2024 - 2025

Cooperative Agricultural Pest Survey Report

MONTANA
DEPARTMENT OF
AGRICULTURE
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Cooperators

USDA APHIS Plant Protection and Quarantine
USDA Forest Service
Montana State University Extension
Montana Department of Natural Resources and Conservation
US Department of the Interior
Montana Urban and Community Forestry Association

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Cover photo: A Convergent Ladybug (*Hippodamia convergens*) on a Box Elder in eastern Montana. Photo by Frank E. Etzler. Drawing of EAB on pg. 25 by Frank E. Etzler.

INTRODUCTION TO THE CAPS PROGRAM

The Cooperative Agricultural Pest Survey (CAPS) program conducts science-based national and state surveys targeted at specific exotic plant pests, diseases, and weeds identified as threats to U.S. agriculture and/or the environment. These activities are accomplished primarily under USDA funding that is provided through cooperative agreements with state departments of agriculture, universities, and other entities. Surveys conducted through the CAPS Program represent a second line of defense against the entry of harmful plant pests and weeds. These surveys enable the program to target high-risk hosts and commodities, gather data about pests specific to a commodity, and establish better baseline data about pests that were recently introduced in the United States. The mission of the CAPS program is to provide a survey profile of exotic plant pests in the United States deemed to be of regulatory significance through early detection and surveillance activities.

The Cooperative Agricultural Pest Survey is a nationwide survey effort initiated by the USDA Animal Plant Health Inspection Service (APHIS) Plant Protection and Quarantine (PPQ), to detect and/or monitor the spread of invasive plant pests. To achieve this goal, the USDA APHIS PPQ enlists the assistance of state cooperators. In Montana, state cooperators are coordinated through the Montana Department of Agriculture (MDA), and include not only the Department of Agriculture, but also Montana State University, the Montana Department of Natural Resources and Conservation, USDA Forest Service, and others.

CAPS Program Internet Resources

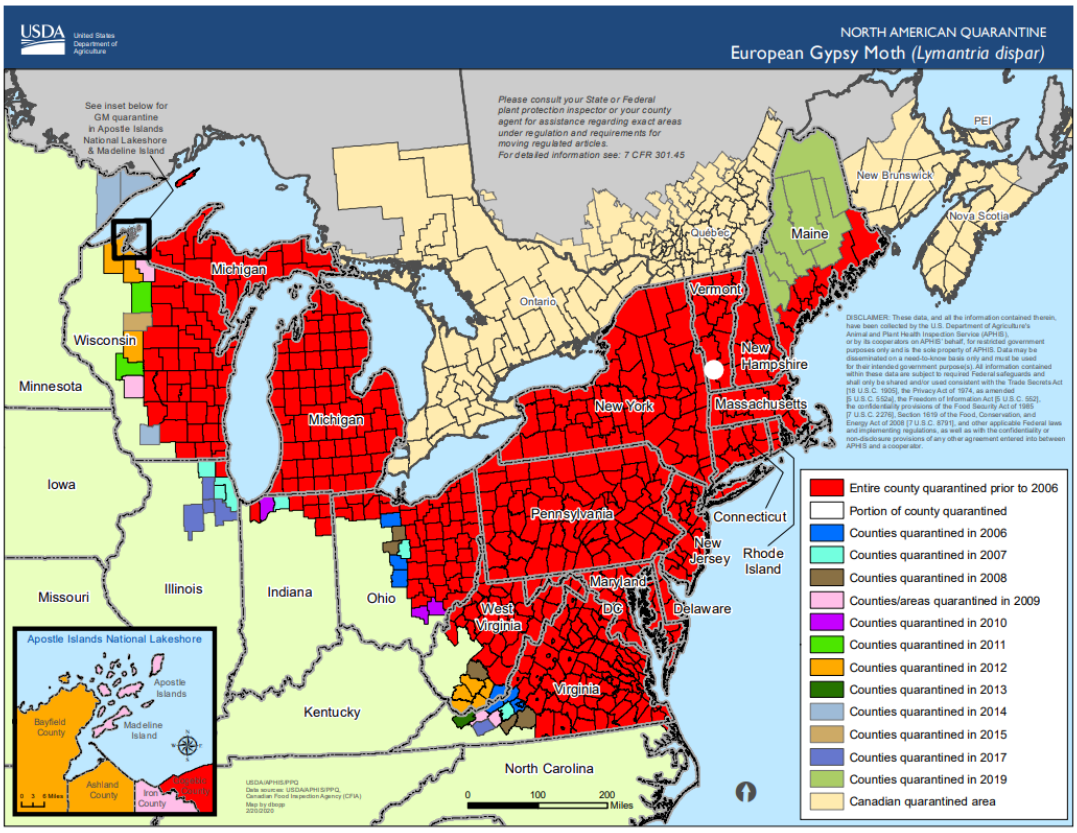
CAPS Website: https://caps.ceris.purdue.edu/home

National Agricultural Pest Information System (NAPIS): https://napis.ceris.purdue.edu/home

Hungry Pests: https://www.aphis.usda.gov/plant-pests-diseases/hungry-pests

Montana Wood Boring Insect Project: https://www.mtent.org/projects/woodboring/index.html

SPONGY MOTH DETECTION SURVEY
Lymantria dispar (L.)



Old USDA map of Spongy Moth quarantine. An up-to-date interactive map can be found at: https://www.aphis.usda.gov/plant-pests-diseases/spongy-moth/spongy-moth-quarantine-map

The European strain of the Spongy Moth (SM) (formerly Gypsy Moth) (*Lymantria dispar* (L.)) was initially introduced into the eastern United States in the mid-1800s. It established rapidly and became a serious defoliating forest pest. Over 500 susceptible host plants have been identified. Most are deciduous trees and shrubs, but older SM larvae will also consume pine and spruce. In Montana, aspen and western larch are of particular importance as potential native tree host of the SM, especially in the western half of the state. Most landscape plants, urban trees and shrubs throughout the state would also be subject to SM defoliation.

Females of the European strain are flightless but crawl actively as they seek out oviposition sites. The egg masses are brownish clumps covered with scales and hairs, and have been found on Christmas trees, boats, RVs, outdoor furniture, firewood, and virtually any other object that might be left outdoors in an infested area. They are thus readily transported to new areas by human activity. The SM is the most destructive forest pest in the eastern United States and large areas of the northeastern and midwestern US are under a federal quarantine to prevent the spread of this pest. There are several other

sub-species of closely related SMs from Asia that are not known to occur in North America but are attracted to the same pheromone lure. Asian SM (ASM) pest pressure has increased in recent years due to increased populations in their native range and changes in international shipping logistics.

Male Spongy Moth. Traps are baited with female sex-pheromone lures and only attract males.

There have been several detections of ASM sub-species adults in the Pacific Northwest. In this sub-species, the female moths can fly, and the caterpillars are more likely to feed on coniferous trees. The new common name was recently adopted and follows the French common name for the moth and reflects the spongy nature of the egg casing.

There have been several positive spongy moth traps in Montana counties in recent years: Cascade (1989, 1990), Fergus (2021), Flathead (2019), Gallatin (1988, 2022, 2023), Glacier (2001, 2003, 2007, 2008, 2022), Lewis and Clark (1988), Lincoln (2009), Liberty (1992), Missoula (1996, 2023), Park (2001), Yellowstone (1993 and 2011). Given the distance between Montana and the quarantined portions of the US and eastern Canada, it is almost certain these introductions were the result of human activity. Additional support for this is that most, if not all, of these counties are major recreational destinations for the entire U.S. Isolated detections result from the movement of egg masses and pupae on contaminated vehicles and equipment or adult moths “hitchhiking” with vehicles or other conveyances. Positive captures over the past three years highlight the need for monitoring, especially since tourist travel has also increased over the same time period.

In Montana, responsibility for the trapping of spongy moths is a multi-agency cooperative effort between the USDA APHIS PPQ, the Montana Department of Agriculture (MDA), the Montana Department of Natural Resources & Conservation (DNRC), and the USDA Forest Service (USDA FS). All traps were placed by early June and checked throughout the summer.

Spongy Moth caterpillar. Photo via CT Dept. of Energy and Environmental Protection

RESULTS: In 2024, the MDA only placed 121 of a planned 150 traps due to unexpected funding cuts to the program. An additional 650 traps were placed by DNRC, USDA APHIS PPQ, and USDA FS (data not included in NAPIS for USDA FS). Delimitation surveys of the 2023 Gallatin County and Missoula County positive locations yielded no new specimens. A USDA Forest Service trap in Carbon county was positive.

