

CAPS Survey Report

Year:	2019
State:	Colorado
Cooperative Agreement Name:	Commodity Bundled Survey
Cooperative Agreement Number:	AP19PPQFO000C035
Project Funding Period:	March 1, 2019 – February 28, 2020
Project Report:	CAPS Survey Report
Project Document Date:	February 28, 2020
Cooperators Project Coordinator:	Jeanne Ring
Name:	Kristin Wolfe
Agency:	Colorado Department of Agriculture
Address:	305 Interlocken Parkway
City/ Address/ Zip:	Broomfield, CO 80021
Telephone:	303-869-9076
E-mail:	kristin.wolfe@state.co.us

Quarterly Report	<input type="checkbox"/>
Semi-Annual Accomplishment Report	<input type="checkbox"/>
Annual Accomplishment Report	<input checked="" type="checkbox"/>

- A. Write a brief narrative of work accomplished. Compare actual accomplishments to objectives established as indicated in the work plan. If reporting on a combined surveys work plan, report accomplishments by survey. When the output can be quantified, a computation of cost per unit is required when useful.*

This survey was carried out in the Arkansas Valley, focusing on four commodities; tomatoes, onions, peppers, and melons. Trap installation began in May and traps were serviced every two weeks through September. Samples were sent to Colorado State University to be screened by Boris Kondrtieff, Professor of Entomology. No target material was found.

Funding Amount	Total Number of Traps	Cost Per Unit
Proposed = \$28,526	Proposed = 100	Proposed= \$285
Actual =\$28,526	Actual =69	Actual =\$460

1. Survey methodology (trapping protocol):

	Common Name	Scientific Name
Pest:	Cucurbit beetle	<i>Diabrotica speciosa</i>
	Old world bollworm	<i>Helicoverpa armigera</i>
	Tomato fruit borer	<i>Neoleucinodes elegantalis</i>
	Tomato leafminer	<i>Tuta absoluta</i>
	Allium leaf miner	<i>Phytomyza gymnostoma</i>
	Bacterial wilt; Southern bacterial wilt	<i>Ralstonia solanacearum</i> race 3 biovar 2
	Cucumber green mottle mosaic (CGMMV)	<i>Tobamovirus</i> Cucumber Green Mottle Mosaic Virus
	Cotton cutworm	<i>Spodoptera litura</i>
	Egyptian cottonworm	<i>Spodoptera littoralis</i>
	False Codling Moth	<i>Thaumatotibia leucotreta</i>

	Proposed	Actual
Sites (Locations):	40	28
Traps:	100	69

Number of Counties:	2
Counties:	Pueblo, Otero

2. Survey dates:

	Proposed	Actual
Survey Dates:	May-October	May-September

3. Benefits and results of survey:

	Positive	Negative	Total Number
Traps	0	62	62

4. Database submissions:

Data has been submitted in NAPIS

B. If appropriate, explain why objectives were not met.*

We had difficulty identifying enough onion fields this year. Inclement weather has limited some servicing of traps. Nepovirus (Tomato Black Ring Virus) was not surveyed for despite being on the work plan. This was a tissue sample collection method, but no tissue samples were collected and there was not a distinguished diagnostic lab for samples to be sent to.

C. Where appropriate, explain any cost overruns or unobligated funds in excess of \$1,000. *

There are no unobligated funds associated with this project.

**indicates information is required per 7 CFR 3016.40 and 7 CFR 3019.51*

PPA 7721 Survey Report

Year:	2019
State:	Colorado
Cooperative Agreement Name:	Grape Commodity Survey 2019
Cooperative Agreement Number:	AP19PPQFO000C528
Project Funding Period:	04/01/2019 - 03/31/2020
Project Report:	PPA 7721 Grape Commodity Survey Report
Project Document Date:	02/11/2020
Cooperators Project Coordinator:	Jeanne Ring
Name:	Kristin Wolfe
Agency:	Colorado Department of Agriculture
Address:	305 Interlocken Parkway
City/ Address/ Zip:	Broomfield, CO 80138
Telephone:	303-869-9076
E-mail:	Kristin.wolfe@state.co.us

