



United States Department of Agriculture

Plant Protection Act Section 7721 Fiscal Year 2020 Spending Plan

Plant Pest and Disease Management and
Disaster Prevention Program

March 2020

Table of Contents

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

Alabama	Montana
Alaska	Nebraska
Arizona	Nevada
Arkansas	New Hampshire
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	National
Mississippi	Tribal Nations
Missouri	

Summary

The U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) is allocating \$70.5 million to support 386 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 \$63.075 million to fund 357 projects for the Plant Pest and Disease Management and Disaster Prevention Program (PPDMDPP). 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 49 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 4,000 projects and provided nearly \$600 million in 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 900 submissions requesting over \$100 million in funding, during the six week open period last summer. USDA is funding approximately 64 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 encourage all cooperators to submit project suggestions for PPA 7721 funding in FY 2021 and beyond. 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 FY2020 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. Work plans and financial plans must be delivered to ADODRs no later than May 1, 2020.

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

Funding by Goal Area		
Goal	Goal Area Description	Funding Level
1A	Enhance Plant Pest/Disease Analysis	\$2,078,874
1S	Enhance Plant Pest/Disease Survey	\$14,300,000
2	Target Domestic Inspection Activities at Vulnerable Points in the Safeguarding Continuum	\$5,600,000
3	Pest Identification and Detection Technology Enhancement	\$6,250,000
4	Safeguard Nursery Production	\$1,999,936
5	Outreach and Education	\$3,600,000
6	Enhance Mitigation Capabilities	\$13,198,925
TOTAL*		\$47,027,735

* Plus approximately \$23 million in PPA 7721 funds for the National Clean Plant Network, emergency pest response, and internal program costs.

Funding by State

Alabama				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0261	Phytophthora ramorum Survey	State Government	\$20,000
1S	1S.0319	Asian Defoliator Survey	State Government	\$28,000
TOTAL				\$48,000
Alaska				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0352	Pathway(s) of Phytoplasma Introduction to Alaska	Academia	\$86,000
1S	1S.0472	Asian Defoliating Moth Survey	State Government	\$50,000
5	5.0010	First Detector Training and Engagement in Alaska	Academia	\$40,000
TOTAL				\$176,000
Arizona				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0142	Nursery and Retail Plants Pest Survey	State Government	\$100,000
1S	1S.0143	Palm Commodity Survey	State Government	\$87,884
4	4.0191	National Harmonized Systems Approach to Nursery Certification – eLearning Training Course	Non-Profit	\$35,400
6	6.0203	Developing Smart Molecular Insecticide Control Methods Targeting Mormon Crickets	APHIS	\$161,878
TOTAL				\$385,162

Arkansas				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0443	Phytophthora Ramorum Nursery and/or Environs Survey	State Government	\$20,000
1S	1S.0536	Grape Commodity Survey	State Government	\$12,000
1S	1S.0591	Stone Fruit Commodity Insect Pests Survey in Arkansas	Academia	\$19,000
4	4.0553	Development of Diagnostics for Three New Blueberry Viruses	Academia	\$147,463
5	5.0060	Forest Pest Outreach Project	State Government	\$39,364
TOTAL				\$237,827
California				
Goal	Project #	Title	Cooperator Type	Funding Level
1A	1A.0390	NPDN Analysis – Making Diagnostic Lab Data Available to a Wider Audience	Academia	\$48,587
1A	1A.0563	Harnessing Non-regulatory Pest Reporting for Rapid Targeted Responses to Exotic Pest Incursions	Academia	\$182,473
1A	1A.0576	Strategic Analysis of the Developing HLB Epidemics in California and Texas to Guide Intervention	APHIS	\$110,000
1S	1S.0133	Asian Defoliator Moth Survey	State Government	\$400,000
1S	1S.0288	Citrus Commodity Survey	State Government	\$450,000
1S	1S.0295	Exotic Fruit Fly Survey	State Government	\$4,800,000
2	2.0290	California Agriculture Detector Dog Team Program	State Government	\$2,731,066
3	3.0102	Targeted Identification of Pheromones and Related Attractants for Invasive Cerambycid Beetles	Academia	\$204,814
3	3.0158	Enhancing Taxonomic and Molecular Diagnostics Capacity for Fruit Flies	Academia	\$267,150
3	3.0265	Enhancing Diagnostics of Plant Parasitic Nematodes	State Government	\$13,400
3	3.0267	Enhancing Diagnostics of Cyst Forming Nematodes of the genus Globodera	State Government	\$22,170
3	3.0268	Enhancing Diagnostics of Cyst Forming Nematodes of the genus Heterodera	State Government	\$54,300
3	3.0348	Diversity of Quarantine Significant Hornets – Exotic Hornet Identification	Academia	\$88,109
3	3.0353	Tools for the Identification and Detection of Graminicolous Downy Mildews Including Peronosclerospora	Non-APHIS-Federal	\$289,055
4	4.0016	National Ornamentals Research Site at Dominican University of California	Academia	\$400,000
4	4.0180	Develop and Harmonize Voluntary Nursery Certification Program Based on Science Backed Best Management Practices	State Government	\$150,000
4	4.0475	Can Organic-Approved Chemicals Control Glassy-winged Sharpshooters Expressing Resistance to Conventional Insecticides	Academia	\$129,283
6	6.0145	Emergency Plant Health Response Teams	State Government	\$1,837,791
6	6.0262	Implementation of Biological Control to Control Spotted-winged Drosophila	Academia	\$200,000
6	6.0607	Development and Evaluation of Navel Orangeworm for Sterile Insect Release	Academia	\$245,357