The trap number done by the MDA for the 2025 season was further reduced to 98 traps, due to sustained lack of funding available for the program. One trap, located in Flathead County, was positive for two male moths. These moths were confirmed by genetic testing at the national lab to *Lymantria dispar dispar*, the European Spongy Moth. An additional 698 traps were placed by DNRC, USDA APHIS PPQ, and USDA FS. The delimitation survey of the 2024 Carbon county positive trap was negative.

A delimitation survey is planned for 2026 around the positive location, in addition to normal survey efforts, all following guidelines in Spongy Moth Program Manual compiled by USDA APHIS PPQ. A delimitation survey places traps 16 to 36 traps per square mile for four square miles total with the positive trap at the center. This will be done by placing a grid centered on the positive trap, and marking sections for trap placement to cover as much area as possible. Trap placement will also be adjusted to account for local topography and ability for staff to reach the location.

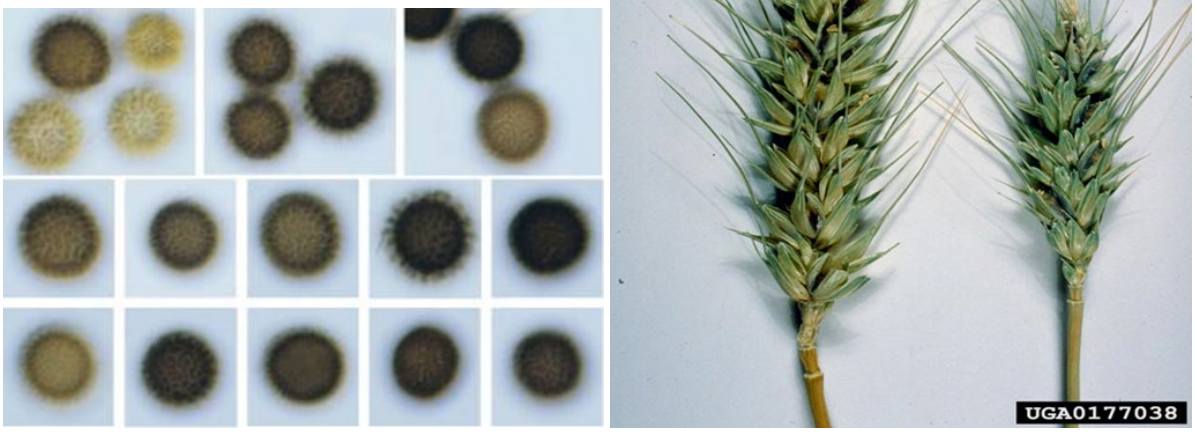
The importance of this joint cooperative program between state and federal agencies is highlighted by the fact that there have been detections every year since 2021. There has never been a 5 year span of yearly detections in the history of the program highlighting the increased risk pressures on Montana's forests with increased tourism in the state. This has also been complicated by reductions in funding for this program, and changes to the priorities of the USDA Forest Service.

KARNAL BUNT DETECTION SURVEY
Tilletia indica Mitra

Karnal bunt (KB) is a fungal disease that affects wheat, durum wheat, and triticale. The disease was discovered near Karnal, India in 1931, hence the name. The first detection of KB in the United States was in Arizona in 1996, in durum wheat seed. Subsequently, the disease was found in portions of Southern California and Texas. The disease has never been detected in Montana field production. KB thrives in cool, moist temperatures as the wheat is starting to head out.

Karnal bunt spores are windborne and can spread through the soil. Spores have the ability to survive within the soil for several years. Grain can also become contaminated through equipment. Therefore, controlling the transportation of contaminated seed is essential in preventing the spread to Montana production areas. In addition, early detection is essential if any type of control or eradication is to be attempted. Montana's participation in the annual Karnal bunt survey is part of the early detection grid set out across the United States.

RESULTS: Montana continued to sample for KB during the 2024 harvest. A total of 79 samples were collected from 15 counties across Montana. The APHIS Arizona State Plant Health Director's (SPHD) office Karnal bunt lab conducted the testing. All samples tested negative for the presence of KB. This sampling is critical for wheat growers in Montana. It confirms our wheat is free from KB, ensuring access to international export markets.

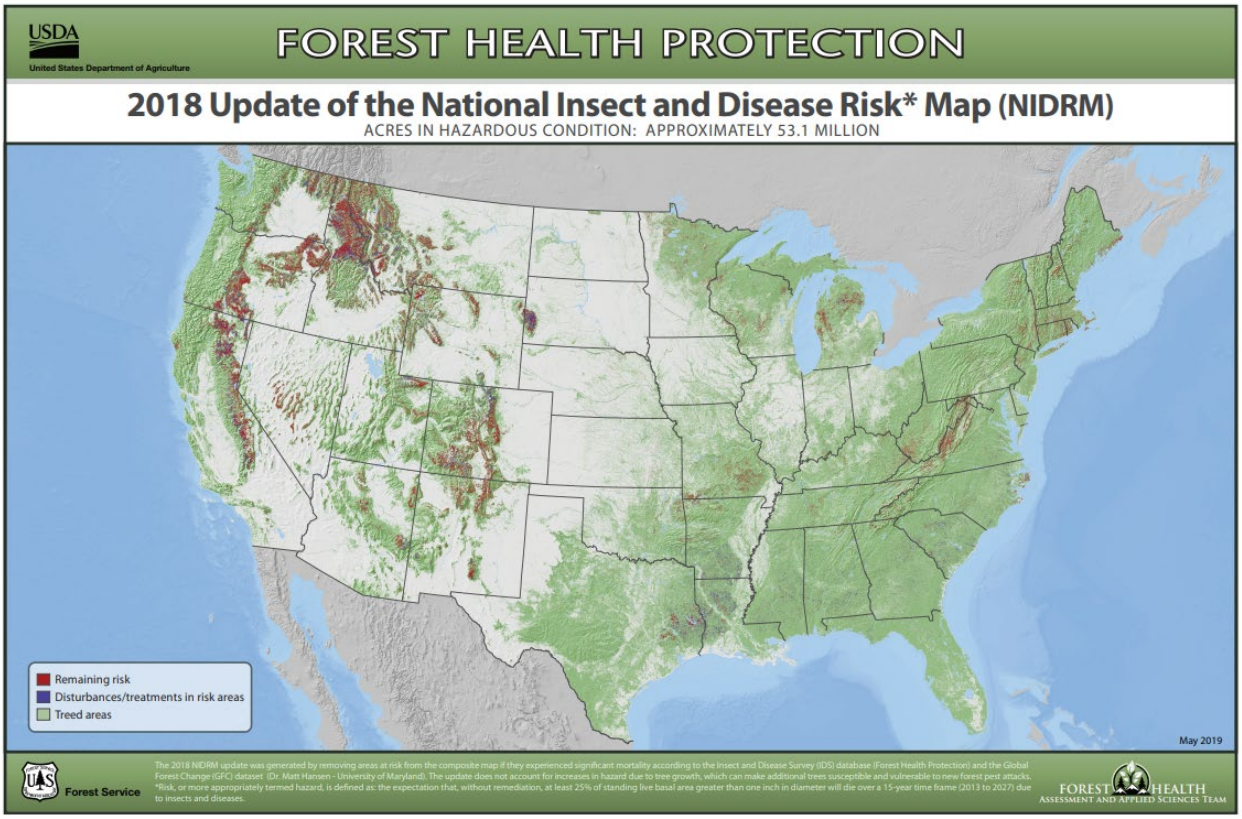


(Left) Teliospores of Tilletia indica (Karnal bunt of wheat) showing surface ornamentation patterns. Photo by EPPO. **(Right) Bunted Wheat.** Photo by R. Duran, Washington State University, www.forestryimages.org

RESULTS (cont.): In 2025, 82 samples from 12 counties were collected. Like previous years, no samples were positive for Karnal Bunt.

FOREST PEST SURVEY
2024 and 2025 Pest Detection Survey

Forest land occupies an estimated 25.9 million acres in Montana (USDA 2019). Seventy-three percent (18.9 million acres) is publicly owned and under the jurisdiction of federal and state agencies (MT DNRC 2010, USDA 2019). Ecologists recognize 10 different major forest types in Montana. Douglas-fir (*Pseudotsuga menziesi* var. *glauca*), lodgepole pine (*Pinus contorta*), and ponderosa pine (*Pinus ponderosa*) predominate on the forest landscape and are the most commercially important species (MT DNRC 2010). Montana forests provide a wide variety of commercial and recreational benefits that are at risk from both native and invasive forest pests. The Forest Pest Survey is a yearly survey. Traps are placed in southwestern Montana in even numbered years and northwestern Montana in odd numbered years. Exotic beetles of concern to Montana's forests are discussed in the Exotic Woodborer and Bark Beetle Survey section at a latter part of this document.