Quarterly Report	<input type="checkbox"/>
Semi-Annual Accomplishment Report	<input type="checkbox"/>
Annual Accomplishment Report	<input checked="" type="checkbox"/>

- D. Write a brief narrative of work accomplished. Compare actual accomplishments to objectives established as indicated in the work plan. When the output can be quantified, a computation of cost per unit is required when useful.**

Insect monitoring traps were set out in vineyards from mid to late June to late October. Traps were monitored and maintained at various intervals throughout the season and removed after harvest. Virus surveys were done on July 24 (Montrose Co.), July 31 (Delta Co.) and August 14 (Montrose Co.), samples were collected and sent to the plant pathology lab at Oklahoma State University. None of the target pest species were detected via recommended survey practices during the monitoring season. All field data was composed using Collector for ArcGIS, a mobile app by ESRI.

Funding Amount	Total Number of Traps	Cost Per Unit
Proposed = 18,033	Proposed = 27	Proposed= \$200
Actual = 18,033	Actual =27	Actual = \$200

1. Survey methodology (trapping protocol):

	Common Name	Scientific Name
Pest:	European grapevine moth	<i>Lobesia botrana</i>
	Honeydew moth	<i>Cryptoblabes gnidiella</i>
	Australian grapevine yellows	<i>Candidatus Phytoplasma australiense</i> 16SrXII-B
	Flavescence doree	<i>Candidatus Phytoplasma vitis 16-SrV-C</i>
	Rotbrenner	<i>Pseudopezicula tracheiphila</i>
	Stolbur disease	<i>Candidatus Phytoplasma solani 16SrXII-A</i>
	European grape berry moth	<i>Eupoecilia ambiguella</i>
	Spotted lantern fly	<i>Lycorma delicatula</i>
	Black maize beetle	<i>Heteronychus arator</i>
	Phylloxera	<i>Daktulosphaira vitifoliae</i>

	Proposed	Actual
Sites (Locations):	9	9
Traps:	27	27

Number of Counties:	
Counties:	<i>Delta, Montrose, Mesa</i>

2. Survey dates:

	Proposed	Actual
Survey Dates:	7/07/2019 – 10/30/2019	7/07/2019 – 10/30/2019

3. Benefits and results of survey:

	Positive	Negative	Total Number
Traps	0	27	27

4. Database submissions:

Data has been uploaded into NAPIS

E. If appropriate, explain why objectives were not met.*

All objectives are being met.

F. Where appropriate, explain any cost overruns or unobligated funds in excess of \$1,000. *

There are currently no unobligated funds or cost overruns associated with this project.

**indicates information is required per 7 CFR 3016.40 and 7 CFR 3019.51*

Year:	2019
State:	Colorado
Cooperative Agreement Name:	Infrastructure
Cooperative Agreement Number:	AP19PPQFO000C036
Project Funding Period:	March 1, 2019 - February 28, 2020
Project Report:	CAPS Infrastructure Report
Project Document Date:	February 28, 2020
Cooperators Project Coordinator:	Jeanne Ring
Name:	Kristin Wolfe
Agency:	Colorado Department of Agriculture
Address:	305 Interlocken Parkway
City/ Address/ Zip:	Broomfield, CO 80021
Telephone:	303-869-9076
E-mail:	Kristin.wolfe@state.co.us

Quarterly Report	<input type="checkbox"/>
Semi-Annual Accomplishment Report	<input type="checkbox"/>
Annual Accomplishment Report	<input checked="" type="checkbox"/>

- G. Compare actual accomplishments to objectives established as indicated in the work plan. When the output can be quantified, a computation of cost per unit is required when useful.*

The purpose of this report is to outline the successful completion of objectives stated in the Infrastructure work plan for the Cooperative Agricultural Pest Survey (CAPS) for Colorado. The main goal of this cooperative program is to coordinate surveys for the early detection of exotic plant pests. Other goals include networking with cooperators and contributing to a statewide network that can help identify potential threats and aid in preventing, detecting and responding to new detections in Colorado. In addition, this network of cooperators works to communicate potential risks to land managers, private industry, elected officials and the public. Funding provided through this cooperative agreement provides full time support for the State Survey Coordinator who is responsible for coordinating these efforts and works as a liaison with the Colorado PPQ Office.

