

Pennsylvania Department of Agriculture

2015 Entomology Program Summary

The Pennsylvania Department of Agriculture (PDA) Entomology Program is responsible for the regulation of invasive insect plant pests, which includes survey, laboratory analysis, and control/mitigation when warranted. In 2015, the Entomology Program either conducted or actively participated in 13 invasive insect pest surveys across the Commonwealth. The laboratory received and processed 11,319 different insect samples and identified 99,063 specimens from these samples. Regardless of the survey, all samples were screened for Cerambycidae, Buprestidae, Scolytinae, Pentatomoidea, Siricidae, Symphyta, Vespidae, Fulgoroidea and other select species like *Drosophila suzukii* (Spotted Wing Drosophila), *Sirex noctilio*, *Larinus turbinatus*, *Adelges tsugae* (Hemlock Woolly Adelgid), *Lycorma delicatula* (Spotted Lanternfly), and *Pyrhalta viburni* (Viburnum Leaf Beetle). In addition, several other non-targeted species were identified if they were unfamiliar to staff taxonomists. Entomology surveys are carried out by permanent and temporary PDA staff, as well as cooperating government and non-government collaborators. Insect samples are also submitted through cooperative extension, private industry, and the general public.

SPOTTED LANTERNFLY (SL):

The cooperative response to eradicate SL by the community, local governments, individual property owners, businesses, state agencies, researchers, and the federal government has been a refreshing experience and the Entomology Program extends a sincere thank you to everyone who has dedicated time, expertise, and resources this effort.

On September 22, 2014 an educator with the PA Game Commission submitted a report detailing damage to *Ailanthus altissima* (tree of heaven) and the presence of an unknown insect associated with the damage in Eastern Berks County. An inspection by PDA staff resulted in the collection of a pest new to North America, *Lycorma delicatula* (spotted lanternfly). A brief delimiting survey indicated a population that was limited in distribution and a quarantine was established late in 2014 to contain the pest in its known area.

Early in 2015, the USDA, assisted PA by conducting a tree chipping study to see if SL egg masses could survive chipping. This study was monitored by PDA until all viable eggs hatched. Results showed that no eggs from the chipped material hatched, while a high percentage of the un-chipped eggs had hatched. In addition, the US Forest Service placed temperature collection devices at the core of the infestation to help determine growing degree information. Groups of community volunteers were also trained to scrape SL egg masses and report their efforts to PDA.

In March of 2015, PDA was awarded emergency Farm Bill funding to attempt eradication of SL, and cooperators were awarded funding for research and outreach. PDA designed and implemented a plan to control population growth in the core of the infested area, and to engage the public to assist with this control and with



identifying the full extent of the pest's distribution. In April of 2015, 22 property owners who were documented to have infestations were trained to use brown sticky tree bands to trap immature SL. Eighteen PDA SL crew members were hired to band trees on non-volunteer properties and to work with volunteers to keep the effort coordinated. The crews started working the first week of May, and were aided by having District Township donate a staging area for the crews to operate from. The program targets were to band 10,000 trees, and maintain these bands until the end of November. The combined number of trees banded by volunteers and PDA SL Crews was 6,520 trees which



resulted in the death of 189,926 SL. The bands were selected due their ease of use, quick deployment, and relatively low cost and environmental impact. Other program control methods require additional preparation and could not be deployed as quickly. The bands were extremely effective through the 3rd larval instar, but seemed to have limited ability in capturing late instars and adults. For this reason, the SL Crews developed an active capture technique using the bands which allowed for continued control through the fall months. After SL started to deposit egg masses, the crews and volunteers switched from active capture to egg mass scraping, and this effort