Pine Sawfly Detection Survey
Diprion pini (L.)

Diprion pini is considered one of the most serious pests of pine in Russia, Ukraine, and Belarus. In Russia, outbreaks usually occur in 3-to-6-year intervals after hot and dry summers (Sharov 1993). Larvae are gregarious feeders and attack the shoots as well as mine the needles from the side. Larvae may also eat the bark of the shoots and may sometimes consume the shoots completely. Sawflies, including *D. pini*, highly prefer pine stands on infertile and well-drained soils as well as stands that are affected by unfavorable climatic or anthropogenic factors (Augustaitis 2007).

A native sawfly, *Neodiprion* sp. (male), caught in a pine sawfly trap. Photo by I. Foley

RESULTS: Traps were placed by MDA at 25 locations for pine sawfly in 2024 and at 25 other locations in 2025. Each location was visited three times, with the traps being removed in the last visit. All traps were negative. However, 15 traps in 2024 also captured males of native *Neodiprion*, most likely *N. autumnalis*. This sawfly feeds on Poderosa Pine, a common tree where they were captured. In 2025, 12 traps also captured native *Neodiprion*. In 2024, USDA APHIS PPQ also placed 54 traps east of the continental divide, all of which were negative. In 2025, USDA APHIS PPQ placed traps at 15 locations, all east of the continental divide and negative.

Masson Pine Moth (MPM) Detection Survey
Dendrolimus punctatus Walker, 1855

Dendrolimus punctatus, the Masson pine moth, occurs in China, Japan, Taiwan, and Vietnam. It is one of the most important forest pests in Southeast Asia, and defoliation of pine plantations during larval outbreaks causes signification economic loss. The primary host is *Pinus massoniana*, but larvae have been recorded feeding on a wide variety of other *Pinus* species. Up to five overlapping generations per year are possible, with fewer generations in northern regions (Gilligan and Passoa 2014a). Because of this potential for serious damage to Montana's pines, the USDA monitors for this pest throughout the state every other year. MDA monitors for this pest on a two-year cycle.

Masson Pine Moth from Hong Kong, China. © 2019 Young Chan

RESULTS: The MDA placed Masson pine moth traps at 25 locations in 2024, as well as in 2025. Each location was checked three times, with the traps removed during the third visit. All traps were negative.

Pine Beauty Moth (PBM) Detection Survey

Panolis flammea (Denis & Schiffermüller, 1775)

Panolis flammea is a colorful, nocturnal moth in the family Noctuidae native to Europe and Asia (Novak 1976). The species is considered a severe defoliator of *Pinus* species throughout many parts of Europe. Outbreaks in pine plantations in the United Kingdom and Continental Europe have caused damage to thousands of acres and resulted in significant mortality (Gilligan and Passoa 2014b). In the UK, adults are active from March through May. For Montana, lodgepole pines are especially at risk, as *P. flammea* has attacked these trees when planted in Scotland (Bradshaw et al. 1983, Sukovata et al. 2003). Monitoring for this species through CAPS pheromone traps and limiting the potential for establishment helps to ensure that Montana's characteristic pines are protected from possibly severe defoliation and any resulting impacts that could follow.

***Panolis flammea* resting, UK.** © 2011 Malcom Storey

RESULTS: USDA APHIS PPQ placed traps at 15 locations in 2025. All traps were negative. MDA will begin trapping for this species again in 2026 as part of the two-year trapping cycle.

Pine Tree Lappet (PTL) Detection Survey

Dendrolimus pini Linnaeus, 1758

The Pine Tree Lappet is native to Europe and parts of Asia and North Africa. Their preferred host is the Scots Pine, but during outbreaks it can also feed on other conifer trees, such as firs, cedars, junipers, larches, and other pines. Adults emerge in mid-June to early July and live for around two weeks. Adults do not feed and both sexes are capable of flight. Larvae hatch within 16 to 25 days of the eggs being laid. These larvae feed on needles in the canopy before moving down the trunk to the base of the tree at the first frost. Larvae overwinter in leaf litter at the base of the tree. Migration to the canopy begins the following spring, where feeding resumes. Larvae undergo several molts until pupation begins in May and June. Spread is mostly through flight, although older larvae are known to move to other trees. Eggs, larvae and pupae can also be spread through human activity of moving infested wood.

RESULTS: Traps were placed by MDA at 25 localities in 2024 and again in 2025. No traps were positive. In 2025, USDA APHIS PPQ also placed traps at 15 locations. No traps were positive.

Pine Tree Lappet. Photo by Stanislaw Kinelski Bugwood.org

Rosy Spongy Moth (RSM) Detection Survey

Lymantria mathura Moore, 1866

Lymantria mathura, the rosy spongy moth, occurs in eastern Asia, from Northern India to the Russian Far East. Subspecies also occur in Japan, Korea, and Taiwan. It has been recorded as feeding on a broad range of host species and is considered a serious defoliator of deciduous trees. Unlike the European spongy moth, RSM females are capable of flight. There are one or two generations per year, with the latter occurring in warmer, southern parts of RSM's range. Larvae emerge early in spring, disperse, and attack buds, then leaves. Most feeding activity occurs at night. Mature larvae pupate in flimsy cocoons on the host tree. Population explosions can occur, called outbreaks, and during this time population densities can reach 1000 caterpillars per tree.

Rosy Spongy Moth, female. Photo by David Mohn, Bugwood.org

RESULTS: USDA APHIS PPQ placed traps at 15 locations in 2025. All traps were negative.

Siberian Silk Moth (SSM) Detection Survey
Dendrolimus sibiricus Tschetverikov, 1908

This moth is native to eastern Russia and nearby areas of Mongolia, China, and Korea. Like the Pine Tree Lappet, the Siberian Silk Moth can defoliate a number of coniferous trees, and cause the death of trees if there are multiple subsequent years of severe outbreaks. Outbreaks are known to occur in cycles of 10-11 years in eastern Russia. Adults are present from June to August. This species is surveyed utilizing the same pheromone as PTL.

Results: The PTL traps placed by the MDA also surveyed for this species. No traps were positive in either 2024 or 2025.

Scots Pine Blister Rust (SPBR) Detection Survey
Cronartium flaccidum (Alb. & Schwein.) G. Winter 1880

Scots Pine blister rust (SPBR) is a heteroecious rust fungus native to Europe and Asia. The fungus can cause spotting on needles, and cankers on the stem that produce resin. These cankers can eventually lead to girdling of the stem, resulting in the death of the top or entire tree (Smith et al. 1988). Introduction of this disease to North America could have a major impact on Montana's forests and the health of our ecosystem.

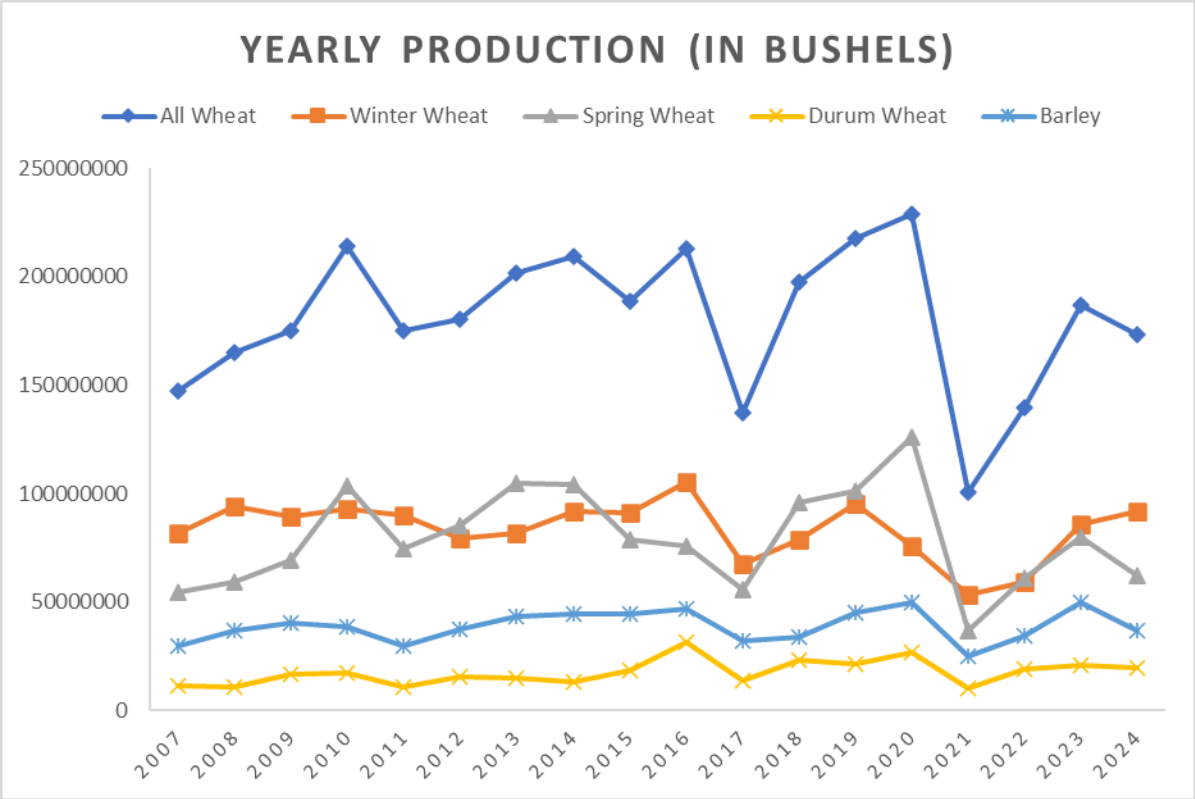
RESULTS: A total of 44 locations were visually surveyed for symptoms of the disease (Pine Detection and EWBB) in 2024 and at 25 locations in 2025. No symptomatic plants were discovered. All surveys are part of the effort that goes into protecting Montana's forests for the future.

