Agricultural Invasive Species Found in New York State, continued

Khapra beetle, Trogoderma granarium. Commodity: Stored grains. First county: Not yet in NY.
- Can destroy or consume up to 70% of its weight of stored grain, dried seeds
- Contamination of stored grain causes health issues

Photo: Ministry of Agriculture and Regional Development Archive, Ministry of Agriculture and Regional Development, Bugwood.org

Plum Pox Virus (D strain), Potyvirus. Commodity: Stone fruit. First county: Niagara (2006); Currently in 3 NY counties.
- Ruins marketability by causing acidity & deformities

Photo: Ministry of Agriculture and Regional Development Archive, Ministry of Agriculture and Regional Development, Bugwood.org

Late blight, Phytophthora infestans. Commodity: Potatoes. First county: New York City (1843); Currently in 20 NY counties.
- White mould appears under leaves in humid conditions; whole plant quickly collapses
- Infected tubers quickly decay to foul-smelling mush
- Seemingly healthy tubers may rot later in storage

Photo: William M. Brown Jr., Bugwood.org

Light brown apple moth, Epiphyas postvittana. Commodity: Berries, field crops, fruits. First county: Not yet in NY, on watch list.
- Larval feeding causes irregular brown areas on fruit surface

Photo: Department of Primary Industries and Water, Tasmania Archive, Bugwood.org

Oak wilt, Ceratocystis fagacearum. Commodity: All species of oak. First county: Schenectady (2008); Believed to have been eradicated.
- Prevents water transport within the tree
- Leaves wilt and drop off, leading to death of tree

Photo: C.E. Seliskar, Bugwood.org

Summer fruit tortrix moth, Adoxophyes orana. Commodity: Various fruit, ornamental trees, flowering shrubs. First county: Not yet in NY; has been intercepted at ports of entry.
- More than 120 plants on the Federally Registered Threatened and Endangered Species list are attacked by SFTM
- One of the most damaging leaf rollers

Photo: Pest and Diseases Image Library, Bugwood.org

Spotted Wing Drosophila, Drosophila suzukii. Commodity: Berries, grapes, and stone fruit. First county: Suffolk (2011); Currently in 6 NY counties.
- Causes scaring and tissue damage in ripe, marketable soft-skinned fruit
- Secondary pests and molds enter around the egg deposit point

Photo: Pest and Diseases Image Library, Bugwood.org

Swede midge, Contarinia nasturtii. Commodity: Cruciferous vegetable crops. First county: Niagara (2004); currently in 12 NY counties.
- Leaf and flower galls, misshapen growing points, no growing tips
- Young leaves may become swollen or crumpled
- Damaged or no marketable crops

Photo: used with permission from the NYS IPM program.

The Cornell Cooperative Extension Invasive Species Program (CCE ISP)
- Provides high quality science-based invasive species education
- Helps New Yorkers detect, prevent, and control invasive species
- Helps New Yorkers protect our agricultural and natural resources, human and animal health, and economy from invasive species

For more detailed information on each species, including NYS distribution, visit www.nyis.info/agriculture

Why should you care?

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Agricultural Invasive Species of High Priority to New York State: Why Should Agriculture and Agribusiness Care?

Nationwide:
- Invasive species (plants, insects, and pathogens) costs to U.S. agriculture: $138 billion per year (USDA-APHIS 2011)

What’s at Risk in New York?
- 37,000 ± farms (25% of NY’s 7.65 million acres)
- Milk: third highest production in the nation ($2± billion/year)
- Major industry of field crops supporting dairy: corn, oats, wheat, soybeans
- Human consumption field crops, fruits, and vegetables ($1 ± billion/year)
- Apple production along southern shore of Lake Ontario, the Hudson Valley, and in upper Lake Champlain Valley is 2nd highest in the nation
- Bedding and garden plants produced under 24 million square feet of glass; 5th largest in nation

What Are the Economic Impacts of Invasive Agricultural Species to NY?
- Agricultural weeds cause estimated 12% crop losses = $33 ± billion/year
- $4 ± billion/year spent on herbicides to control invasive plants
- $3 ± billion/year spent on fungicides

What Segments of Agriculture and Agribusiness are Impacted by Invasive Species?
- Commodity production
- Harvesting impacts
- Price and market effects
- Production sustainability
- Food security and nutrition
- Human and livestock health

Agricultural Invasive Species Found in New York State

**Asian long-horned beetle, Anoplophora glabripennis.**
Commodity: Most hardwood trees, especially sugar maple.
First county: Queens (1996); Currently in 8 NY counties.
- Larvae feed on the wood of hardwood trees causing tree mortality
- Infested hardwood must be completely destroyed to prevent spread of beetle

**Alfalfa snout beetle, Otiorhynchus lactucae.**
Commodity: Alfalfa. First county: Oswego (1896); Currently in 8 NY counties.
- Can destroy entire fields of alfalfa, clover
- Makes growing alfalfa very expensive

**Brown marmorated stink bug, Halyomorpha halys.**
Commodity: Varied fruits & vegetables. First county: Ulster (2008); Currently in 29 NY counties.
- Pitting and scarring
- Mealy texture in the fruit may make it unmarketable as a fresh product
- Severe damage can render crop unusable for processed products

**Pyralid moth, Duponchelia fovealis.**
Commodity: Peppers. First county: Westchester (2011); Currently in 8 NY counties.
- Holes in the foliage, wilting, defoliation, girdling of the stem, stem collapse
- Damaged areas are exposed to fungal diseases

**European crane fly, Tipula paludosa.**
Commodity: turf, sod farms, grass seed fields. First county: (2004); Currently in 9 NY counties.
- Devour roots
- Cause yellow spots and bare patches

**False codling moth, Thaumatotibia leucotreta.**
Commodity: Grapes, stone fruits, various field crops. First county: Not yet in NY, on watch list.
- Larval feeding causes premature ripening and fruit drop

**Streptomycin-resistant fire blight, Erwinia amylovora.**
Commodity: Pears and apples. First county: Wayne (2012); Currently in 2 NY counties.
- Injured tissue is highly susceptible to infection
- Once plant’s roots or graft junction are affected, death of the plant often results

**Emerald ash borer, Agrilus planipennis.**
Commodity: Black ash, Green ash, White ash. First county: Cattaraugus (2009); Currently in 10 NY counties.
- Larvae feed on phloem of ash trees, girdling and killing trees
- Hedgerows comprised of ash trees help protect fields from drying and eroding winds
- Ash hedgerows provide shelter to plants, animals and humans

**Golden nematode, Globodera rostochiensis.**
Commodity: Potatoes, tomatoes, eggplant. First county: Nassau (1941); Currently in 8 NY counties.
- Bores into the roots of host plants and feeds on their juices
- Results in poor plant growth, wilting, stunted growth, early plant death

**European grapevine moth, Lobesia botrana.**
Commodity: Grapes, berries. First county: Not yet in NY, on watch list.
- Larvae penetrate fruit, hollow it out, leaving just skin and seeds
- Cause webbing and feed within bunches, which become contaminated with excrement
- Additional secondary damage may follow

**Giant hogweed, Heracleum mantegazzianum.**
Commodity: Livestock and human health concerns First county: Monroe (1917); Currently in 39 NY counties.
- Severe skin burning/blindness from exposure to sap
- Toxic to livestock when mixed in with hay

**Hemlock wooly adelgid, Adelges tsugae.**
Commodity: Hemlock trees. First county: Suffolk (1950); Currently in 28 NY counties.
- Feed at base needles, eventually depleting tree’s resources
- Loss of hemlock groves would remove habitat for deer, grouse, turkey, and rabbits

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