6	6.0616	Tracking Seasonal Changes of Endophytic Communities in Fusarium Dieback-invasive Shot Hole Borers Host Trees in CA	Academia	\$88,098
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TOTAL				\$12,711,653
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Colorado				
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Goal	Project #	Title	Cooperator Type	Funding Level
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1S	1S.0641	Grape Commodity Survey	State Government	\$18,000
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1S	1S.0650	Stone Fruit Commodity Survey	State Government	\$38,073
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3	3.0235	Identification of Tuta Absoluta to Minimize its Threat to U.S. Tomato Production	APHIS	\$99,134
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3	3.0490	Diagnostic Tools to Identify Exotic Tortricidae that Threaten U.S. Agriculture	Non-APHIS-Federal	\$242,308
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6	6.0570	Reactivating a Biological Control Program Against Japanese Beetle	State Government	\$96,821
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TOTAL				\$494,336
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Connecticut				
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Goal	Project #	Title	Cooperator Type	Funding Level
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1S	1S.0004	Orchard Commodity Survey	State Government	\$26,357
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1S	5.0242	Wasps Watchers – Cerceris Biosurveillance	State Government	\$18,150
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5	5.0379	Forest and Agricultural Pest Outreach	State Government	\$39,282
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6	6.0164	Enhanced Mitigation and Rapid Response to Reduce Spread and Impact of Spotted Lanternfly	Non-APHIS-Federal	\$56,613
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TOTAL				\$140,402
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District of Columbia				
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Goal	Project #	Title	Cooperator Type	Funding Level
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4	4.0611	Field Testing, Supporting, Transitioning, and Launching the SANC Online Risk Assessment Tool	Non-Profit	\$49,600
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TOTAL				\$49,600
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Delaware				
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Goal	Project #	Title	Cooperator Type	Funding Level
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6	6.0305	Biological Control of the Asian Longhorned Beetle	Non-APHIS Federal	\$83,073
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6	6.0323	Research on Factors to Optimize Trissolcus Japonicus Releases for Brown Marmorated Stink Bug	Non-APHIS-Federal	\$129,442
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6	6.0329	Determining the Distribution and Natural Enemy Complex of the Roseau Cane Scale in Asia	Non-APHIS-Federal	\$212,073
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6	6.0359	Biocontrol of Invasive Emerald Ash Borer to Protect Urban and Natural Forest Ecosystems	Non-APHIS-Federal	\$153,352
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TOTAL				\$577,940
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Florida				
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Goal	Project #	Title	Cooperator Type	Funding Level
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1A	1A.0044	Developing the OPEP Risk Assessment Model for Wood Borers	Academia	\$79,454
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1S	1S.0214	Fruit Fly Detection	State Government	\$1,000,000
1S	1S.0243	Survey for Tomato Leafminer, Old World Bollworm, and Pests of Tomato	State Government	\$145,000
1S	1S.0318	Survey for Exotic Delphacids and Associated Pathogens	Academia	\$30,000
2	2.0218	Florida Detector Dog Inspection and Enhanced Domestic Pest Detection	State Government	\$1,313,904
3	3.0382	Diagnostic Tests for Exotic Honey Bees and Unwanted Apis Mellifera Subspecies	Academia	\$90,673
4	4.0478	Potential for Using SIT, Mating Disruption and Other IPM Tools to Eradicate Box Tree Moth Incursions in the U.S.	Non-APHIS-Federal	\$217,186
5	5.0505	Florida First Detector	Academia	\$47,137
5	5.0620	Potential Invasive Pests Workshop	Academia	\$37,941
6	6.0410	Characterization of BMSB Establishment in Florida to Support Biological Control and Mitigation	Academia	\$147,613
6	6.0503	Developing Biological Control to Mitigate the Harrisia Cactus Mealybug Damage in Puerto Rico	Non-APHIS-Federal	\$301,930
6	6.0515	Bagrada Bug: Establishment Potential in Florida	Academia	\$70,666
6	6.0592	Lychee Mite Eradication Program	State Government	\$600,000
TOTAL				\$4,081,504
Georgia				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0070	Blueberry Commodity Survey	State Government	\$23,065
1S	1S.0075	Field Crop Pest Survey	State Government	\$35,600
1S	1S.0080	Oak Commodity Survey	State Government	\$38,211
5	5.0253	First Detector Network in Georgia	Academia	\$39,074
TOTAL				\$135,950
Guam				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0065	Survey of Tomato for Ralstonia Solanacearum Race 3 Biovar 2 and Tuta Absoluta in Guam	Academia	\$38,000
6	2.0052	Canine Teams for Cargo, Mail, and Passenger Processing	State Government	\$79,813
6	5.0103	Marianas "Don't Pack a Pest" Outreach Program	Academia	\$92,000
TOTAL				\$209,813
Hawaii				
Goal	Project #	Title	Cooperator Type	Funding Level
6	6.0037	A Novel Approach to Rapid Detection of Meloidogyne Enterolobii and Meloidogyne Floridensis in Hawaii	Academia	\$80,945
6	6.0066	Chemical and Biological Control of Coconut Rhinoceros Beetle in Hawaii	Academia	\$62,085
6	6.0179	Develop Techniques to Rapidly Generate Non-transgenic Female Lethal Genetic Sexing Strains in Tephritid Pests	Non-APHIS-Federal	\$194,300
6	6.0308	Identification of a Fruit Fly Surrogate and Develop Postharvest Treatments for the Quarantine Pest Bactrocera Dorsalis	Non-APHIS-Federal	\$176,703