An example of a *Cronartium* rust galls in Singleleaf Pinyon.
Photo by Brytten Steed, USDA Forest Service, Bugwood.org

SMALL GRAINS COMMODITY SURVEY
2024 Pest Detection Survey

Montana consistently ranks in the top 5 states for wheat and barley production in the United States. In 2023, Montana maintained the third rank of all US states for total wheat production and the second rank for Barley production. The 2024 growing season was considered average, with economic impacts and low wheat prices being a larger factor in reduced small grain production, rather than weather like 2021.

In 2007, the USDA published guidelines for a small grains commodity based survey. The idea behind commodity-based surveys is to target export commodities rather than individual pests. Here, multiple survey methods are used to take samples from a single commodity or group of similar commodities over a longer period of time. In the small grains survey, MDA used sweep net samples, visual surveys, soil samples for nematodes, and whole plant samples for diseases. This methodology allows the survey to maximize the potential for pest detection and minimize the cost compared to several different surveys for individual pests.



The 2024 small grains survey targets seven (7) different types of pests (see table below). These pests include 3 arthropods, 2 mollusks, 1 nematode, and a virus. In addition to the seven exotic pests, samples were also screened for a number of other economically important nematodes and plant diseases.

Small Brown Planthopper, *Laodelphax striatellus*. Photo by Paul Langolis, Museum Collections: Cicadas, Planthoppers, & Allies, USDA APHIS PPQ, Bugwood.org.

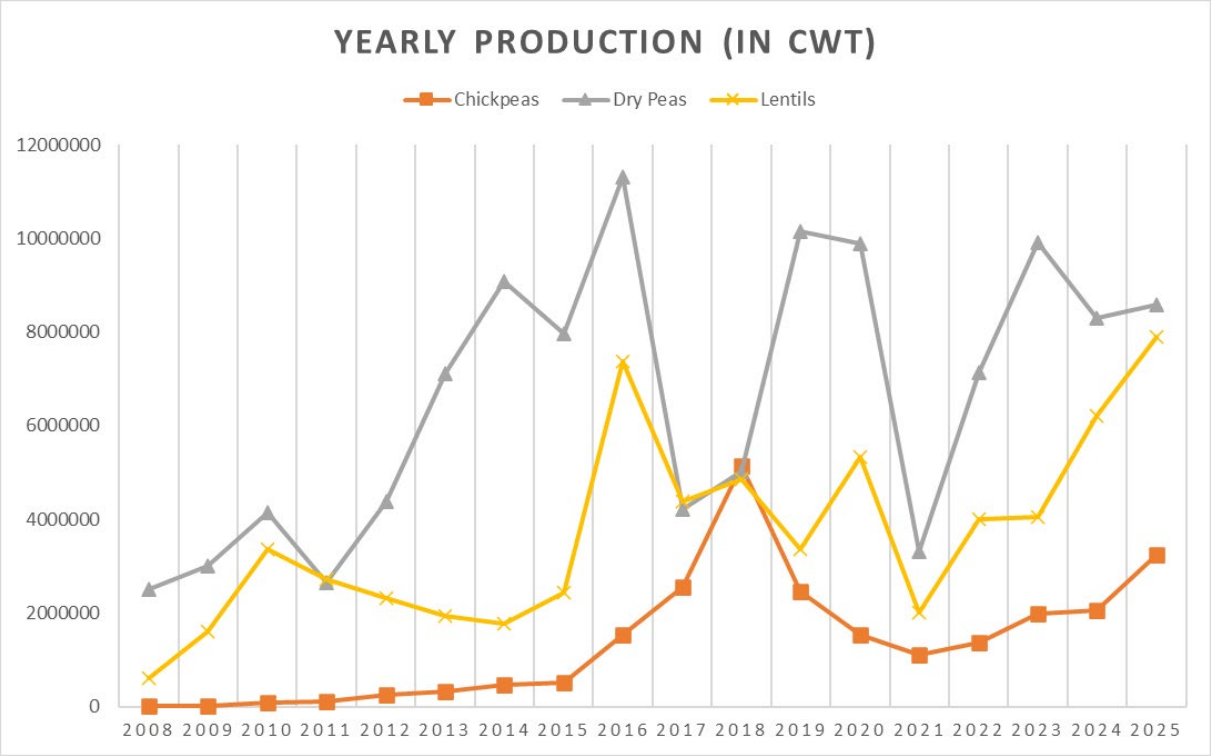
RESULTS: During the 2024 survey, 25 sweep net samples were collected and 50 visual surveys were taken. Soil samples for nematode detection analysis were sent to the University of Nebraska in Lincoln. The bucket trap and yellow sticky card were serviced every month for the duration of the sample period. No suspect target pests were detected in any of the samples.

Whole plant samples were screened for disease by the Schutter Diagnostic Lab at Montana State University. No diseases were detected in the 25 submitted samples.

Small Grain Commodity Survey			
Target Species	**Common Name**	**Approved Method**	**Sites**
Cernuella virgata	Maritime Garden Snail	Visual	25
Cochlicella spp.	Pointed Snail	Visual	25
Eurygaster integriceps	Sunn Pest Cereal Bug	Visual	25
Helicoverpa armigera	Old World Bollworm	Bucket Trap/ Lure 28 days	25
Laodelphax stiatellus	Small Brown Planthopper	Yellow Sticky Card	25
Magnaporthe oryzae Triticum pathotype	Wheat blast	Tissue Sample	25
Meloidogyne artiellia	Root-knot Nematode	Soil Sample	25

PULSE CROP COMMODITY SURVEY
2025 Pest Detection Survey

Montana consistently ranks in the top five states for pulse crop production. In 2023, the most current year with data, Montana was the number one state for dry pea, chickpea, and lentil production. Production in 2025 was quite high, with Lentil production being the highest in the state since 2016. Pulse crops are an integral part of crop rotation in Montana's Agricultural production, so protecting these crops is essential. Having a clear understanding of pests is also essential, as over 80% of the pulse crops grown are typically exported.



In 2007, the USDA published guidelines for a commodity-based surveys. The idea behind commodity based surveys is to target export commodities rather than individual pests. Here, multiple survey methods are used to take samples from a single commodity or group of similar commodities over a longer period of time. In the pulse crop survey, MDA used sweep net samples, visual surveys, soil samples for nematodes, and whole plant samples for diseases. This methodology allows the survey to maximize the potential for pest detection and minimize the cost compared to several different surveys for individual pests.

The 2025 pulse crop survey targets six (6) different types of pests (see table below). These pests include 3 arthropods, 2 mollusks, and a nematode. In addition to the 6 exotic pests, samples were also screened for the cereal leaf beetle and a number of other economically important nematodes and plant diseases.

Results: During the 2025 survey, 25 locations were trapped for invasive moths, 2 sweep net samples were collected, and 50 visual surveys were taken. Soil samples for nematode detection analysis were sent to the University of Nebraska in Lincoln. No suspect target pests were detected in any of the traps, sweep samples, or soil samples. Whole plant samples were screened for disease by the Schutter Diagnostic Lab at Montana State University. No infected plants were detected.

