

Orchard Commodity Survey – 2013

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Introduction

An Orchard Commodity Cooperative Agricultural Pest Survey was conducted for exotic insects and diseases including light brown apple moth, cherry bark tortrix, and apple proliferation phytoplasma. Because of the potential spread of streptomycin-resistant fire blight in NY following its discovery in 2011, we also monitored for this disease. All the agricultural pests in the survey pose significant threats to NY fruit industries.

Objectives

1. Monitor and scout for the target species in apple and cherry orchards throughout the growing season of 2013 and submit suspect samples for determination.
2. Write fact sheets targeted for lay audiences and publish them in the invasive species website within nysipm.cornell.edu, nysipm.cornell.edu/invasives_exotics/.

Methods & Results

We adjusted the USDA APHIS written protocols for NY orchard and growing season conditions. We monitored for four insects and diseases (Table 1), three of which were exotic pests not found in the Northeastern US. Fire blight was added to our survey efforts because streptomycin resistance in the pathogen had been identified in 2012 in Wayne County, NY.

Table 1. The insects and diseases in the survey included those listed with the number of traps in each orchard site. Diseases were scouted and traps were serviced weekly.

Insect or Disease	Abbr.	Scientific name	Traps/Site
light brown apple moth	LBAM	<i>Epiphyas postvittana</i>	4
cherry bark tortrix moth	CBT	<i>Enarmonia formosana</i>	4
apple proliferation phytoplasma	APP	<i>Candidatus</i> Phytoplasma mali	na ¹
streptomycin resistant fire blight	SmR Ea	<i>Erwinia amylovora</i>	na

¹na=Not applicable

Traps were set out in early July and serviced weekly until mid-October in four orchard locations, Table 2. Lures were replaced at the specified intervals. We scouted for diseases at weekly intervals during appropriate times of the season. In some orchard sites there were few to no peach or apple fruit because of blossom damage from the late spring freezes and, therefore, few brown rot samples were collected for analysis.

Table 2. The four orchard sites in the survey are listed below, including the owner, farm name, city, county, and crops monitored. Traps were serviced and diseases scouted at weekly intervals, weather and spray schedules permitting.

Name	Farm Name	City	County	Crops
Alan Buhr	New Royal Orchards	Gasport	Niagara	Apples & Cherries
Robert Brown, III	Orchard Dale Fruit Farms	Waterport	Orleans	Apples & Cherries
Rick Reisinger	Reisinger's Apple Country	Watkins Glen	Schuyler	Apples
Kendra Burnap	Burnap Farm Market	Sodus	Wayne	Apples & Cherries

Suspect specimens were brought back to the lab for pre-screening. Suspect specimens of LBAM and CBT were sent to Jason Dombroskie, Dept. of Entomology, Cornell University for determinations.

Each week for the visual survey for diseases a different block of fruit trees on each farm was scouted for diseases with input from the farmers in case fire blight or other odd symptoms had been noted on the farms. Approximately 20 trees were examined for APP and fire blight, by walking between two rows and stopping five times, every 60 ft., to inspect two trees in each row for disease symptoms and then choosing another set of rows 10 rows distant and repeating the scouting procedure. The varieties scouted included Brookfield Gala, Gala, Pacific Gala, Buckeye Gala, Ginger Gold, Macoun, MacIntosh, Honeycrisp, Aztec Fuji, Jona Gold, Golden Delicious, Crispin, Red Delicious, Empire, Cortland, Cameo, Ida Red, Sansa, Zestar, Northern Spy, and SnapDragon. No evidence of APP was found. Fire blight samples collected were analyzed by Kerik Cox, Dept. of Plant Pathology and Plant-Microbe Biology, Cornell University.

No quarantine pests, LBAM, CBT, or APP, were uncovered by the survey. No streptomycin-resistant fire blight isolates were identified in any of the collected fire blight samples.

Deliverables

For the webpage in the NYS IPM Program website, Invasive Species & Exotic Pests nysipm.cornell.edu/invasives_exotics/, two new fact sheets, on cherry bark tortrix and apple proliferation phytoplasma, were written.