- Activities:
 - Committee Service:
 - Emerging Pests of Colorado (EPIC)
 - Colorado Emerald Ash Borer Response Team
 - CAPS Committee
 - Other Survey Work:
 - State Survey Coordinator supervised surveys for Forest Pests, Commodity Bundled and Small Grains. Coordinated with cooperators for surveys in Stone Fruits and Grapes.
 - Interviewed, hired and supervised seasonal technicians
 - Coordinated vehicle use and maintenance with State Fleet Department
 - Submitted suggestions for 2019 Farm Bill projects
 - Ordered and distributed traps, lure and supplies to cooperators and municipalities
 - Coordinated with front range cities and Colorado State parks for best trapping locations
 - Coordinated with various CSU Extension offices to identify participating growers
- Outreach and Education:
 - Interviews (TV/Radio/Newspaper/Magazines):
 - None
 - Outreach materials (Pamphlets/ brochures/ posters):
 - Provided outreach material at the Colorado State Fair, Pro Green trade fair and many other festivals
 - Loaned out EAB suit to various cooperators for trainings and other events.
 - Publications: None
 - Public Service Announcements (PSA): None

- Meetings:
 - Conference calls:
 - Western region SSC conference call
 - Conferences:
 - Western Forest Insect Work Conference
 - Webinars
 - None
- Training:
 - Field Staff Safety talk (May)
 - Tree health diagnostic workshop (August)
 - CDA Grant management meeting (December)
- Other:
 - Collaborated with the Colorado Department of Agriculture's Nursery Program, (phytosanitary team) to gain permission to ship peaches into Arizona by providing three years of negative trapping data through the Stone Fruit Survey. This survey was funded through the 2016, 2017 and 2018 Farm Bill and work was performed by CAPS Cooperators (Tri River CSU Extension)
 - Collected EAB trap and lure orders and delivered supplies for cities interested in deploying and maintaining traps
 - Attended monthly Front Range Urban Forestry Meetings
 - Secured interagency contracts with CSU for grape commodity, stone fruit and biological control projects.
 - Completed and submitted Work and Financial plans to USDA

H. If appropriate, explain why objectives were not met.

All objectives were met.

I. Where appropriate, explain any cost overruns or unobligated funds in excess of \$1,000. *

There are no unobligated funds

J. Supporting Documents
N/A

**indicates information is required per 7 CFR 3016.40 and 7 CFR 3019.51*

Year:	20199
State:	Colorado
Cooperative Agreement Name:	Small Grains Corn Bundled Survey
Cooperative Agreement Number:	AP19PPQFO000C038
Project Funding Period:	3/1/2018-2/28/2019
Project Report:	CAPS Survey Report
Project Document Date:	February 28, 2020
Cooperators Project Coordinator:	Jeanne Ring
Name:	Kristin Wolfe
Agency:	Colorado Department of Agriculture
Address:	305 Interlocken Parkway
City/ Address/ Zip:	Broomfield, CO 80021
Telephone:	303-869-9076
E-mail:	kristin.wolfe@state.co.us

Quarterly Report	<input type="checkbox"/>
Semi-Annual Accomplishment Report	<input type="checkbox"/>
Annual Accomplishment Report	<input checked="" type="checkbox"/>

CAPS Survey Accomplishment Report – FY2019

- K. Write a brief narrative of work accomplished. Compare actual accomplishments to objectives established as indicated in the work plan. If reporting on a combined surveys work plan, report accomplishments by survey. When the output can be quantified, a computation of cost per unit is required when useful.

The purpose of this project was to conduct a survey of wheat and corn pests, focusing on the early detection of particularly concerning invasive species. Wheat and corn crops are highly valuable commodities within Colorado's agriculture and detection of any of these pest species would be crucial to our economic well-being. The following table lists the target pest species for this survey.