Pulse Crop Commodity Survey			
Target Species	**Common Name**	**Approved Method**	**Sites**
Cernuella virgata	Maritime Garden Snail	Visual	25
Chrysodeixis chalcites	Golden Twin-spot Moth	Bucket Trap/ Lure 28 days	25
Cochlicella spp.	Pointed Snail	Visual	25
Crocidosema aporema	Bud Borer	Delta Trap/ Lure 28 days	25
Diabrotica speciosa	Cucurbit Beetle	Visual/ Sweep	25
Heterodera ciceri	Chickpea Cyst Nematode	Soil Sample	25

Golden Twin-spot Moth, *Crysodeixis chalcites*. Photo by Alessio Di Leo CC 4.0

EXOTIC WOODBORER AND BARK BEETLE (EWBB)
2024 Detection Survey – PPA 7721

Wood boring insects are some of the most dramatically destructive invasive species introduced into the forest and urban landscapes of the United States. These include notorious pests, such as the Asian Longhorned Beetle and the Emerald Ash Borer (EAB). Some native wood boring insects, such as the mountain pine beetle, also cause significant damage to Montana's forest resources. However, the threat of exotic wood borers is significant for Montana's agriculture, wood products, tourism, and recreation industries, as these exotic pests are freed from predators and diseases found in their native ranges.

The exotic woodborer and bark beetle (EWBB) survey targets primarily three groups of insects; longhorned beetles (Cerambycidae), bark beetles (Curculionidae: Scolytinae), and wood wasps (Siricidae). Within these groups, six species were specifically targeted in 2024, including Asian Longhorned Beetle and various Spruce Longhorned beetles. This survey is conducted by using Lindgren funnels and panel traps baited with various ultra-high release (UHR) ethanols, bark beetle pheromone, and plant volatile lures. Funnel traps also have passive flight intercept capabilities, and the resulting trap catches include many native wood-boring beetles and a range of non-target families. While not specifically targeted, flight intercepts do capture beetles in the family Buprestidae and have the potential to trap exotic buprestids such as the Emerald Ash Borer. In 2024, EAB traps were added to the survey due to detections of EAB in Oregon in 2022 and the discovery of the level of the infestation in 2023.

In 2024, Montana State University put out a Lindgren funnel trap and a cross-vane panel trap at 20 locations. The Lindgren traps targeted Large Pine Weevil and the Black Fir Sawyer, while the Cross-vane Panel traps targeted longhorned beetles in the genus *Tetropium*. Additionally, USDA APHIS placed 53 vane traps that also targeted species in the genus *Tetropium*. This survey was not funded for 2025.

RESULTS: Native species:

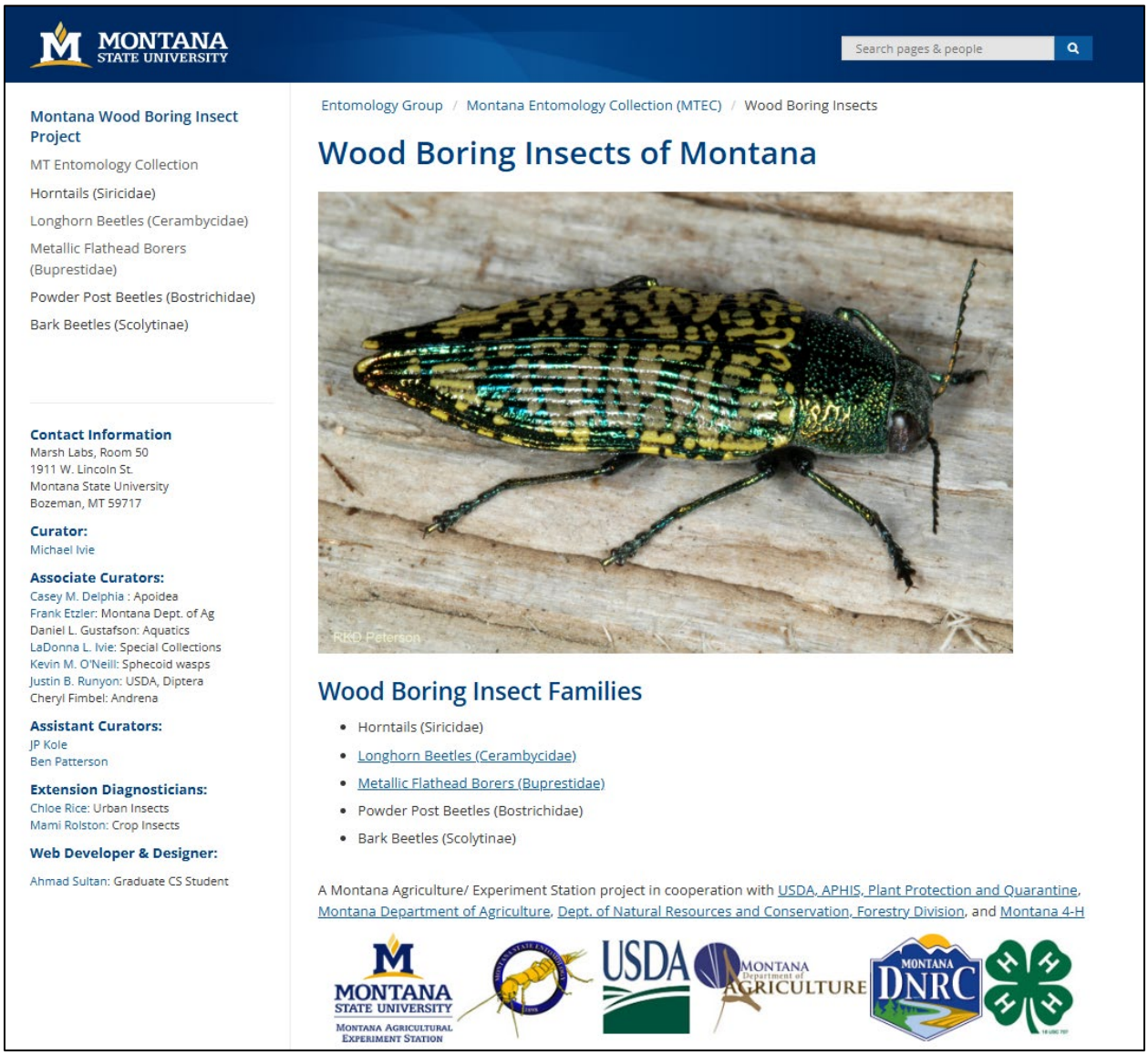
Cerambycidae: There are 152 species of longhorned beetles recorded from Montana (Hart et al. 2013). The most common species in funnel traps include *Acmaeops proteus* (Kirby), *Arhopalus asperatus* (LeConte), *Asemum striatum* (Linnaeus), *Monochamus scutellatus* (Say), *Neandra brunnea* (Fabricius), *Neospondylis upiformis* (Mannerheim), *Rhagium inquisitor* (Linnaeus), *Tetropium velutinum* LeConte, and *Xylotrechus longitarsis* Casey.

Scolytinae: There are approximately 100 species of bark beetles recorded from Montana (Gast et al. 1989, NAPIS 2012).

The traps also captured many other groups of beetles, and have allowed for useful inventories of Montana's fauna, such as Elateridae (Etzler and Seibert 2022) and bark gnawing beetles once all classified under Trogossitidae (Kippenhan 2022).

Montana Wood Boring Insect Project

Montana State University through the Montana Agricultural Experiment Station (MAES) and Montana Entomology Collection (MTEC) has developed an online portal for the "Montana Wood Boring Insect Project". This website contains county level distribution data and images of all of the long-horned and metallic wood boring beetles known to occur in Montana. Many of the non-target species collected through the CAPS program have been incorporated into this project and are maintained in the MTEC. The project website can be found at: https://www.mtent.org/projects/woodboring/index.html



Having an understanding of the native fauna of an area is crucial in monitoring for invasive species. This ensures that when something out of the ordinary appears, there is clear data that the species of concern is not known from the area. Having these data on hand also allows timelines to develop, as we'll know when a species was likely first introduced due to a lack of previous records. These can only be done through consistent

survey efforts and inventory work.

As noted in the screenshot above, only the families Cerambycidae and Buprestidae have had work done to image each species and show the distribution in Montana for each species.

Target species:

Asian Longhorned Beetle Detection Survey

Anoplophora glabripennis (Motschulsky)

The Asian Longhorned Beetle (ALB) is native to Eastern China and the Korean Peninsula. It is a woodboring beetle that utilizes many different hardwoods as host trees. In North America, it was first found in Brooklyn, New York in 1996. Since then, it has been found in Illinois, Massachusetts, New Jersey, New York, Ohio, and most recently in South Carolina. Populations in Illinois and New Jersey have been successfully eradicated. The biggest risk factor of spread is by firewood moved by people. In Montana, species of the genus *Monochamus* are often confused with ALB, but can be distinguished by the rougher elytra while ALB has smooth elytra (see figure below). ALB continues to be absent from Montana.