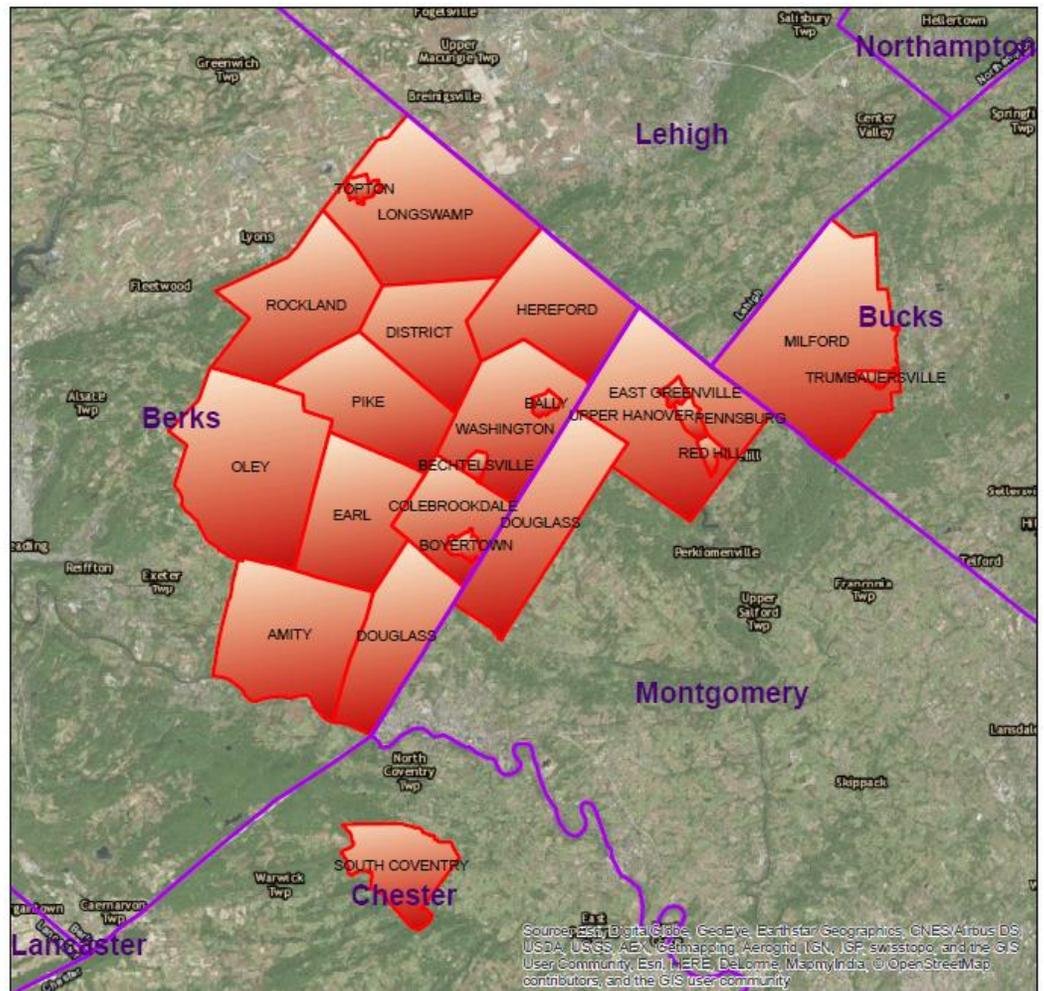


resulted in the death of an additional 603,645 SL. As a result of the volunteers and crews recording their control efforts, PDA was able to identify a number of properties with the highest populations where some enhanced control tactics could be implemented. The owners of these properties were issued treatment orders which detailed the tree removal/trap tree procedure. Because the SL will feed on many different species when it is developing, it is difficult to deliver effective control in an efficient way. As SL matures, it starts to congregate almost exclusively on tree of heaven, and evidence seems to indicate that females are required to feed on tree of heaven before they lay eggs. For this reason PDA developed and implemented a strategy to remove most tree of heaven from infested properties but leaving a few trees as trap trees which are treated with a systemic insecticide. SL that remain on these properties are left only a few treated trees on



they can complete their life cycle. After feeding on the treated trees they die. A contractor was selected by bid and has completed the tree removals on all of the selected properties with trap tree insecticide treatment scheduled for May of 2016. The populations at these high-count sites will be monitored.

Efforts by the crews and volunteers helped to identify many new infested areas over the course of 2015, which led to the expansion of the quarantine and a better understanding of the scope of the infestation. The public is extremely effective and helpful for reporting new locations. These public reports led to the discovery of infestations in three new counties (Bucks, Chester, and Montgomery) and a number of new townships in Berks County. By the end of 2015, SL was known from 435 properties. The heaviest infestations are centered around the initial point of detection, and most of the remote populations in new townships and counties are comprised of only one or two specimens. The quarantine restricting the movement of SL life stages and conveyances has been extended.



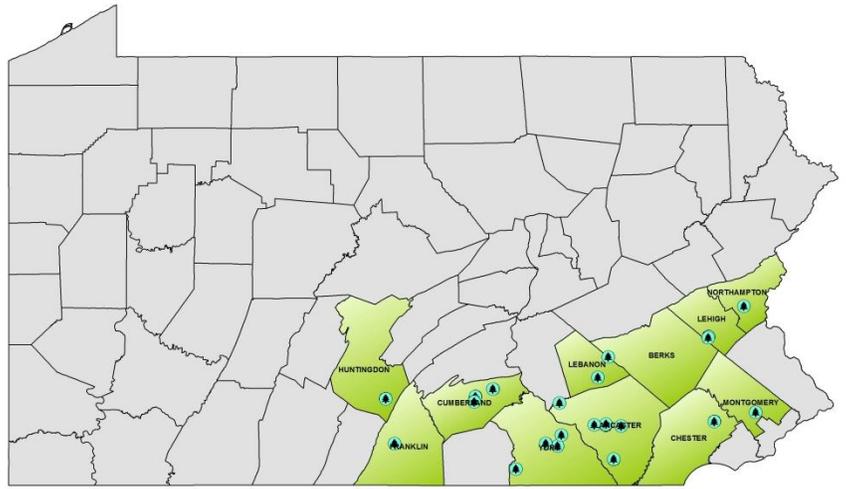
In 2016, PDA plans to expand the volunteer banding program, continue mechanical control efforts, and greatly expand the number of tree removal/trap tree properties.

ASIAN LONGHORNED BEETLE (ALB):

This pest continues to be a high priority for Pennsylvania. ALB was declared eradicated from portions of New York, New Jersey, and Ontario in 2013. Unfortunately, new populations of ALB were discovered in New York and Ontario. Pennsylvania continues to screen all wood destroying insect samples for ALB, all of which were negative in 2015. In addition, ALB visual surveillance is performed as part of Pennsylvania’s Cooperative Agricultural Pest Survey. PDA also responds to a number of public reports for ALB each year. In 2015 PDA performed visual survey at 228 sites. No ALB was detected in PA in 2015. PDA intends to continue visual surveillance in 2016.