TOTAL				\$514,033
Idaho				
Goal	Project #	Title	Cooperator Type	Funding Level
6	6.0167	PCN Genetic Diversity	Academia	\$203,987
6	6.0168	PCN Immunity	Academia	\$550,000
6	6.0294	Protecting the U.S. Potato Industry Against Exotic Viroid Pathogens Impacting Potato Trade	Academia	\$105,159
TOTAL				\$859,146
Illinois				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0539	Asian Defoliator Survey	State Government	\$39,000
1S	1S.0541	Agricultural Pest Pathways Survey	State Government	\$68,593
5	5.0445	Forest Pest Outreach Survey	Non-Profit	\$88,840
TOTAL				\$196,433
Indiana				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0108	Specialty Crops and Exotic Bark Beetle Survey	State Government	\$60,000
3	3.0442	Enhancing Rust Fungus Identification Through Molecular Diagnostics	Academia	\$285,914
4	4.0367	Mobile App to Collect Nursery Inspection Data for the Central Plant Board	Academia	\$73,884
5	5.0034	Forest Pest Outreach and Survey Project	State Government	\$71,000
TOTAL				\$490,798
Iowa				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0273	Walnut Twig Beetle/TCD Disease Survey	State Government	\$10,000
TOTAL				\$10,000
Kansas				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0011	Walnut Twig Beetle/Thousand Cankers Survey	State Government	\$9,400
1S	1S.0012	Phytophthora Ramorum Nursery Survey	State Government	\$12,000
TOTAL				\$21,400
Kentucky				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0058	Asian Defoliator Survey	Academia	\$16,000
1S	1S.0109	Orchard Commodity Survey	Academia	\$19,630
1S	1S.0111	Grape Commodity Survey	Academia	\$21,000
1S	1S.0114	Phytophthora Ramorum Nursery Survey	Academia	\$20,000
1S	1S.0117	Solanaceous Commodity Survey	Academia	\$29,000

3	3.0299	Population Genomics, Diagnostic Strain Determination, and SIT Characteristics for the Mexican Fruit Fly	Academia	\$146,515
5	5.0118	Invasive Pest Outreach: Focus Firewood	Academia	\$11,639
5	5.0119	Invasive Pest Outreach in Kentucky	Academia	\$58,820
6	6.0135	Development of Methods to Deliver dsRNA to Control Asian Longhorned Beetle and Other Invasive Pests	Academia	\$116,783
6	6.0275	Developing RNAi for Suppression of Exotic Wood-boring Buprestids	Academia	\$76,217
6	6.0284	Regional Difference in Plant and Pest Phenology May Affect Biological Control Efforts Targeting Emerald Ash Borer	Academia	\$76,019
6	6.0481	Gene Silencing Using RNA Interference for Bark Beetle Management	Academia	\$153,173
TOTAL				\$744,796
Louisiana				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0048	Sudden Oak Death Survey	State Government	\$20,000
1S	1S.0056	Solanaceous Commodity Survey	State Government	\$17,000
1S	1S.0059	Citrus Commodity Survey	State Government	\$13,280
TOTAL				\$50,280
Maine				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0220	Cyst Nematode Survey	State Government	\$30,196
1S	1S.0225	Vegetable Crop Pest Survey	State Government	\$14,336
1S	1S.0227	Berry Pest Survey	State Government	\$12,130
1S	1S.0229	Exotic Woodborer and Bark Beetle Survey	State Government	\$35,000
1S	1S.0276	Tree Fruit Pest Survey	Academia	\$11,391
5	5.0244	Tribes in Maine Invasive Species Project	Academia	\$91,275
5	5.0339	Outreach and Education of Invasive Species of Forests	State Government	\$66,622
5	5.0447	Firewood Outreach Campaign	State Government	\$23,169
6	6.0449	Passamaquoddy Emerald Ash Borer Response Project	Tribal Nation	\$63,933
TOTAL				\$348,046
Maryland				
Goal	Project #	Title	Cooperator Type	Funding Level
1A	1A.0322	Private Eyes: Creating a Secure Honey Bee Colony Pests and Diseases Data Enclave	Non-Profit	\$81,882
1S	1S.0193	Maryland (MDA) Phytophthora Ramorum Nursery Survey	State Government	\$20,000
1S	1S.0452	Asian Defoliator Survey of Maryland	State Government	\$25,000
1S	1S.0466	Walnut Twig Beetle/Thousand Canker Disease Survey of Maryland	State Government	\$14,000
1S	1S.0473	Oak Commodity Survey of Maryland	State Government	\$13,500
3	3.0526	Enhancement of Identification of Fungal Intercepts at Ports of Entry	Non-APHIS-Federal	\$103,825
3	3.0660	DNA Barcodes and Imaging Resources for Downy Mildews	Non-APHIS-Federal	\$172,800