Native *Monochamus* spp. (Left and Right) compared to Asian Longhorned Beetle (center).
Photo by Frank Etzler.

Black Spruce Beetle and Brown Spruce Longhorned Beetle Detection Survey

Tetropium castaneum (L.) and *Tetropium fuscum* (Fabricius)

The Black Spruce Beetle (BSB) and the Brown Spruce Longhorned Beetle (BSLB) are both longhorned beetles in the genus *Tetropium*. Both beetles are native to Europe

and northern Asia, extending as far east as Japan and northern China. They both utilize spruce trees as hosts. Of the two species, only BSLB has become established in North America, with populations found in Nova Scotia and New Brunswick, Canada. Both beetles are surveyed for by using the same trap and lure. All traps placed by MSU and USDA APHIS PPQ in 2024 were negative. In 2025, USDA APHIS PPQ placed traps at 15 locations, and all traps were negative.

Black Fir Sawyer and Large Pine Weevil Detection Survey

Monochamus urussovii (Fischer von. Waldheim) and *Hylobius abietis* (L.)

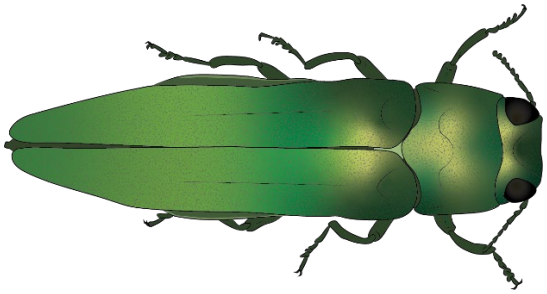
While not closely related to one another, both beetles are surveyed utilizing the same trap and lures. The lures utilized are general for woodboring beetles and are also utilized to monitor ranges of native species in Montana. The Black Fir Sawyer is a longhorned beetle in the family Cerambycidae. It is found across northern Eurasia from the Baltics to Japan. It utilizes firs as a host tree and could potentially cause devastating losses to North American firs if introduced. The Large Pine Weevil (LPW) is a weevil in the family Curculionidae. It is native to Europe, Turkey, and the Caucasus Mountains. Scattered records of the LPW also exist for Northern Asia. LPW is considered a major pest of commercial pine groves in Europe, and there is strong concern it could cause catastrophic damage to North American pines if introduced. Neither pest was detected in 2024 traps in Montana.

Large Pine Weevil. Photo by Gyorgy Csoka, Hungary Forest Research Institute, Bugwood.org

Emerald Ash Borer Survey

Agrilus plannipennis Fairmaire, 1888.

Emerald Ash Borer (EAB) is a wood boring beetle in the family Buprestidae. It is native to north-east Asia, and occurs in eastern Russia, China, Japan, and Korea. It uses Ash trees in the genus *Fraxinus* L. as its host for larval development. In North America, EAB was first detected in Michigan in 2002, but studies suggest that it was likely introduced in the early to mid-1990s (Siegert et al. 2014). Since then, EAB has spread across North America and is now found in 39 US states and six Canadian provinces.



EAB is not known to cause a lot of damage in its native range, but it has been devastating to Ash trees in North America. Unlike many other wood-borers, EAB attacks both healthy and stressed trees, and can eventually kill trees when the larvae girdle trees during feeding. Due to a lack of native predators and parasitoids, the EAB population was able to explode rapidly, which allowed for the quick killing of Ash Trees. Due to large area infested with EAB and the ineffectiveness of the federal quarantine from stopping the spread, the US federal government lifted the quarantine in early 2021 and focused efforts on rearing and releasing three EAB parasitoids in an effort to bring the population under control. Montana erected a state-level Ash quarantine in 2021 in response to the federal quarantine being lifted.

While Montana has had EAB surveys in the past, survey efforts declined after many years of no detections. However, with detections in Oregon in 2022, North Dakota and Vancouver, BC in 2024, a renewed sense of urgency has arisen for the state. The EWBB funds paid for traps and lures for EAB, while personnel support came from the Montana Department of Agriculture (MDA) and AgCorp, a unique part of AmeriCorp that assists MDA staff. The survey was also done in conjunction with outreach efforts to promote EAB awareness as well.

RESULTS: Survey efforts in 2024 were delayed, with only three of 10 planned traps placed. Surveys continued in 2025, with all 10 traps placed in urban Ash trees. Three traps were placed in Helena and the Bozeman area each (six total), and two traps were placed in Missoula and Billings (four total). Trap by-catch is being saved and studied in order to have a sense of the fauna present in Montana's urban forests before the arrival of EAB and to have baseline data to see how this fauna could be impacted with the loss of Ash trees. This work is being done by AgCorp member, Syndey Crabtree, as part of EAB outreach efforts and to provide hard data to measure future impacts against.

NURSERY PEST DETECTION SURVEY
2024 PPA 7721 Survey

The nursery industry is important as it allows people to cultivate gardens for beauty and to produce food for personal consumption. However, due to the plant trade between states, this could create artificial pathways for the introduction of potential pests. By monitoring these pathways, we can ensure that Montana's green industry is free from any regulated pests and is protected from accidental introductions. In Montana, over 1000 businesses hold nursery licenses, so ensuring that they are protected is crucial to our green industry.

Part of the survey is to also survey the western portion of the state for Northern Giant Hornet (NGH, *Vespa mandarinia* Smith). This species was first discovered in Washington State in 2019. Since then, eradication efforts have been conducted to limit the spread and to attempt to eliminate the species from North America. The MDA's survey work ensures that NGH doesn't spread artificially or naturally into Montana, which could have serious impacts on Montana's Apiaries. Thankfully, no populations of Northern Giant Hornet have been detected in Washington since 2021, so this suggests that this species may be eradicated from the U.S. One more year of surveying without a positive detection will confirm eradication.

Another pest surveyed for is the Tomato Leaf Miner (*Phthorimaea absoluta* Meryrick, which was in the genus *Tuta* from 1994 to 2021). This moth is native to South America and has spread globally in recent years and can oviposit on any plant in Solanaceae. Within Montana, the crop of concern are potatoes, which are grown for seed in Montana. Serious impacts could occur to Montana's Seed potato industry if this species was to become established.

Tomato leafminer, *Phthorimaea absoluta*. Photo by Marja van der Straten, NVWA Plant Protection Service, Bugwood.org.

A third pest of increasing concern that was monitored for was the Box Tree Moth (*Cydalima perspectalis* (Walker)). This moth is native to Asia, and it utilizes species in the genus *Buxus* as hosts. It was first detected in North America in 2018 in Ontario, Canada. In 2021, it was detected in western New York. Since then, it has been detected in Michigan (2022), Massachusetts (2023), Ohio (2023), Delaware (2024), Pennsylvania (2024), and most recently, West Virginia (2025). There is serious concern that this species will spread quickly, similar to how it has spread in Europe, and will damage many ornamental *Buxus* species grown in the U.S.

Other pests, such as the Spotted Lanternfly, African Giant Landsnail, and the Christmasberry webworm, were monitored for as well, but economic impacts of these species are expected to be limited in Montana. While Spotted Lanternfly is a major pest of concern in many other states, Montana lacks populations of the introduced Tree of Heaven (*Ailanthus altissima* (Mill.) Swingle), a tree which is believed to be vital for Spotted Lanternfly to complete its lifecycle. However, due to the high invasion potential as this species spreads in the U.S. and potential risk, we continue to monitor for it in case its host range is broader than currently believed.

RESULTS: 25 nursery locations were sampled and inspected in Montana, in addition to regular nursery inspections. No regulated pests were discovered. Due to the lack of *Buxus* plants in Montana and the eradication history of the Northern Giant Hornet, the Nursery and Ornamental Plant Pest Survey was not continued in 2025.

A Box Tree Moth on a *Buxus* plant. Photo by Matteo Maspero and Andrea Tantardini, Centro MiRT - Fondazione Minoprio [IT] via USDA.