USDA EXOTIC WOOD BORING BEETLE SURVEY:

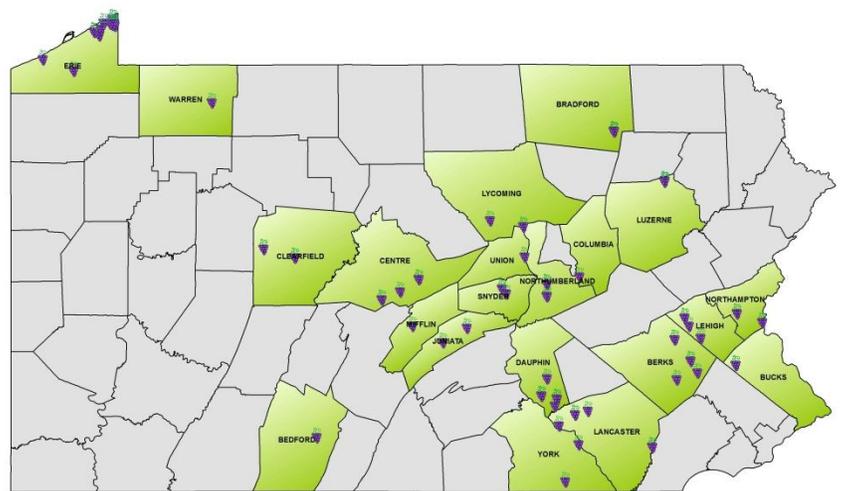
In May of 2015, the USDA-APHIS PPQ office out of Carlisle PA, established 109 traps at high-risk sites in 11 PA counties that receive shipments of products originating outside of the United States. Facilities targeted were known to have received shipments that contained pests from abroad in the past. The traps were serviced every two weeks until the end of October. A total of 864 samples were submitted to the PDA Entomology Laboratory for analysis. This survey



targeted a combination of different wood destroying beetles not known to occur in the United States. None of the USDA target pests were detected, but 24 specimens of the camphor shot borer, a non-native ambrosia beetle recently found in PA were trapped in York County for the first time and 8 were trapped in Lehigh County.

GRAPE COMMODITY PEST SURVEY:

PDA first implemented a grape pest survey in 2010 using Farm Bill money from the USDA and this survey has been continued through 2015. The survey was run from April until the end of June, completing the 2014 project, and the 2015 grape commodity pest survey started on July 1st and ran until the end of October. The 2015 project will resume in April of 2016 and conclude June 30, 2016. Target pests for 2014 included *Lobesia botrana*, *Autographa gamma*, *Epiphyas postvittana* (light brown apple moth), *Adoxophyes orana* (summer fruit tortrix moth), and the recently detected *Platynota stultana* (omnivorous leafroller). In

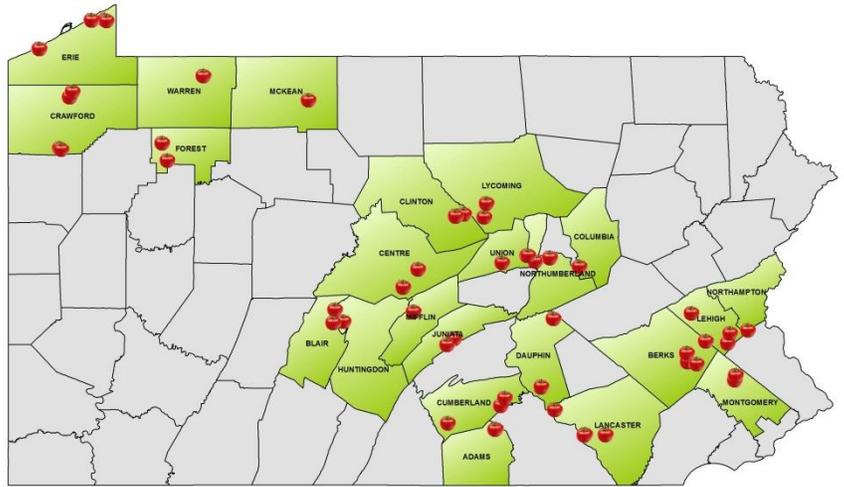


addition, the recently detected Spotted Lanternfly (*Lycorma delicatula*) was added as a target pest at all known vineyards. In the spring of 2015, survey crews established 572 sites in 21 PA counties at farms supporting wine and juice production. The PDA lab received and processed 2,124 samples which contained 3,318 specimens. No targets were detected in 2015. Surveys did detect 30 specimens of *Autographa gamma* which were not *Autographa gamma* and 2 specimens of *Platynota stultana* which were not *Platynota stultana*. All vineyards surveyed were negative for Spotted Lanternfly. This survey will resume in April of 2016.

TOMATO COMMODITY PEST SURVEY:

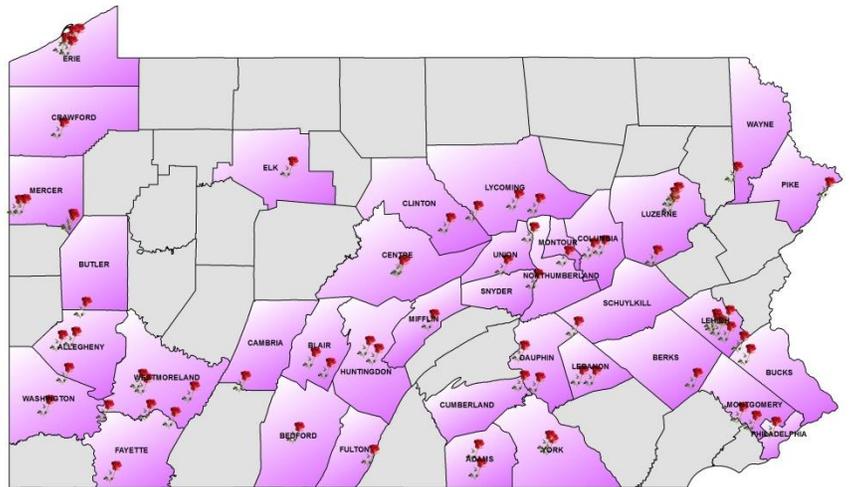
Due to numerous new detections of the tomato pest, *Tuta absoluta* (Family Gelechiidae) in Europe, a small survey for this pest was conducted through the PDA IPM program in 2010. In 2011, PDA received Farm Bill money to implement an official tomato commodity pest survey in PA and this was continued through 2015. Similar to the grape commodity survey, the tomato survey runs from July 1, through the end of September, and resumes from April through the end of June the following year. The 2014 project target pests were *Tuta absoluta* (tomato leaf miner), *Chrysodeixis chalcites* (golden twin spot moth), *Diabrotica speciosa* (cucurbit beetle), *Helicoverpa armigera* (old world bollworm), *Neoleucinodes elegantalis* (tomato fruit borer), and