3	4.0528	Inter-laboratory Validation of High Throughput Sequencing for Detection of Regulated Pathogens on Specialty Crops	APHIS	\$140,000
6	6.0209	Maryland (MDA) Spotted Lanternfly Survey and Outreach	State Government	\$435,434
6	6.0246	cDNA Library Construction of Historical Samples Collected as Part of the National Honey Bee Survey	Academia	\$112,799
6	6.0369	Synergies of Biological Control and Systemic Insecticides to Protect Ash from Emerald Ash Borer	Academia	\$176,104
TOTAL				\$1,295,344
Massachusetts				
Goal	Project #	Title	Cooperator Type	Funding Level
1A	1A.0183	Risk Characterization of Lymantria Xylinea and L. Mathura Through Marine Translocation	APHIS	\$125,371
1S	1S.0350	Orchard Commodity Survey	State Government	\$31,200
1S	1S.0496	Phytophthora Ramorum Nursery Survey	State Government	\$26,500
3	3.0057	Developing Traps for the Spotted Lanternfly, Lycorma Delicatula	APHIS	\$89,000
3	3.0106	Spotted Lanternfly Pheromones	APHIS	\$453,729
3	3.0113	Lure and Color Trap Development for Monitoring of Citrus Longhorned Beetle Anaplophora Chinesis	APHIS	\$46,899
3	3.0122	Lepidoptera Attractants	State Government	\$58,642
3	3.0363	Development of Droplet Digital PCR for Khapra Beetle	Academia	\$71,529
5	5.0355	Forest and Agricultural Pest Outreach	State Government	\$74,500
6	6.0129	Radio Tracking of Spotted Lanternfly	APHIS	\$99,510
6	6.0141	Attract-and-Kill to Monitor and Manage the Khapra Beetle	APHIS	\$149,836
6	6.0182	Biological Control of the Spotted Lanternfly	APHIS	\$296,920
6	6.0388	Evaluating Efficacy and Persistence of Systemic Insecticide Products Applied with Different Methods for HWA Control	Academia	\$111,948
6	6.0552	Facilitating Spread of the Microsporidian Pathogen, Ovavesicula Popillae, for Long-term Suppression of Japanese Beetle	Academia	\$121,147
6	6.0649	Identifying Effective Treatments for Spotted Lanternfly Control	Academia	\$135,700
TOTAL				\$1,854,731
Michigan				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0561	Oak and Pine Commodity Survey	State Government	\$50,000
1S	1S.0571	Exotic Tortricidae Survey	State Government	\$64,000
1S	1S.0588	Potato Cyst Nematode Survey	State Government	\$16,000
1S	1S.0606	Phytophthora ramorum Survey	Academia	\$20,000
TOTAL				\$150,000
Minnesota				
Goal	Project #	Title	Cooperator Type	Funding Level
1A	1A.0456	What hosts Does Trichoferis Campestris Utilize in North America?	Academia	\$60,000

1S	1S.0217	Cyst Nematode Survey	State Government	\$53,748
1S	1S.0223	Pathways Survey for Pests of Multiple Agricultural Systems	State Government	\$110,000
1S	1S.0226	Forest Pathway Survey	State Government	\$80,000
5	5.0228	Invasive Pest Outreach and First Detector	APHIS	\$96,000
5	5.0567	Don't Pack a Pest Campaign for Academic Travelers	State Government	\$56,953
TOTAL				\$456,701
Mississippi				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0084	Pine Commodity Survey	State Government	\$29,761
1S	1S.0085	Oak Commodity Survey	State Government	\$26,770
1S	1S.0397	Stone Fruit Commodity Survey	Academia	\$31,165
1S	1S.0402	Solanaceous Commodity Survey	Academia	\$38,414
1S	1S.0405	Grape and Small Berry Commodity Survey	Academia	\$24,828
3	3.0632	Regional Identification Center for Exotic Plant Pest Species	Academia	\$178,500
5	5.0624	Mississippi Bug Blues: Statewide Invasive Insect Outreach and Education	Academia	\$94,942
5	5.0637	Mississippi Bug Blues Farmers First Initiative	Academia	\$23,743
TOTAL				\$448,183
Missouri				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0097	Thousand Cankers Disease Survey	State Government	\$20,000
TOTAL				\$20,000
Montana				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0177	Mollusk Survey	State Government	\$18,000
1S	1S.0550	Exotic Wood Borer/Bark Beetle Survey	State Government	\$24,589
3	3.0345	Pulse Crop Diagnostics	State Government	\$299,828
5	5.0093	Don't Move Firewood Campaign	Academia	\$171,300
5	5.0438	Teaching Diverse Audiences About Plant Pests with Fly-tying	Non-Profit	\$33,402
6	6.0555	Enhance Mitigation of the Eastern Heath Snail, Xerolenta obvia, in Montana	State Government	\$74,908
TOTAL				\$622,027
Nebraska				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0332	Cyst Nematode Survey	State Government	\$37,000
1S	1S.0337	Khapra Beetle Survey	State Government	\$5,000
1S	1S.0340	Grape Commodity Survey	State Government	\$7,000
1S	1S.0341	Bundled Commercial Greenhouse and Nursery Pest Survey	State Government	\$8,400
TOTAL				\$57,400