TERRESTRIAL MOLLUSK SURVEY AND EASTERN HEALTH SNAIL (EHS)
2024 and 2025 PPA 7721 Detection Survey

BACKGROUND

Snail samples collected in Cascade County in late July of 2012 were confirmed as Eastern Heath Snail (EHS), *Xerolenta obvia*, one of twelve USDA listed invasive terrestrial snails of national concern. The Montana Department of Agriculture and Montana PPQ conducted survey work in August and September of 2012 to delimit the infested area, determine whether eastern heath snail was present in grain and alfalfa production areas in the state, and to support export of Montana agricultural commodities and products. Survey work confirmed the presence of snails in the Belt area along transportation corridors, residential areas, rangeland, hay fields, and yards. Extensive survey work outside the infested area showed snails were not yet present in grain production areas. Through discussion with individual Belt area landowners and residents, it was determined the snails have been present in the area for at least 25 years, perhaps much longer. Pathways of introduction include rail, mining, travel, and trade/commerce. There is a strong correlation between rights-of-way activities and local distribution of the snail. In 2013, two additional populations of *Xerolenta obvia* were confirmed in Cascade County (in the city of Great Falls and near Monarch).

Eastern Heath Snail, *Xerolenta obvia*. Photo by Ian Foley

MITIGATION EFFORTS

Since 2018, laboratory studies on Eastern Health Snail have been conducted at Montana State University by Jennie Birdsall, Jeff Littlefield, and Annie deMeij. These studies have focused on the development of EHS and determining suitable hosts for feeding. Studies are also being conducted to determine possible biological control of EHS.

In 2023, a team of researchers from Oregon State University (OSU) and USDA-APHIS visited Montana in the spring and fall to investigate aspects of EHS behavior and determine best management practices. OSU researchers returned in 2024 to test the conclusions drawn at the end of the 2023 visits, and to test attraction to various chemical

compounds present in bread dough. Research continued in 2025 in early Summer, but Fall follow up experiments were delayed due to issues delays with mailing of supplies. These data are expected to be published sometime in the future to aid landowners and producers in the affected areas.

SURVEY

Since initial detection, surveys for invasive terrestrial mollusks have occurred every year. Survey sites included high-risk transportation areas, recreational areas, and nurseries. Survey work was focused on presence or absence of snails and no attempt was made to quantify the snail population. It remains important to conduct survey work in the future to monitor the snail population in the Belt area and determine presence or absence in other areas to support Montana's export markets. Survey work in recent years, as well as outreach efforts, have indicated that snails have spread beyond the infested boundaries identified in 2012.

Mollusks have only recently been identified as a threat in Montana. Movement of various materials protected by solid wood packing material into and through Montana increases the risk of introduction of pests – not only through standard commerce, but also through the movement of materials from the seaport inland. Interstate 90, a major route across the U.S., travels the entire width of Montana, from a point just west of Missoula to east of Glendive. The Montana "banana belt," a region of milder climate, runs from the Flathead Valley to the Bitterroot. This area has experienced a rapid influx of people and an increase in the building of higher-value homes, with rates exceptionally high in 2020 and 2021. These properties often include imported materials such as tile, marble, and wood.

(Left) *Cochlicella* sp. on grain. **(Right) Maritime garden snail, *Cernuella virgata*.**

The entire state of Montana is a mecca for recreation including activities of all types. All of these serve as routes of entry into the state for organisms such as the various Veroncellid snails, as well as *Monacha* spp., *Cernuella* spp., and *Cochlicella* spp. These snails could, if established, not only out-compete native species, but also eliminate portions of the food web that are currently supporting the state's famous trout fisheries, become mechanical obstacles to field crop harvest, and directly damage desirable plant species including wheat.

RESULTS: No additional invasive mollusk species were discovered in 2024 or 2025. In 2024, a new population of EHS was discovered in Lewistown, Montana, making Fergus County a new county record for the snail. In October 2024, local Lewistown organizations worked to crush snails, burn the property, and bait the perimeter in order to begin the eradication process. Unfortunately, these efforts were prematurely ended due to the lack of cooperation from the landowner. Additionally, two new locations in Great Falls were reported as having EHS populations. To get a sense of distribution in Great Falls, survey efforts in 2025 focused on surveying the city limits. It was discovered that EHS had a larger distribution in Great Falls than previously known, and a population was found at a local waste distribution center, which increases risk of more accidental distribution in Montana. Additionally, a second population of EHS was discovered in Lewistown that was reported by a member of the public due to reading about the snail in outreach efforts. These risks and continued finding of new populations highlight the need for continual monitoring and maintaining public awareness and education.

Staff with USDA APHIS also survey for EHS populations during grasshopper surveys across the state. In 2024 and 2025, they had surveyed all 56 counties in Montana and looked at over 2000 locations each year across the state.

Lewistown Fire-Rescue doing a controlled burn of property with EHS in October 2024 in Lewistown, MT.
Photo by Lewistown Fire-Rescue courtesy of Chief James Jensen.

ASIAN DEFOLIATOR SURVEY
2024 and 2025 PPA 7721 Survey

As noted in the Spongy Moth and Pine Commodity Survey sections, Montana's forests are a major natural resource, providing many services to residents and visitors every year. Protecting these forests is integral to protecting Montana's ecosystems and economy. However, with increased global trade over the last decades, there are increased risk pathways for the accidental introduction of insects from other areas of the world.

One major group of concern are Asian members of the moth genus *Lymantria*. The European subspecies of the Spongy Moth, *Lymantria dispar dispar*, has already been introduced into the USA, and has a documented history of the defoliation damage it is capable of. The quarantine for this species is considered a great success in limiting its spread and protecting the forests of the United States. What makes this quarantine much easier to maintain relative to other species is that female Spongy Moths are incapable of flight and must walk to a host to lay her eggs. However, unlike the European subspecies, the Asian subspecies, *Lymantria dispar asiatica*, has females that are capable of flight. In addition, there are a few other related species that also have the potential to cause serious harm to US forests if introduced. The biggest risk factor for introduction of these Asian species is on container ships from east Asian ports.

***Lymantria monacha* (Linnaeus, 1758), female, specimen MHNT.CUT.2012.0.357, Muséum de Toulouse.**
Photo by Didier Descouens

RESULTS: Each year, traps were placed at 25 locations in western Montana to monitor for five *Lymantria* species: *L. dispar asiatica* Vnukovskij, 1926; *L. monacha* (L., 1758); *L. postalba* Inoue, 1956; *L. umbrosa* (Butler, 1881); and *L. xylina* Swinhoe, 1903. Together these moths are referred to as the Flighted Spongy Moth Complex. No specimens were found in any traps. In late 2025, MDA was informed by our federal partners of potential introduction of these insects by containers from a ship where moths were discovered. Trapping at the locations where these suspected introductions occur are a planned for 2026. This highlights the continued risk pathway for introductions and the need for consistent monitoring.

2024 AND 2025 NATIONAL HONEY BEE SURVEYS

In 2024, Montana had over 284,000 beehives, of which 93% were commercial hives. The remainder belonged to Landowner and Hobbyist beekeepers. These hives are on over 7,500 registered sites, with around 88% of these being commercial sites. Montana has 501 registered beekeepers, of which around 21% are commercial operators. Most of the Commercial beekeepers provide pollination services outside Montana. Migratory beekeepers typically travel to California in the early spring for almond pollination, then move to fruit crops in Washington and Oregon before moving back to Montana for the summer. Ranked by revenue, beekeeping is the 10th largest agricultural industry in Montana, with honey being the biggest driver in the state. However, throughout the year pollination fees make up the majority of Commercial Beekeeping income.

Montana bee yard. Photo: A. Piccolomini

Pests of honey bees are a serious threat to the agricultural economy of Montana and to the states where Montana-based bees provide pollination. USDA estimates honey bee pollination adds approximately $15 billion to the value of American agriculture. In 2006 beekeepers began reporting unexplained and unexpected losses of 30% or more of their hives. What eventually came to be called “colony collapse disorder” (CCD) was characterized by the rapid disappearance of worker bees from apparently healthy hives. Today, the general consensus among researchers is that Varroa mite infestation and the viruses they vector are the main cause of reduced colony health, and the usage of the term CCD has been largely abandoned.

In 2009 the USDA-APHIS initiated the National Honey Bee Pests and Diseases Survey in all 50 states. The primary objectives of the survey are to confirm the absence of tropical bee mites in the genus *Tropilaelaps*, the absence of the Asian honey bee *Apis ceranae*, and the absence of slow paralysis virus (a honey bee disease associated with

A. ceranae). Secondary objectives include evaluating the overall health of the apiaries sampled to establish a baseline for future research. Samples submitted from the survey will be evaluated for their mite loads (*Varroa,* tracheal mites, and other parasitic mites) and the degree to which viruses and other pathogens are present (particularly *Nosema ceranae*, a more virulent *Nosema* species associated with tropical honey bees). Viruses are identified at the molecular level by the USDA "bee lab" in Beltsville, MD.