Bactericera cockerelli (tomato/potato psyllid). Seasonal surveyors deployed 470 sites in 23 counties at tomato processing facilities, retail food distribution centers, as well as at some tomato production sites. Surveyors submitted 2,298 samples throughout the 2015 season which contained 3,265 specimens, all of which were negative for the target pests. Traps did collect 5 specimens of other moths in the Family Gelechiidae that were not *Tuta absoluta* and 26 Moths in the Genus *Chrysodeixis* which were not *Chrysodeixis chalcites*. Traps also collected 493 moths in the genus *Helicoverpa* which were not *Helicoverpa armigera*. This survey will resume in April of 2016.



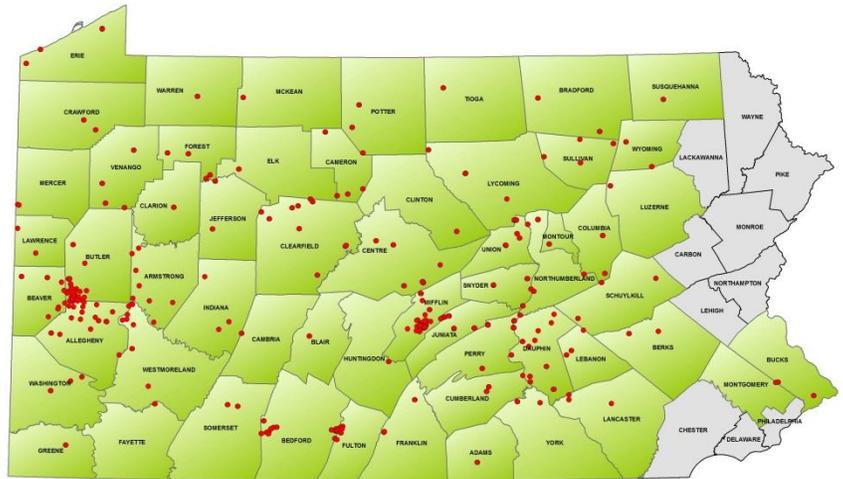
CUT FLOWER SURVEY:

For many years PDA has worked closely with members of the US Custom and Border Patrol sharing information which leads to targeted surveys and the detection of new invasive plant pests. As part of the effort, PDA reviews port interception reports to help identify interception trends and pathways for plant pest introductions. In the past several years Thysanoptera, also known as thrips, had been routinely intercepted on shipments of cut flowers. As a pilot survey in 2013, PDA plant inspectors were asked to sample cut flower shipments the week of February first, focusing on thrips. Inspectors visited nine cut flower distributors in six counties, where they generated 46 samples. The samples contained 80 insect specimens, including beetles, flies, aphids, and the target, thrips. Two of the thrips identified were not native to PA, including *Thrips palmi* and *Frankliniella panamensis*. Though these collections are considered to be interceptions requiring no regulatory action, they do demonstrate that a possible pathway for introduction exists. In 2014, the survey was slightly modified to see if serious pests like *thrips palmi* can survive past the distributor, and remain viable to the flowers retail destination, where the likelihood of transfer to plants for planting is increased and this effort was continued in 2015. Inspectors visited 73 sites in 37 counties in 2015. A total of 416 samples were submitted that contained 13 specimens, none of which were targets. This survey has concluded and may be re-instituted every few years.



EMERALD ASH BORER (EAB):

2015 marked the eighth year since the Buprestidae beetle *Agrilus planipennis* was discovered in Butler County and the fifth year since the removal of the in-state quarantine which had restricted the movement of materials from known infested areas to non-infested areas. It was also the fifth year of bio-control efforts by our cooperating agency (DCNR), and the fifth season of the tropical ash rearing project to support the production of bio-control agents.

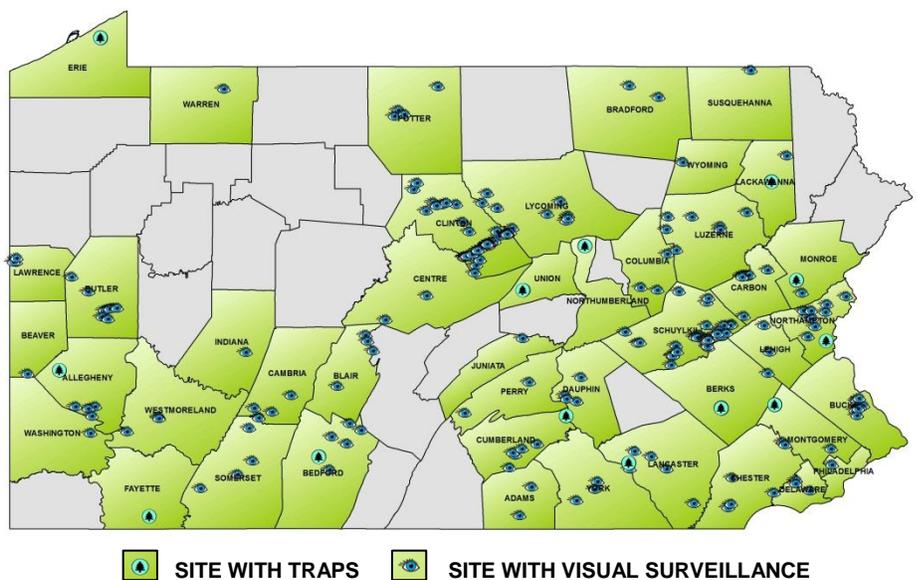


At the beginning of 2015 there were 55 counties with confirmed populations of EAB known in PA, and no official survey work was performed by PDA in 2015. In 2015 official confirmed samples were obtained from McKean and Lancaster Counties. These new detections bring the total number of infested PA counties to 57 as of January 1, 2016.