Nevada				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0023	Cyst Nematode Survey	State Government	\$35,111
1S	1S.0024	Solanaceous Commodity Survey	State Government	\$30,000
1S	1S.0025	Bundled Phytophthora Survey for P. ramorum and Other Priority Species in Nurseries and Environments	State Government	\$25,411
1S	1S.0138	Asian Defoliator Survey	State Government	\$16,000
1S	1S.0139	Khapra Beetle Survey	State Government	\$5,043
1S	1S.0147	Palm Commodity Survey	State Government	\$14,000
1S	1S.0150	Vegetable Crops Pest Survey	State Government	\$16,000
5	5.0156	Nevada Invasive Pest Outreach	State Government	\$40,000
TOTAL				\$181,565
New Hampshire				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0050	Vegetable Crops Pest Survey	State Government	\$10,223
1S	1S.0055	Forest Pest Survey	State Government	\$25,000
1S	1S.0196	Orchard Commodity Survey	State Government	\$4,991
5	5.0199	Firewood Pathway Outreach	State Government	\$15,245
5	5.0411	Forest Pest Outreach	Academia	\$45,000
6	6.0232	Field Variation in Emamectin Benzoate Concentrations: Impacts on Emerald Ash Borer and its Biological Control Agents	Academia	\$96,209
TOTAL				\$196,668
New Mexico				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0257	Pecan Nut Pest Survey	State Government	\$35,000
TOTAL				\$35,000
New York				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0316	Soybean Commodity Survey	State Government	\$50,000
1S	1S.0370	Phytophthora Ramorum Survey	State Government	\$13,406
1S	1S.0653	Grape Commodity Survey	State Government	\$100,000
1S	1S.0654	Orchard Commodity Survey	State Government	\$95,000
1S	1S.0656	Stone Fruit Commodity Survey	State Government	\$275,000
3	3.0277	NPDN and State Diagnostician Preparedness Training	Academia	\$143,963
4	4.0250	Tribal Nursery Certification Program Development	Tribal Nation	\$34,530
4	4.0664	Reinstating Apple Tree Certification in New York	State Government	\$175,000
6	6.0130	Ground Verification of Hemlock Stands Detected Through Remote Sensing	Private Entity	\$54,437
6	6.0272	Response to the Emerald Ash Borer Plant Health Emergency on the St. Regis Mohawk Territory	Tribal Nation	\$253,147
6	6.0362	Deregulation and Enhanced Regulatory Activities of Golden Nematode in NY	State Government	\$141,725

6	6.0548	NYS Incident Management Teams	State Government	\$51,520
6	6.0596	Emerald Ash Borer Biological Control	State Government	\$92,8600
6	6.0659	Development of Management Tactics in Support of Regulatory Efforts to Limit the Establishment and Spread of European Cherry Fruit Fly in New York	Academia	\$192,310
TOTAL				\$1,672,898

North Carolina

Goal	Project #	Title	Cooperator Type	Funding Level
1A	1A.0090	Analytical Support for OPEP Assessments for Newly Added Taxa in the CAPS Pest List	Academia	\$83,260
1A	1A.0289	Eradication Analysis & Decision Support (eRADS)	Academia	\$111,649
1A	1A.0474	Development and Use of a Rapid-Screening Framework to Identify Candidates for Pest Prioritization Using the OPEP Model	Academia	\$89,654
1A	1A.0508	Managing Emerging Pest and Pathogen Threats Using Tangible Landscape Technology	Academia	\$110,080
1A	1A.0523	Automated Host Mapping Tool and Interface for Spread Modeling and Field Operations Planning	Academia	\$108,053
1A	1A.0529	Honey Bee Health: What's Causing Bee Populations to Decline?	Academia	\$46,541
1A	1A.0542	Phytosanitary Response to Pandemics and Recovery (PREPARE)	Academia	\$171,726
1S	1S.0018	Grape Commodity Survey	State Government	\$14,000
1S	1S.0019	Asian Defoliators Survey	State Government	\$12,407
1S	1S.0020	Solanaceous Commodity Survey	State Government	\$10,695
1S	1S.0021	State-Specific Survey for Phytophthora Ramorum and P. Kernoviae	State Government	\$12,780
3	3.0096	A Data Driven and Sensor Integrated Platform for Monitoring Emerging Phytophthora Diseases	Academia	\$338,322
5	5.0161	Invasive Pest Outreach	State Government	\$20,000
6	6.0089	Enhancing Exotic Plant-Pest Emergency Response by Developing New Pest Response Guidelines	Academia	\$318,363
6	6.0104	Field Studies to Align Emerald Ash Borer Life Stages to Parasitoid Release for Successful Biological Control	Academia	\$52,319
6	6.0252	A Multifaceted Approach for Classical Biological Control of Alligatorweed	State Government	\$20,156
6	6.0464	A Delimitation Survey Tool for New Pest Response Teams	Academia	\$120,228
TOTAL				\$1,771,323

North Dakota

Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0081	Grape Commodity Survey	Academia	\$30,000
1S	1S.0279	Potato Cyst Nematode Survey	State Government	\$85,000
1S	1S.0280	Cyst Nematode Survey (Multi-Crop)	State Government	\$14,479
1S	1S.0282	Khapra Beetle Survey	State Government	\$7,000
1S	1S.0293	Phytophthora Ramorum Survey	State Government	\$5,000
5	5.0292	Forest Pest Outreach	State Government	\$25,750