Funding Amount	Total Number of Traps	Cost Per Unit
Proposed = \$10,766	Proposed = 125	Proposed= \$86.128
Actual =\$10,766	Actual =89	Actual = \$120.97

1. Survey methodology (trapping protocol):

	Common Name	Scientific Name
Pest:	Old World Boll Worm	<i>Helicoverpa armigera</i>
	Snails, no common name	<i>Cochlicella spp.</i>
	Sunn pest	<i>Eurygaster integriceps</i>
	Egyptian Cottonworm	<i>Spodoptera littoralis</i>
	Cotton Cutworm	<i>Spodoptera litura</i>
	Silver Y moth	<i>Autographa gamma</i>
	False Codling moth	<i>Thaumatotibia leucotreta</i>
	Cucurbit beetle	<i>Diabrotica speciosa</i>

	Proposed	Actual
Sites (Locations):	25	18
Traps:	125	89

Number of Counties:	2
Counties:	<i>Kit Carson, Cheyenne</i>

2. Survey dates:

	Proposed	Actual
Survey Dates:	3/01/2018-2/28/2019	3/01/2018-2/28/2019

3. Benefits and results of survey:

CAPS Survey Accomplishment Report – FY2019

	Positive	Negative	Total Number
Traps	0	144	144

4. Database submissions:

All data has been uploaded into NAPIS

L. If appropriate, explain why objectives were not met.*

All objectives were met.

M. Where appropriate, explain any cost overruns or unobligated funds in excess of \$1,000. *

There are no unobligated funds associated with this project.

**indicates information is required per 7 CFR 3016.40 and 7 CFR 3019.51*

CAPS Survey Accomplishment Report – FY2019

PPA 7721 Stone Fruit Survey Report

Year:	2019
State:	Colorado
Cooperative Agreement Name:	Stone Fruit Commodity Survey
Cooperative Agreement Number:	AP19PPQFO000C527
Project Funding Period:	04/01/2019 – 03/31/2020
Project Report:	PPA 7721 Stone Fruit Survey Report
Project Document Date:	2/11/2020
Cooperators Project Coordinator:	Jeanne Ring
Name:	Kristin Wolfe
Agency:	Colorado Department of Agriculture
Address:	305 Interlocken Parkway
City/ Address/ Zip:	Broomfield, CO 80021
Telephone:	303-869-9076
E-mail:	Kristin.wolfe@state.co.us

Quarterly Report	<input type="checkbox"/>
Semi-Annual Accomplishment Report	<input type="checkbox"/>
Annual Accomplishment Report	<input checked="" type="checkbox"/>

CAPS Survey Accomplishment Report – FY2019

- N. Write a brief narrative of work accomplished. Compare actual accomplishments to objectives established as indicated in the work plan. When the output can be quantified, a computation of cost per unit is required when useful.**

Insect monitoring traps were set out in stone fruit orchards from June to October. Traps were monitored and maintained at various intervals throughout the season and removed after fruit harvest. Visual surveys were done at each site beginning in May. Apple Maggot was detected in two traps. The first detection was found in a European Cherry Fruit Fly trap placed in a cherry orchard on June 15. The second detection was found in an Apple Maggot trap placed in a peach orchard on July 23.

Funding Amount	Total Number of Traps	Cost Per Unit
Proposed = \$34,000	Proposed = 150	Proposed= 226.66
Actual = \$ 34,000	Actual = 148	Actual = 229.73

1. Survey methodology (trapping protocol):

	Common Name	Scientific Name
Pest:	Pear leaf blister moth	Leucoptera malifoliella
	European cherry fruit fly	Rhagoletis cerasi
	Cherry bark tortrix	Enarmonia formosana
	Light brown apple moth	Epiphyas postvittana
	Plum curculio	Conotrachelus nenuphar
	Apple maggot	Rhagoletis pomonella
	Velvet long horned beetle	Trichoferus campestris
	PPV	Potyvirus plum pox virus

	Proposed	Actual
Sites (Locations):	35	35
Traps:	150	148

Number of Counties:	3
Counties:	Delta, Mesa, Montrose

2. Survey dates:

	Proposed	Actual
Survey Dates:	7/07/2018 – 10/30/2019	7/07/2019 – 10/30/2019

CAPS Survey Accomplishment Report – FY2019

3. Benefits and results of survey:

	Positive	Negative	Total Number
Traps	2	146	148

4. Database submissions:

Data has been uploaded into NAPIS

O. **If appropriate, explain why objectives were not met. ***

Objectives were met, however, the 2-sided sticky orange paper delta traps were used for trapping Light Brown Apple Moth when the approved methods call for a large plastic delta trap.