Over 350 *Fraxinus uhdei* (tropical ash) were started from seed in July of 2011 to support the rearing of EAB biological control agents at the National Rearing Lab in Brighton, MI. Germination and initial growth of the seedlings continued through December of 2011. In 2012 the ash trees were cut back and an initial shipment of 400 leaves and a number of cut back trees were sent to Michigan in May. Starting in November of 2012, regular shipments of leaves were made (as need dictated by the rearing lab in Brighton) and this program continued through the end of 2015. In 2015, regular shipments were made each week from February through June, and September through December, totaling 9,880 leaves and 581 boles. Currently there are 149 trees maintained in the greenhouse at PDA.

COOPERATIVE AGRICULTURAL PEST SURVEY (CAPS) Exotic Wood Boring Beetle Survey (EWBB):

The Cooperative Agricultural Pest Survey is a federally funded survey that targets pests of specific national concern to agriculture. Though the EWBB survey targets species of national concern it also adds species of state concern. Due to the extreme economic impact caused when non-native wood destroying insects are introduced to PA, PDA runs some form of this survey each year. Surveys are carried out in accordance with national survey guidelines. Pests of state concern can be surveyed in a more flexible manner. In 2015, insects affecting oak, sassafras, conifers, and other Northeastern hardwoods were selected as target species. This included pests like oak splendor beetle, Asian longhorned beetle, oak ambrosia beetle, spruce engraver, bamboo borer, citrus longhorned beetle, and many other pests not known



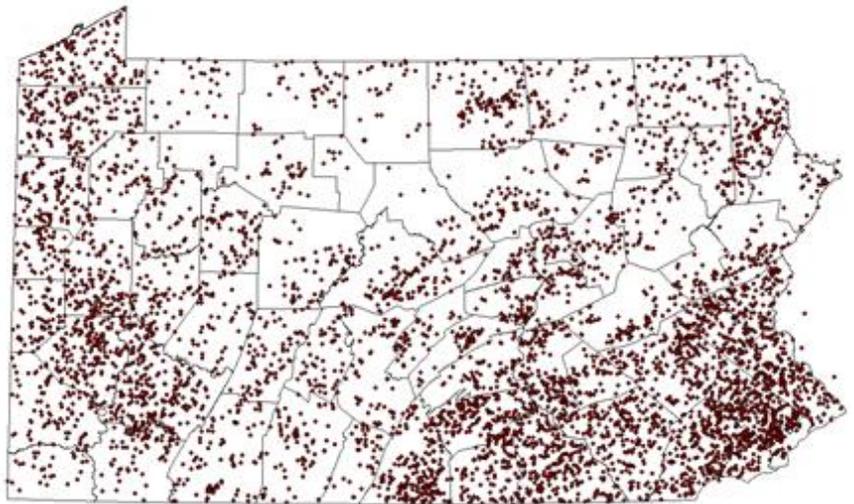
100 trap survey for the beetles starting in July of 2012 and this survey continued through 2015. PDA and the DCNR Bureau of Forestry deployed 109 traps in 35 counties in 2015. PDA focused on un-infested Counties with higher concentrations of traps in counties adjacent to known positive counties. The DCNR placed and monitored several traps in Bucks, Montgomery, Chester, and Delaware Counties which are counties currently under state quarantine. The state of MD requested assistance with the processing of samples from MD which PA agreed to identify. In all, PDA received and processed 1,647 samples containing 20,491 specimens. A total of 19 *Pityophthorus juglandis* were collected in 2015 in PA, all from the original detection site in Bucks County. No new locations were identified in 2015 and the quarantine was not expanded. PA will resume this project in April of 2016.

APIARY INSPECTION PROGRAM:

The value of the apiary industry in Pennsylvania in 2015 was estimated at over \$76 million. Much of this value is attributed to increased yield in crops partially or completely dependent on honey bees for pollination. In 2007, it was estimated that each honey bee colony provided \$1,659.21 to Pennsylvania's economy.

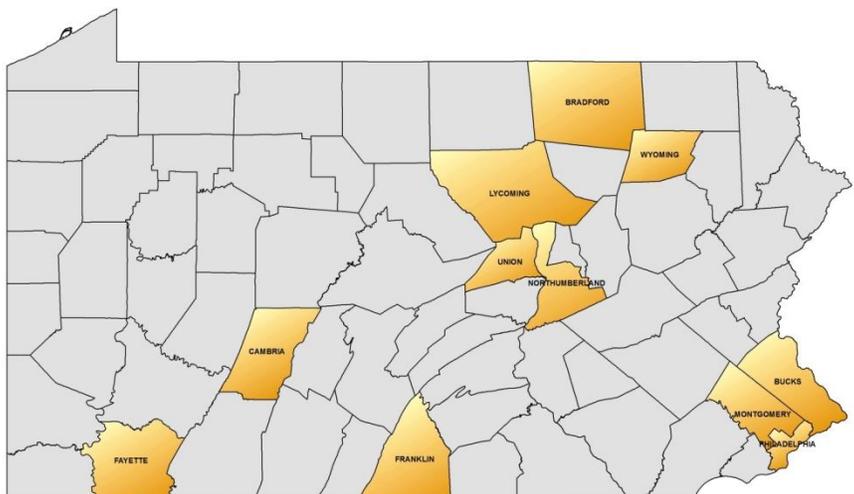
Since the onset of Colony Collapse Disorder (CCD) in 2006, more people worldwide have become interested in becoming beekeepers and helping native pollinators. In Pennsylvania, over 3,000 new beekeepers have registered since 2007, including over 500 new beekeepers registering in 2015. Currently, in PA there are over 4,000 registered beekeepers managing approximately 63,000 colonies in 6,000 bee yards. The majority of these beekeepers care for 1-10 hives. As seen on the map, managed honey bee colonies can be found almost everywhere in the Commonwealth from roof tops in urban areas to towns, suburbs, farms, and undeveloped land.