TOTAL				\$167,229
Ohio				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0240	Phytophthora Ramorum Nursery Soil/Container Mix and Retail Plant Survey	State Government	\$10,000
1S	1S.0300	Grape Commodity Survey	State Government	\$20,000
1S	1S.0312	Orchard Commodity Survey	State Government	\$50,000
5	5.0608	Slow Burn: How Yellow Star Thistle and Other Invasive Species Destroy our Tribal Ranges and What We Can Do	Private Entity	\$28,907
6	6.0564	Development of Handling, Transport, and Release Methods for Sterile Navel Orangeworm	Private Entity	\$300,000
6	6.0615	Invasive Pest Response: Spotted Lanternfly	State Government	\$15,000
TOTAL				\$423,907
Oklahoma				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0301	Phytophthora Ramorum Nursery and/or Environs Survey	State Government	\$20,000
3	3.0404	EDNA-Bacteria for Detection of Six Select Agent and Quarantine Bacteria for the Continental U.S. and Hawaii	Academia	\$159,979
TOTAL				\$179,979
Oregon				
Goal	Project #	Title	Cooperator Type	Funding Level
1A	1A.0407	Biological Control Informational Survey Analysis	State Government	\$52,634
1A	1A.0492	Development of Methodology Able to Predict Optimal Field Temperatures for the Spread of Phytophthora Ramorum	Academia	\$74,248
1S	1S.0436	Asian Defoliator Survey	State Government	\$235,000
1S	1S.0439	Nursery Survey	State Government	\$90,000
1S	1S.0491	Survey of Information Technology Facilities in Oregon for Exotic Terrestrial Plant Pests and Diseases	State Government	\$40,000
1S	1S.0497	Exotic Fruit Fly Survey	State Government	\$30,000
1S	1S.0530	Vegetable Crops Pest Survey	State Government	\$40,000
5	5.0617	Don't Pack a Pest Program for Academic Travelers: National Capacity Building, Research, Innovation, and Coordination	Academia	\$93,835
5	5.0644	Outreach and Education Services for Nursery Growers on Boxwood Blight	State Government	\$35,665
6	6.0233	Development of Nematodes in the Genus Phasmarhabditis as Biological Control Agents of Invasive Gastropods	Academia	\$128,682
6	6.0401	Biocontrol Greenhouse Thrips	State Government	\$51,660
6	6.0444	Azalea Lacebug Biocontrol	State Government	\$77,957
6	6.0498	Risk Assessment of Phytophthora Quercina, a Newly Detected Oak Pathogen in the Western U.S.	Academia	\$50,642
6	6.0598	Light Brown Apple Moth Delimitation	State Government	\$125,000
TOTAL				\$1,125,323

Pennsylvania				
Goal	Project #	Title	Cooperator Type	Funding Level
1A	1A.0169	Developing Predictive Models on the Impact of Landscape Management Practices on Bee Pathogen Levels	Academia	\$89,177
1A	1A.0399	Modeling and Mapping Spotted Lanternfly Plant Species Feeding Preferences Across the U.S.	Academia	\$76,890
1S	1S.0009	Orchard Commodity Survey	State Government	\$90,000
1S	1S.0291	Public Garden Surveys	Non-Profit	\$75,000
1S	1S.0307	Oak Commodity Survey	State Government	\$40,000
1S	1S.0400	Asian Longhorned Beetle Survey	State Government	\$10,705
1S	1S.0409	Small Fruit Disease Survey	State Government	\$45,000
1S	1S.0538	Grape Commodity Survey	State Government	\$40,000
1S	1S.0546	Walnut Twig Beetle Survey	State Government	\$15,000
2	2.0328	Pennsylvania Spotted Lanternfly Regulatory Canine	State Government	\$110,633
3	3.0002	Screening and Identification Services for Wood-boring Insect Pests	Non-Profit	\$57,500
5	5.0251	Forest Pest Outreach	State Government	\$64,585
5	5.0278	Sentinel Plant Network	Non-Profit	\$145,000
5	5.0454	Spotted Lanternfly Outreach	Academia	\$354,321
6	6.0088	Population Dynamics of Spotted Lanternfly	Academia	\$91,518
6	6.0426	Mathematical Modeling of Spotted Lanternfly Population Dynamics to Aid in Spread Prediction and Control Optimization	Academia	\$120,044
TOTAL				\$1,425,373

Puerto Rico				
Goal	Project #	Title	Cooperator Type	Funding Level
3	3.0655	Research in Puerto Rico to Support the Old World Bollworm Program	Academia	\$114,984
TOTAL				\$114,984

Rhode Island				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0309	Vegetable Crop Pest Survey	State Government	\$14,498
1S	1S.0321	Grape Commodity Survey	State Government	\$14,498
1S	1S.0396	Nursery and Retail Plants Survey for Phytophthora Ramorum	Academia	\$20,000
1S	1S.0432	Stone Fruit Commodity Survey	Academia	\$22,720
5	5.0365	Forest and Agriculture Pest Outreach Project	State Government	\$19,680
TOTAL				\$91,396

South Carolina				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0210	Phytophthora Ramorum Nursery Survey	State Government	\$20,000
1S	1S.0212	Solanaceous Survey	State Government	\$35,000
1S	1S.0213	Grape Commodity Survey	State Government	\$35,000

1S	1S.0216	Stone Fruit Commodity Survey	State Government	\$19,389
5	5.0200	Forest Pest Education and Outreach	State Government	\$37,196
5	5.0286	Junior Invasive Inspector Program	State Government	\$31,000
5	5.0582	Southeastern Regional Forest Health and Invasive Species Education Program	Academia	\$55,233
TOTAL				\$232,818