P. **Where appropriate, explain any cost overruns or unobligated funds in excess of \$1,000. ***

There are no unobligated funds or cost overruns associated with this survey.

**indicates information is required per 7 CFR 3016.40 and 7 CFR 3019.51*

CAPS Survey Accomplishment Report – FY2019

Year:	2019
State:	Colorado
Cooperative Agreement Name:	Forest Pest Survey
Cooperative Agreement Number:	AP19PPQFO000C037
Project Funding Period:	3/1/2018-2/28/2019
Project Report:	CAPS Survey Report
Project Document Date:	February 28, 2020
Cooperators Project Coordinator:	Jeanne Ring
Name:	Kristin Wolfe
Agency:	Colorado Department of Agriculture
Address:	305 Interlocken Parkway
City/ Address/ Zip:	Broomfield, CO 80021
Telephone:	303-869-9076
E-mail:	kristin.wolfe@state.co.us

Quarterly Report	<input type="checkbox"/>
Semi-Annual Accomplishment Report	<input type="checkbox"/>
Annual Accomplishment Report	<input checked="" type="checkbox"/>

CAPS Survey Accomplishment Report – FY2019

- Q.** Write a brief narrative of work accomplished. Compare actual accomplishments to objectives established as indicated in the work plan. If reporting on a combined surveys work plan, report accomplishments by survey. When the output can be quantified, a computation of cost per unit is required when useful.

Trapping was completed both along the Front Range and in two counties on the Western Slope of Colorado to survey for potential exotic forest pest introductions. All target pests can be found on the Priority Pest List. The goal of 20 different survey sights (with the exception of 5 for *T. campestris*) was met. However, two targets outlined in the work plan were not surveyed for; *Dendrolimus sibiricus* and *Dendrolimus pini*. This was due to an unavailable funnel for trap modification. All surveys produced negative results with the exception of *T. campestris*, which was detected in Larimer County.

Funding Amount	Total Number of Traps	Cost Per Unit
Proposed = \$35,687	Proposed = 105	Proposed= \$339.87
Actual =\$35,687	Actual =195	Actual = \$183.01

1. Survey methodology (trapping protocol):

	Common Name	Scientific Name
Pest:	Mediterranean pine shoot beetle	<i>Tomicus destruens</i>
	Pine processionary moth	<i>Thaumetopoea pityocampa</i>
	Mediterranean pine engraver	<i>Orthotomicus erosa</i>
	Black fir sawyer	<i>Monochamus urussovii</i>
	Japanese pine sawyer	<i>Monochamus alternatus</i>
	European spruce bark beetle	<i>Ips typographus</i>
	Sixtoothed bark beetle	<i>Ips sexdentatus</i>
	Large pine weevil	<i>Hylobius abietis</i>
	Sixtoothed spruce bark beetle	<i>Pityogenus chalcographus</i>
	Velvet long horned beetle	<i>Trichoferus campestris</i>

	Proposed	Actual
Sites (Locations):	20	20
Traps:	105	195

Number of Counties:	12
Counties:	Adams, Arapahoe, Boulder, Delta, Denver, Douglas, Gilpin, Jefferson, Mesa, Montrose, Larimer and Weld.

CAPS Survey Accomplishment Report – FY2019

2. Survey dates:

	Proposed	Actual
Survey Dates:	3/01/2018-2/28/2019	3/01/2018-2/28/2019

3. Benefits and results of survey:

	Positive	Negative	Total Number
Traps	1	194	195

4. Database submissions:

All data has been uploaded into NAPIS

R. If appropriate, explain why objectives were not met.*

Two target species outlined in the work plan were not surveyed for; *Dendrolimus sibiricus* and *Dendrolimus pini*. This was due to an unavailable funnel for trap modification.

S. Where appropriate, explain any cost overruns or unobligated funds in excess of \$1,000. *

There are no unobligated funds associated with this project.

**indicates information is required per 7 CFR 3016.40 and 7 CFR 3019.51*