From the end of April until the end of October, there were seven full time seasonal Apiary Inspectors working across Pennsylvania as well as the State Apiarist located in Harrisburg. Approximately 20% of beekeepers registered in PA had their honey bee colonies inspected.



HONEY BEE DISEASES AND PESTS:

Twenty nine cases of American Foulbrood (AFB), a highly contagious disease affecting honey bees, were detected in 11 counties in PA in 2015. The PA Department of Agriculture continues to focus on detection and treatment of AFB. All suspect cases of AFB were submitted to Harrisburg and then sent on to the USDA, Beltsville, Maryland for laboratory testing to confirm the diagnosis and to screen for Oxytetracycline hydrochloride, (trade name Terramycin) resistance. Twenty two of the AFB strains were susceptible and therefore the symptoms are treatable with the antibiotic Oxytetracycline HCL and seven were resistant to Oxytetracycline HCL. Resistant strains of AFB may be treated



Resistant strains of AFB may be treated

with the veterinary antibiotic tylosin (trade name Tylan) or irradiated. Many beekeepers chose to burn the infected hive(s) since the antibiotics do not kill the bacterium causing AFB. The Varroa mite, *Varroa destructor*, continues to be found throughout Pennsylvania and many parts of the world. These insect pests of the honey bee are a serious concern to beekeepers because they vector viruses causing diseases and can weaken a colony enough to cause the bees to abscond or die. Small hive beetles continue to spread throughout Pennsylvania. They are more prevalent in the southern and mid-sections of the state.

APIARY PERMITS ISSUED:

The Pennsylvania Department of Agriculture (PDA) issued 32 Certificates of Inspection to process export permits for beekeepers requesting permission to allow honey bees and/or used equipment to leave PA (35 were issued in 2014). There were 8 Import Permits issued to allow honey bees and/or used equipment to enter PA from other states (12 were issued in 2014). Eighty six queen producer/nuc-selling beekeepers were issued permits to sell queens and nucleus colonies in Pennsylvania in 2015 (53 were issued in 2014).

NATIONAL HONEY BEE SURVEY:

This was the fifth year that Pennsylvania was able to participate in the USDA/APHIS National Honey Bee Disease Survey (NHBS). The objective of this survey is to determine the diseases, pests, and parasites present, or absent, in various operations throughout the United States, including a cross-section of operation types. The diseases, pests, and parasites include: American Foulbrood, European Foulbrood, Sacbrood, Chalkbrood, Parasitic Mite Syndrome, *Nosema sp.*, Idiopathic Brood Disease Syndrome (IBDS), Lake Sinai Virus-2 (LSV-2), Acute Bee Paralysis Virus (ABPV), Chronic Bee Paralysis Virus (CBPV), Kashmir Bee Virus (KBV), Israeli Acute Paralysis Virus (IAPV), Slow Bee Paralysis Virus (SBPV), Deformed Wing Virus, Black Shiny Bees, Small Hive Beetles, Wax Moths, *Varroa* mites, *Apis cerana* and *Tropilaelaps* mites. The survey also records the status of the queen. Live bee samples are sent for virus testing. As of December 2015, 17 of the 24 apiaries have been sampled. The remaining seven will be completed in the spring of 2016.

ASIAN GIANT HORNET:

Asian Giant Hornet, *Vespa mandarinia*, (AGH) gained national notoriety when it was featured in a discovery channel program where it was portrayed as a significant threat to apiaries and as a human health threat. AGH made international news in 2013 when conditions in China led the insect to cause 42 deaths. A review of PA regulatory authority identified that there was a gap which might not allow for rapid response should the pest be introduced in North America. In 2015, PA was awarded a Farm Bill grant to survey for AGH in PA and to develop a response strategy should the pest be detected.



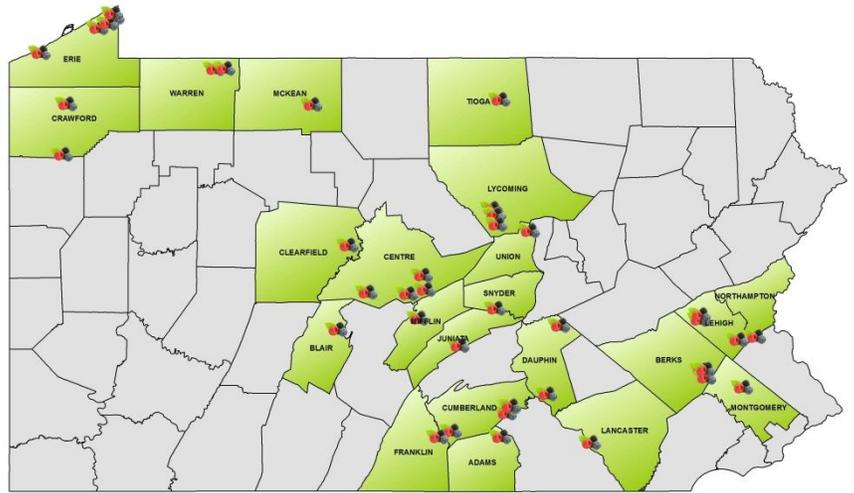
In 2015, 72 high risk sites, including international airports, ports, shipping, rail, and truck transportation hubs were established in 13 counties. Traps were established July through September by six apiary inspectors, two federal surveyors, and one PA Department of Agriculture entomology field worker. Two types of traps and three types of bait/lure were used. White translucent one gallon jugs were hung from trees and held either one cup of light or dark brown sugar and ½ gallon of water. Black Lindgren Funnel traps with ethanol lures were the second type of trap. Traps yielded 219 samples which contained 5,187 specimens. No Asian Giant Hornets were identified in 2015 but traps did collect 353 *Vespa crabro* (European hornet) which is often

mistaken for the target pest. Plans are underway to continue the survey while also testing additional traps and lures combinations in the spring of 2016. Additional sites are being secured in high risk areas.