South Dakota

Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0043	Khapra Beetle Detection Survey	State Government	\$6,779
TOTAL				\$6,779

Tennessee

Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0053	Phytophthora Ramorum Nursery and/or Environs Survey	State Government	\$20,000
1S	1S.0231	Grape Commodity Survey	Academia	\$50,000
1S	1S.0361	Asian Defoliator Survey	Academia	\$14,942
4	4.0425	Development of a Pre-harvest Spray and Post-harvest Drenches for Regulatory Pests in Nursery Stock	Academia	\$106,816
5	5.0477	Forest Pest Outreach and Survey Project	Academia	\$47,929
6	6.0346	Development of Firewood Certification Program	State Government	\$13,195
TOTAL				\$252,882

Texas

Goal	Project #	Title	Cooperator Type	Funding Level
1A	1A.0005	Predictive Niche Modeling for the Identification of Cotton, Corn, and Grape Pathogens of Greatest Concern in Texas	Academia	\$81,687
1S	1S.0026	Texas Exotic Wood Boring Beetle Survey	Academia	\$55,152
1S	1S.0107	Invasive Lepidoptera of Texas: Survey of Asian Defoliator Moths with Oak Moths and Pine Moths	Academia	\$66,869
1S	1S.0455	Stone Fruit Commodity Survey	Academia	\$64,350
1S	1S.0462	Grape Commodity Survey	Academia	\$45,000
1S	1S.0470	Palm Commodity Survey	Academia	\$63,185
2	2.0062	Critical Entry Point Monitoring for the Pests of Biosecurity Concern	State Government	\$1,167,022
3	3.0202	Validating Bulk Insect Molecular Identification for Invasive Insect Pests	Academia	\$199,400
3	3.0256	Identification Resources for European Cherry Fruit Fly	Academia	\$108,908
3	3.0351	Resolving Species Complexes of Bactrocera Fruit Flies	Academia	\$490,422
3	3.0577	Development of Diagnostic Tools for All Life Stages of Anastrepha and Other Pest Fruit Flies	Non-Profit	\$491,845
3	3.0590	Y2 SNP-based Diagnostic Tools for the Rapid Identification of the Boll Weevil	Non-APHIS-Federal	\$217,331
3	3.0628	Alternative DNA Extraction Methods for Helicoverpa Specimens	APHIS	\$15,000

4	4.0047	Development of a Handheld Infrared Thermography-Minirhizotron Device for Rapid Detection of Cyst Nematodes	Academia	\$131,834
5	5.0154	Texas Statewide Invasive Species Education and Outreach Program	Academia	\$53,269
5	5.0185	Nursery Outreach Training for High-Consequence Pests	State Government	\$30,000
5	5.0446	Master Gardener Advanced Training – Texas First Detector Program	Academia	\$56,352
5	5.0534	Enhancing Outreach Tools and Opportunities	APHIS	\$10,575
6	6.0051	Design and Development of Automated Invasive Pest Survey and Sorting Devices for Field Deployment	Academia	\$146,814
6	6.0098	Effects of Electron Beam on Potato/Tomato Psyllid and Disease Transmission	Academia	\$136,275
6	6.0123	Screening of Novel Antibacterial Producing Soil Isolates as Biocontrol Agents Against the Rice Pathogen Xanthomonas Ory	Academia	\$97,741
6	6.0172	Developing a sUAS Sensing Platform for Enhancing Florida's Aquatic Invasive Plant Management	Academia	\$111,884
6	6.0192	Microbial Control of Candidatus Liberibacter Asiaticus	Academia	\$202,521
6	6.0197	Targeted Antimicrobials to Maximize the Production and Health of Anastrepha Ludens	Academia	\$217,002
6	6.0248	The Use of Unmanned Aircraft Systems to Aid in the Survey and Detection of Asian Longhorned Beetle in Forested Regions	APHIS	\$85,362
6	6.0374	CRISPR-based Antimicrobial for the Targeted Removal of Bacterial Plant Pathogens	Academia	\$364,408
6	6.0406	Evaluating Nanoparticles for Improved Delivery and Survival of Therapeutics	Academia	\$183,651
6	6.0605	Reducing Radiation Dose in Mexican Fruit Fly SIT Using X-ray Excitable Environmentally Friendly Nanoparticles	Academia	\$199,945
TOTAL				\$5,093,804
Utah				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0095	Specialty Crops Pest Survey	Academia	\$17,000
3	3.0453	Impact of Bycatch on Pollinator Populations and Services	Academia	\$82,865
5	5.0245	Invasive Pest Outreach	Academia	\$49,995
TOTAL				\$149,860
Vermont				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0195	Exotic Wood Borer/Bark Beetle Survey	State Government	\$20,500
1S	1S.0201	Field Crops Pest Survey	State Government	\$31,082
1S	1S.0208	Vegetable Crops Pest Survey	State Government	\$18,597
1S	1S.0554	Tree Fruit Pest Survey	State Government	\$18,597
5	5.0137	Forest Pest Outreach Project	State Government	\$68,963
TOTAL				\$157,739

