2019 New York State Orchard Cooperative Agricultural Pest Survey (CAPS)

Project Coordination and Field Project Report

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Cooperator(s): Art Agnello, Cornell University, Craig Kahlke and Elizabeth Tee, Lake Ontario Fruit Program, and Michael Basedow, Eastern New York Commercial Horticulture Program.

Funding sources: NYS Department of Agriculture and Markets

Primary Objective: Survey for five exotic pests and virus complex in apples in 18 apple orchards located in Cayuga (1 orchard), Clinton (1 orchard), Niagara (1 orchard), Onondaga (1 orchard), Ontario (2 orchards), Orleans (1 orchard), Saratoga (1 orchard), Schuyler (1 orchard), Seneca (1 orchard), Tompkins (1 orchard), Wayne (6 orchards), and Yates (1 orchard) counties.

Methods and Results:

Project Coordination

The survey encompassed the insects and diseases listed below:

- *Adoxophyes orana* - Summer fruit tortrix moth (SFT)
- *Archips xylosteanus* – Variegated golden tortrix (VGT)
- *Trichoferus campestris* – Velvet longhorned beetle (VLB)
- *Lycorma delicatula* – Spotted lanternfly
- *Candidatus* Phytoplasma mali – Apple Proliferation Phytoplasma (APP)
- Virus complex in apples

Carroll coordinated with Cornell faculty in entomology and plant pathology and plant microbe-biology, and Cornell Cooperative Extension (CCE) educators in the regional fruit programs, Lake Ontario Fruit Program and Eastern New York Commercial Horticulture Program, to conduct the survey.

Trapping and visual surveys were conducted from June through September according to CAPS Approved Methods in 18 orchards in the major fruit growing regions of New York State. Information on protocols, data collection, and associated methods were provided to the key personnel. Information was provided on methods for prescreening and submitting any suspect targets collected for identification to the Department of Entomology, Cornell University, Ithaca, NY.

Still pending in early spring 2020, CCE educators will be provided with protocols for sampling apple orchards exhibiting decline and how to send the samples to Dr. Marc Fuchs, Section of Plant Pathology and Plant-Microbe Biology, Cornell University, Geneva, NY to test for suspect viral diseases.

Survey data including location of traps and number of suspects collected in traps and the insect and APP visual survey data including suspect samples collected versus confirmed identifications was provided to NYSDAM prior to December 30, 2019. The pending apple virus survey data will be provided no later than July 31, 2020.

Field Project

Two traps per species of insect (listed above) were placed at each of 18 orchards in the fruit growing regions of New York State (counties listed above). The orchards were surveyed visually for spotted lanternfly and apple proliferation phytoplasma in September. The decision was made to survey for the apple viruses in May of next year to improve detection.

Traps were serviced biweekly or weekly on 7 to 14 weeks starting in June and continuing through September. Surveys were conducted according to CAPS Approved Methods using insect traps and lures and plant disease and insect visual assessments.

A total of 108 traps (36 per species) were serviced. The traps for each species were inspected 416 times. Insects were prescreened during trap inspections and suspect targets collected and submitted for identification to the Department of Entomology, Cornell University, Ithaca, NY. All samples caught in traps were negative, 129 in the SFT traps, 1073 in the VGT traps and 140 in the VLB traps.

Seventeen apple orchard blocks in all 12 counties were visually surveyed for apple proliferation phytoplasma symptoms and none were found. Approximately 1915 trees were inspected.

Spotted lanternfly (SLF) surveys in September and October in all 12 counties examined the hedgerows and wooded edges surrounding sixteen orchards. The major host, tree of heaven (*Ailanthus altissima*) was found in four of the orchard sites. No SLF was detected on tree of heaven or on other hardwood trees in any the orchards.

Survey process and results were shared with participating growers and with fruit workers at Extension meetings during the growing season.

Carroll wrote a fact sheet on velvet longhorned beetle and updated the fact sheet on European cherry fruit fly and these were published on the nysipm.cornell.edu website in Cornell University's Mann Library eCommons.