asian Citrus Psyllid on Residential and Organic Citrus	Academia	\$155,010
6	6.0524	Augmented Phage Therapies for the Targeted Killing of Bacterial Plant Pathogens.	Academia	\$297,774
6	6.0535	Zap-O-Particles: Improving SIT Using X-ray Excitable Nanoparticles	Academia	\$266,514
TOTAL				\$2,800,901

Utah

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0011	Orchard Commodity Survey	Academia	\$17,000
1S	1S.0025	Asian Defoliator Survey	Academia	\$15,000
5	5.0102	Invasive Pest Outreach	Academia	\$49,995
TOTAL				\$81,995

Vermont

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0512	Exotic Wood Borer/Bark Beetle Survey	State Government	\$21,338
1S	1S.0554	Phytophthora Ramorum Survey	State Government	\$23,565
1S	1S.0598	Fruit Crops Pest Survey	State Government	\$29,076
1S	1S.0607	Vegetable Crop Pest Survey	State Government	\$20,000
5	5.0338	Forest Pest Outreach Project	State Government	\$45,573
TOTAL				\$139,552

Virginia

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0467	Grape Commodity Survey	State Government	\$30,902
1S	1S.0478	Forest Pest Survey	State Government	\$50,000
1S	1S.0481	Phytophthora Ramorum Survey	State Government	\$26,812

3	3.0193	CRISPR-Cas12a for Sensitive and Specific Detection of Xylella Fastidiosa Subspecies	Academia	\$59,470
TOTAL				\$167,184

Washington

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0007	Stone Fruit Commodity Survey	State Government	\$150,000
1S	1S.0225	Invasive Terrestrial Mollusk Survey	State Government	\$85,000
1S	1S.0260	Asian Defoliator Survey	State Government	\$250,000
1S	1S.0434	Grape Commodity Pest Survey	State Government	\$120,000
1S	1S.0490	Small Fruit Commodity Survey	State Government	\$75,000
2	2.0341	Continuing On-line Enforcement of WSDA Plant Health Quarantines	State Government	\$69,616
3	3.0255	Developing Molecular Identification Resources for the High Priority Pest, Cernuella Virgata	State Government	\$91,229
3	3.0488	WSDA Exotic Pest Survey Identification Center	State Government	\$125,000
3	3.0489	Comprehensive Survey of Wild and Managed Bees Captured in Sticky Traps	State Government	\$39,786
4	4.0351	Improving the WSDA Fruit Tree Virus Certification Program through an industry driven approach	State Government	\$90,760
4	4.0465	NORSUDUC - Lateral Movement of Phytophthora Ramorum in Nursery Substrates	Academia	\$59,228
5	5.0263	Asian Giant Hornet Community Outreach and Education	State Government	\$82,337
5	5.0313	Mobilizing and Empowering the Public to Detect High Consequence Pests	State Government	\$20,000
5	5.0323	Washington State Interagency Outreach and Education – A Comprehensive Interagency Approach	State Government	\$80,000
5	5.0595	Increasing Native Vigilance, Awareness and Surveillance of Invasions via Education (INVASIVE) Project	Academia	\$77,763
6	6.0126	Washington State Asian Giant Hornet Response	State Government	\$477,915
6	6.0132	Continuation of Survey for Parasitoids of Apple Maggot (Rhagoletis pomonella) (Diptera: Tephritidae) in Washington State	Non-APHIS Federal	\$61,619
6	6.0203	Preparing for Spotted Lanternfly in Washington State: An Interagency Action Plan to Protect Billions	State Government	\$90,000
6	6.0331	Asian Gypsy Moth Precision Delimit and Post-treatment Response in Washington State	State Government	\$123,000
6	6.0468	New Techniques Using Aerated Steam to Eradicate P. Ramorum and Other Pests/Pathogens	Academia	\$43,356
TOTAL				\$2,211,609

West Virginia

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0142	Asian Defoliator Survey	State Government	\$19,000
1S	1S.0239	Solanaceous Commodity Survey	State Government	\$11,000
1S	1S.0240	Phytophthora Ramorum Nursery Survey	State Government	\$20,000
5	5.0493	Invasive Pest Outreach	State Government	\$57,000
Total				\$107,000

Wisconsin

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0229	Phytophthora Ramorum Survey	State Government	\$19,727
1S	1S.0265	Forest Pest Survey	Tribal Nation	\$40,000
1S	1S.0316	Nursery and Retail Plants Pest Survey	State Government	\$49,876
1S	1S.0317	Potato Cyst Nematode Survey	Academia	\$58,750
3	3.0567	Improved Identification and Detection of Select Agent Ralstonia solanacearum Strains Threatening the US Potato Industry	Non-Profit	\$238,281
5	5.0032	Wisconsin Forest Pest & Disease Outreach Initiative	State Government	\$49,343
5	5.0273	Addressing gaps and expanding monitoring efforts with Wisconsin First Detector Network	Academia	\$54,811
5	5.0407	Investing in Our Future: WTCAC Native American Seasonal Workers conducting outreach and education to Tribal Communities	Tribal Nation	\$78,000
6	6.0418	WTCAC Board -Enhancing Mitigation and Rapid Response on Tribal Lands	Tribal Nation	\$25,762
TOTAL				\$614,550

Wyoming

Goal	Project	Title	Cooperator Type	Funding Level
N/A	N/A	No projects were submitted	N/A	\$0
TOTAL				\$0

National

Goal	Project	Title	Cooperator Type	Funding Level
1S	1S.0147	National Survey of Honey Bee Pests and Diseases	State Government	\$1,235,000
1S	1S.0196	Survey Supplies	APHIS	\$800,000
2	2.0417	PPA Canine Team Training	APHIS	\$211,777
5	5.0359	Hungry Pests Education and Outreach Program	APHIS	\$356,000
5	5.0431	Citrus Health Public Awareness and Outreach Campaign	APHIS	\$75,000

5	5.0194	PlayCleanGo National Outreach Expansion	Non-Profit	\$120,000
6	6.0447	Enhance Exotic Plant-Pest Mitigation and Response by Developing New Pest Response Guidelines	Academia	\$364,370
TOTAL				\$3,162,147

Tribal Nations

Goal	Project	Title	Cooperator	Funding Level
1S	1S.0265	Forest Pest Survey	Wisconsin Tribal Conservation Advisory Council	\$40,000
5	5.0291	Tribes in Maine Invasive Species Project	University of Maine	\$74,920
5	5.0407	Investing in our Future: Native American Seasonal Workers Conducting Outreach and Education to Tribal Communities	Wisconsin Tribal Conservation Advisory Council	\$78,000
6	6.0293	Saint Regis Mohawk Tribe EAB Emergency Response	Saint Regis Mohawk Tribe	\$182,936
6	6.0418	WTCAC Board - Enhance Mitigation and Rapid Response on Tribal Lands	Wisconsin Tribal Conservation Advisory Council	\$25,762
6	6.0600	Nez Perce Tribe Bio-control Project Noxious/Invasive Weed Survey and Control,	Nez Perce Tribe	\$250,000

NOTE: Cooperators whose projects target a Tribal audience, funding amount is incorporated into the state funding levels previously listed.