Virginia				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0376	Phytophthora Ramorum Nursery Survey	State Government	\$20,000
1S	1S.0488	Thousand Canker Disease/ Walnut Twig Beetle Survey	State Government	\$20,000
1S	1S.0506	Grape Commodity Survey	State Government	\$29,000
3	3.0622	Culture-independent Metagenomic Sequencing for Xylella Fastidiosa Detection and Identification	Academia	\$143,599
6	6.0224	Improving Boxwood Blight Mitigation Through Innovative Research	Academia	\$300,000
TOTAL				\$512,599
Washington				
Goal	Project #	Title	Cooperator Type	Funding Level
1A	1A.0264	Improving Risk Modeling and Monitoring for Invasive Fruit Pests	Academia	\$164,418
1S	1S.0128	Forest Pest Survey	State Government	\$100,000
1S	1S.0194	Asian Defoliator Survey	State Government	\$270,000
1S	1S.0239	Mollusk Survey	State Government	\$85,000
1S	1S.0613	Washington State Grape Commodity Pest Survey	State Government	\$100,000
1S	1S.0639	Washington State Stone Fruit Commodity Pest Survey	State Government	\$150,000
3	3.0517	Washington State Department of Agriculture Lepidoptera Identification Center	State Government	\$145,083
4	4.0441	Assessment of the Presence of Nepovirus Viruliferous Nematodes in Registered Blocks with Known Vector Nematode Presence	State Government	\$168,940
5	5.0127	Washington State Outreach and Education	State Government	\$70,000
5	5.0162	Tribal Collaborative Response to Invasive Species	Academia	\$89,761
5	5.0429	WSDA Invasive Pest Outreach	State Government	\$49,580
6	6.0159	Building an Interagency Emergency Response Framework and Improving Capacity	State Government	\$80,000
6	6.0160	Asian Gypsy Moth Eradication in Washington State	State Government	\$240,035
6	6.0178	Vineyard Snail Eradication	State Government	\$46,019
6	6.0430	Asian Gypsy Moth Response	State Government	\$140,000
6	6.0482	Soil Steaming for Eradication of Phytophthora Ramorum and the Vineyard Snail	State Government	\$51,197
TOTAL				\$1,950,033
West Virginia				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0071	Asian Defoliator Survey	State Government	\$16,000
1S	1S.0072	Grape Commodity Survey	State Government	\$5,000
1S	1S.0073	Solanaceous Commodity Survey	State Government	\$13,000
1S	1S.0074	Stone Fruit Commodity Survey	State Government	\$8,000
1S	1S.0100	Nursery and Retail Plants Pest Survey (Phytophthora Ramorum)	State Government	\$15,000
5	5.0207	West Virginia Invasive Pest Outreach Program	State Government	\$48,000

6	6.0038	Enhanced Mitigation and Rapid Response to Spotted Lanternfly: Host Plant Impacts, Phenology and Biosurveillance	Non-APHIS-Federal	\$230,782
6	6.0532	Spotted Lanternfly Project	Non-APHIS-Federal	\$40,000
TOTAL				\$375,782
Wisconsin				
Goal	Project #	Title	Cooperator Type	Funding Level
1S	1S.0187	Potato Cyst Nematode Survey	Academia	\$58,750
1S	1S.0327	Pathway Survey for Exotic Woodborers/Bark Beetles on Tribal Lands	Non-Profit	\$40,000
1S	1S.0381	Bundled Fruit and Vegetable Crops Pest Survey	State Government	\$96,000
5	5.0174	Board Sponsorship WTCAC	Non-Profit	\$25,422
5	5.0326	Investigating in the Future	Non-Profit	\$78,000
5	5.0392	Strengthening Resources and Volunteer Opportunities with Wisconsin First Detector Network	Academia	\$54,486
5	5.0394	Wisconsin Forest Pest and Disease Awareness Initiative	State Government	\$30,753
5	5.0652	Wedd Free Forage Standards and Training Program Expansion and Mulch Standards Development	Non-Profit	91,343
TOTAL				\$474,754
National				
Goal	Project #	Title	Cooperator	Funding Level
1S	1S.0013	Support of the Survey Supplies Procurement Program	APHIS	\$850,000
1S	1S.0039	Phytophthora Ramorum National Nursery Survey	State Government	\$20,000
1S	1S.0560	National Honey Bee Pest and Diseases Survey	State Government	\$1,233,526
2	2.0373	Canine Training and Maintenance	APHIS	\$197,562
3	3.0354	National Identification Center for Support of CAPS and Other Surveys	State Government	\$188,161
3	3.0413	National Native and Non-native Bee and Wasp Survey	State Government	\$74,284
4	4.0094	Audit Training for State and Federal Personnel – Plant Pest Management Accreditation Programs	APHIS	\$40,000
5	5.0461	PlayCleanGo Campaign Public Outreach and Behavior Change	Non-Profit	\$144,002
5	5.0634	Hungry Pests International Year of Plant Health	APHIS	\$300,000
TOTAL				\$3,047,535
Tribal Nations				
NOTE: Cooperators who specifically identified as Tribal Nations; funding amount is incorporated into the state funding levels previously listed.				
Goal	Project #	Title	Cooperator	Funding Level
4	4.0250	Tribal Nursery Certification Program Development	Saint Regis Mohawk Tribe	\$34,530
6	6.0272	Response to the Emerald Ash Borer Plant Health Emergency on the St. Regis Mohawk Territory	Saint Regis Mohawk Tribe	\$253,147
6	6.0449	Passamaquoddy Emerald Ash Borer Response Project	Passamaquoddy Tribe	\$63,933
TOTAL				\$351,610