In addition, educational handouts are also being prepared. A presentation was made about the AGH survey at the annual PA State Beekeepers Association meeting and numerous presentations are scheduled for local beekeeping groups. In January 2016, at the Apiary Inspectors of America meeting, a cooperators meeting was held with other participating states and information was presented to State Apiarists and Apiary Inspectors. There was a great deal of interest in the program and the participants were able to start drafting a framework response should AGH be detected.

SMALL FRUIT COMMODITY PEST SURVEY:

The port of Philadelphia has long been a chief port for the importation of fruit into the Eastern part of the country. In recent years there have been interceptions of Mediterranean fruit fly in New Jersey and in Philadelphia. New fruit feeding flies like spotted wing drosophila and Drosophilid fig fly have established and spread in PA. For these reasons, PDA sought Farm Bill Money to survey for exotic fruit fly pests of small fruit. This survey targeted Spotted Wing Drosophila (*Drosophila suzukii*), Drosophilid Fig Fly (*Zaprionus indianus*), Mediterranean Fruit Fly (*Ceratitis capitata*), Malaysian Fruit Fly (*Bactrocera latifrons*), other *Bactrocera* spp., and South American Fruit Fly (*Anastrepha fraterculus*) at growers or processors of blue berries, strawberries, cane fruits, or other small fruits. PDA crews established 147 sites in 22 counties which were run from July through November 2015. Traps yielded a total of 553 samples with 5,397 specimens, which were identified at the PDA laboratory with the use of permanent and seasonal taxonomic staff. Two targets were identified in 2015, including 312 specimens of *Zaprionus indianus* and 4,498 specimens *Drosophila suzukii*. No specimens of *Bactrocera*, *Ceratitis*, or *Anastrepha* were collected. This survey will resume in the spring of 2016, but was not funded for past the end of June and will be discontinued.



PDA crews established 147 sites in 22 counties which were run from July through November 2015. Traps yielded a total of 553 samples with 5,397 specimens, which were identified at the PDA laboratory with the use of permanent and seasonal taxonomic staff. Two targets were identified in 2015, including 312 specimens of *Zaprionus indianus* and 4,498 specimens *Drosophila suzukii*. No specimens of *Bactrocera*, *Ceratitis*, or *Anastrepha* were collected. This survey will resume in the spring of 2016, but was not funded for past the end of June and will be discontinued.

PLANT DIAGNOSTIC SAMPLE REPORTS (PDSR):

In support of the PDA Plant Merchant Program, the Entomology Lab processes Plant Inspector collected samples from routine plant merchant inspections where a pest of regulatory concern is suspected. In addition plant inspectors are asked to target certain pests of concern during their inspections. In 2015, Plant Inspectors were asked to look for *Stephanitis pyrioides* (azalea lace bug) and *Euwallacea* sp. near *fornicatus*. Populations of azalea lace bug have been causing mortality in nurseries of Pacific Northwest states in recent years and an un-named species of bark beetle that is similar to *Euwallacea fornicatus* has been causing tree mortality in Southern California. A total of 111 samples were submitted in 2015. Six of the samples were lace bug samples and of those two were *Stephanitis pyrioides*. No significant damage resulted from the lace bugs. The most notable PDSR was submitted late in 2015 and was a new state record for the *Eupteryx decemnotata* (Ligurian leaf hopper) found in Cumberland County. *Eupteryx decemnotata* is native to Southern Europe and has been established in California and Florida. It is a known pest of mints, and other

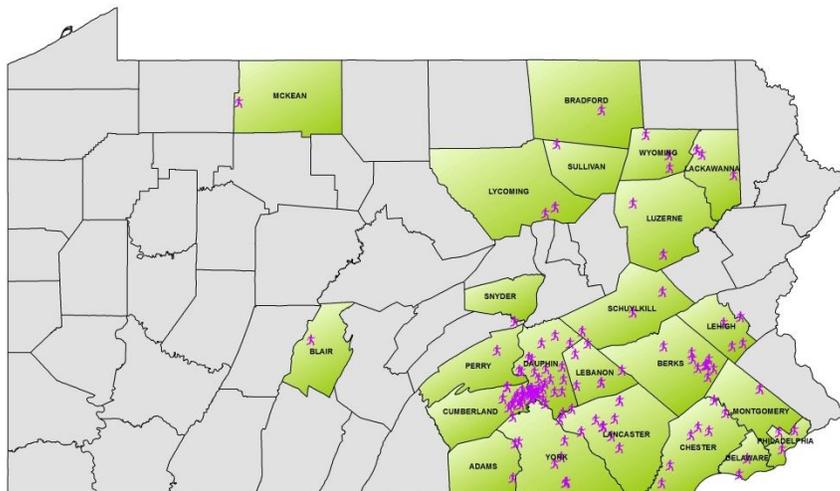


herbs like sage, rosemary, marjoram, oregano and Thyme.

This was the first detection of this pest in Pennsylvania where it caused 100% mortality to rosemary plants in a commercial greenhouse. The greenhouse was dedicated to parent plants for propagation and the grower initiated voluntary control. No additional locations at the property show signs of infestation, but the site will be closely monitored and plant inspectors will target this pest in 2016 inspections where herbs are grown.

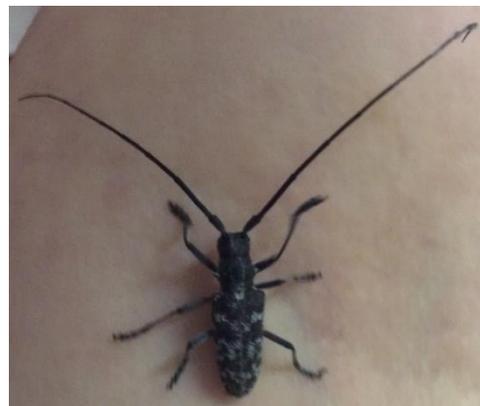
GENERAL SURVEY SAMPLES AND OTHER DETECTIONS OF NOTE:

In addition to mandated and funded surveys, the PDA Entomology program also receives samples from cooperative extension, private industry, and the general public. Entomology records these samples as GENERAL SURVEY samples. The majority of these types of samples result from Commercial Pest Control submissions and Cooperative Extension. In 2015, PDA recorded 253 samples totaling 2,892 specimens. Most identifications provided for the general survey were of common household or yard pests. Four significant finds resulted from the general survey in 2015.



PDA was contacted by a quality control worker from a Berks County company that imports product for production. They collected several specimens of an unknown snail inside truck bodies with newly delivered product. They took quick action to segregate the shipment, line the trucks with a border of salt and, inspected the rest of the shipment, finding snails in four total truck bodies. The snail was identified as *Cathaica fasciola* (A Bradybaenid Land Snail) that is widely distributed in China and causes significant losses to economic crops. The snail is considered to be actionable by the USDA and the USDA worked with the company who voluntarily had the containers fumigated. PDA Entomology conducted a delimiting survey at the site, and only native snails were collected. The site will be monitored in 2016.

PDA was contact by a professor from Millersville University who had received a live Cerambycidae adult from a quality control worker at a Lancaster County food production plant. The specimen had hatched out of wooden pallets that originated in France, and PDA teamed up with the USDA to inspect other pallets at the site. Additional live Cerambycidae larvae were extracted from the pallets. The original specimen was identified by PDA as *Monochamus galloprovincialis* (Black Fir Sawyer), a pest of spruce known from Europe. Working with APHIS, the company destroyed over 200 pallets. A delimiting survey was set up around the facility by PDA who established 6 traps which



generated 39 samples and 219 specimens. Of these, one *Monochamus scutellatus* was trapped, and no other non-native Cerambycidae were trapped. This site will be monitored in 2016.



Two separate sites for *Lilioceris lili* (Lily leaf beetle) were turned into PDA plant inspectors by homeowners in Luzerne and Lackawanna Counties. *Lilioceris lili* is serious pest of Asiatic lily that has been present in North Eastern North America for many years. In 2013, a single infested plant was reported as the first record in Pennsylvania from Clinton County by PSU Extension. Controls were initiated at the Clinton County site and no additional records from Clinton County. Plants in Luzerne and Lackawanna Counties were treated by the property owners, and the two sites will be monitored for presence of the pest in 2016.

In late December 2015, PDA was contacted by PSU Extension from Lancaster County for confirmation of an identification of a pest causing 100% mortality of *Allium* crops on an organic Community Supported Agriculture (CSA) farm. The original sample contained pupae and one larvae of a fly that was identified as *Phytomyza* sp. To speciate *Phytomyza*, a mature adult male specimen is required. PDA Entomology, a representative from the USDA, and PSU Extension visited the grower and obtained samples of infested Leek and Onion which were reared out in containment at PDA. These specimens emerged the first week of January 2016 and were identified as *Phytomyza gymnostoma* (Onion Leaf Miner) which is a "First in Nation" detection. The Agromyzid fly is native to Asia and is a serious pest of *Allium* crops in Europe. An investigation indicated that the grower had been experiencing moderate loss to this pest in previous years, but it had grown worse this past season, eventually causing complete crop loss of his Leek and fall Onion. A pathway for introduction to this farm has not been determined, and a delimiting survey and state-wide survey will be conducted by PDA in 2016. PDA will also be educating growers throughout the state and region, and asking for reports of damage matching this new pest. Literature indicates that the onion leaf miner has two generations per year. The first generation adults emerge in the early spring and preferentially infest onion and garlic. The second generation emerges in the fall and prefers leek, though at the original detection site, both the leek and fall planted onions suffered 100% loss. Spring onions being grown in a hoop house at the farm displayed 40% damage, and specimens were collected from chives, though no damage was evident. The adult flies are gray with an orange head, but growers will most likely notice the mining of the larvae at the base of *Allium* leaves or the light-brown rice-shapes pupae, which are easily found in between layers on leeks or inside onion leaves. Growers who suspect that they have onion leaf miner should contact PSU extension or the PDA Entomology Program. PDA is working with PSU to



develop a pest alert and grower recommendations. A new pest advisory group was formed by the USDA which will provide a report with information about the pest and recommendations.

INVASIVE SPECIES HOTLINE AND E-MAIL REPORT SYSTEM:

In 2015, the invasive species hotline and badbug e-mail account generated 640 contacts to report possible invasive insects and the Entomology Program received an additional 125 reports from direct mail, telephone calls, and other modes of contact. Of the 765 contacts, 400 were to the toll-free automated invasive species line and 240 were to the badbug e-mail. The majority of public contacts were to report or ask about Spotted Lanternfly or EAB.

**Prepared by the Pennsylvania Department of Agriculture,
Bureau of Plant Industry, Division of Entomology, March 18, 2015**