Varroa mites on a drone pupa. Photo I. Foley

A subsection of samples taken by the MDA for the National Honey Bee survey are called longitudinal samples. These samples are taken at the same apiary at different times of the year. This allows researchers to determine how different pests and diseases change over time, so that we gain a better understanding of them. This is especially helpful in tracking if Varroa mite populations change over time as well as seeing how viral load and composition changes.

RESULTS: Twenty-three National Honey Bee Survey (NHBS) samples were collected in 2024, the 2023 samples were completed in spring 2024, and all were submitted to laboratories at the University of Maryland. The remaining 2024 sample and 17 of 24 samples were collected in 2025.

In 2024, all apiaries sampled had Deformed Wing Virus Strain B (DWV-B) present, while 19 of 23 apiaries had DWV-A. Both virus strains are vectored by Varroa mites, which were detected in 13 of 23 apiaries. Varroa mites remain one of the most important pests of honey bees in the US and are the most likely candidate for the cause of colony failures. Although only 9 samples have data available, a similar pattern was seen in 2025 samples, with all having DWV-B present. Other viruses were detected at lower rates and are more inconsistent between apiaries.

A major change to Apiary program was with Alyssa Piccolomini leaving the State Entomologist position in early 2025. In July 2025, Dr. Amy Savage joined the MDA as the new State Entomologist. All data from 2024 have been returned, with data collected in 2024 submitted to NAPIS, and we are awaiting molecular data for the 2025 samples. These results are delayed due to the US Federal Government shutdown in late 2025, and resulting impacts to processing time.

JAPANESE BEETLE (JB) SURVEYS

Popillia japonica Newman

Japanese Beetle, *Popillia japonica* Newman, was first discovered in North America in 1916. Since then, it has spread throughout much of eastern North America. Japanese Beetle (JB) was first discovered in Billings, Montana in 2001. In 2013, nursery stock infested with JB was brought into Montana, affecting 17 nurseries across the state. Due to rapid action by the nurseries and MDA, these localities were negative in 2014. The only area of Montana with a consistent population of JB is Billings, Montana, although the population has moved within city limits since first detection, now more prevalent in the Heights area of the city.

Current JB quarantines are from 2008 (Interior) and 2013 (Exterior). Due to the removal of general funds to support a JB eradication program for Oregon, which has a JB population around Portland, there is a need to update the Exterior quarantine to meet current conditions of JB in the US. The Interior quarantine also does not reflect the current distribution of JB in Billings, and can cause confusion with the general public on where to expect JB in city limits. Efforts to update these quarantines began in late 2025 and will continue into 2026.

RESULTS: The MDA places over 140 traps yearly, focusing on Flathead, Missoula, Ravalli, Sanders, and Yellowstone Counties. Every year, the USDA places traps at 33 airports in Cascade, Flathead, Gallatin, Lewis and Clark, Missoula, and Silver Bow Counties to ensure no accidental introductions to the state via air travel. In Billings (Yellowstone Co.), seven trap locations were positive for JB in 2024, with a total of 4,305 beetles collected from July to October. In 2025, 18 traps were positive for JB, with 3,809 beetles collected. However, about 97% of these beetles were captured at just two trap locations in 2024, and these same locations trapped around 85% of total beetles in 2025.

NATIONAL AGRICULTURAL PEST INFORMATION SYSTEM (NAPIS)
2024 Summary Report

Pest Common Name	Pest Scientific Name	Data Source	Number of Counties Sampled	Positives	Negatives	Total
Acute Bee Paralysis (APBV)	*Aparavirus Acute Bee Paralysis*	State Ag. Dept.	14	0	24	24
American Foulbrood	*Paenibacillus larvae larvae*	State Ag. Dept.	14	0	24	24
Apis mellifera Solinvivirus-1 (AmSV1)	*Apis Solinvivirus*	State Ag. Dept.	14	1	23	24
Asian Honeybee	*Apis ceranae*	State Ag. Dept.	14	0	24	24
Asian Longhorned Beetle	*Anoplophora glabripennis*	University/Extension	10	0	20	20
Asian Spongy Moth	*Lymantria dispar asiatica*	State Ag. Dept.	8	0	25	25
Black Fir Sawyer	*Monochamus urussovii*	University/Extension	10	0	20	20
Black Maize Beetle	*Heteronychus arator*	State Ag. Dept.	7	0	25	25
Black Spruce Beetle	*Tetropium castaneum*	University/Extension	10	0	20	20
Black Spruce Beetle	*Tetropium castaneum*	USDA APHIS	12	0	53	53
Black-arched Tussock Moth	*Lymantria monacha*	State Ag. Dept.	8	0	25	25
Box Tree Moth	*Cydalima perspectalis*	State Ag. Dept.	8	0	25	25
British Root-knot Nematode	*Meloidogyne artiellia*	State Ag. Dept.	10	0	25	25
Brown Spruce Longhorned Beetle	*Tetropium fuscum*	University/Extension	10	0	20	20
Casuarina Tussock Moth	*Lymantria xylina*	State Ag. Dept.	8	0	25	25
Chalkbrood	*Ascosphaera apis*	State Ag. Dept.	14	8	15	24
Christmasberry Webworm	*Cryptoblabes gnidiella*	State Ag. Dept.	8	0	25	25
Chronic Bee Paralysis (CBPV)	Unassigned Paralysis Virus	State Ag. Dept.	14	6	18	24
Cochlicellid Snail	*Cochlicella* spp.	State Ag. Dept.	12	0	50	50
Deformed Wing Virus-A (DWV-A)	*Iflavirus Deformed Wing Virus type A*	State Ag. Dept.	14	18	5	24
Deformed Wing Virus-B (DWV-B)	*Iflavirus Deformed Wing Virus type B*	State Ag. Dept.	14	24	0	24
Eastern Heath Snail	*Xerolenta obvia*	State Ag. Dept.	12	3	47	50
Eastern Heath Snail	*Xerolenta obvia*	USDA APHIS	56	0	2078	2078
Emerald Ash Borer	*Agrilus plannipennis*	State Ag. Dept.	2	0	3	3
European Foulbrood	*Melissococcus plutonius*	State Ag. Dept.	14	0	24	24
Giant African Snail	*Lissachatina fulica*	State Ag. Dept.	8	0	25	25
Hygromiid Snails	*Cernuella* spp.	State Ag. Dept.	12	0	50	50
Hygromiid Snails	*Monacha* spp.	State Ag. Dept.	12	0	50	50
Israeli Acute Bee Paralysis (IAPV)	*Aparavirus Israeli Acute Paralysis*	State Ag. Dept.	14	7	17	24
Japanese Beetle	*Popillia japonica*	State Ag. Dept.	5	7	142	149
Japanese Beetle	*Popillia japonica*	USDA APHIS	6	0	33	33

Pest Common Name	Pest Scientific Name	Data Source	Number of Counties Sampled	Positives	Negatives	Total
Karnel Bunt	*Tilletia indica*	State Ag. Dept.	15	0	77	77
Kashmir Bee Virus (KBV)	*Aparavirus Kashmir Bee Virus*	State Ag. Dept.	14	2	22	24
Lake Sinai-2	*Sinaivirus Lake Sinai Virus-2*	State Ag. Dept.	14	13	11	24
Large Pine Weevil	*Hylobius abietis*	University/Extension	10	0	20	20
Maritime Garden Snail	*Cernuella virgata*	State Ag. Dept.	12	0	50	50
Masson Pine Moth	*Dendrolimus punctatus*	State Ag. Dept.	8	0	25	25
Northern Giant Hornet	*Vespa mandarinia*	State Ag. Dept.	8	0	25	25
Nosema spores	*Nosema ceranae*	State Ag. Dept.	14	17	7	24
Old World Bollworm	*Helicoverpa armigera*	State Ag. Dept.	10	0	25	25
Parasitic Mite	*Tropilaelaps* spp.	State Ag. Dept.	14	0	24	24
Parasitic Mite Syndrome	Parasitic Mite Syndrome	State Ag. Dept.	14	0	24	24
Pine Sawfly	*Diprion pini*	State Ag. Dept.	8	0	25	25
Pine-tree Lappet	*Dendrolimus pini*	State Ag. Dept.	8	0	25	25
Sacbrood	*Morator aetatulas virus*	State Ag. Dept.	14	0	24	24
Scots Pine Blister Rust	*Cronartium flaccidum*	State Ag. Dept.	8	0	25	25
Scots Pine Blister Rust	*Cronartium flaccidum*	University/Extension	10	0	20	20
Shadow Spongy Moth	*Lymantria umbrosa*	State Ag. Dept.	8	0	25	25
Siberian Silk Moth	*Dendrolimus sibiricus*	State Ag. Dept.	8	0	25	25
Slow Bee Paralysis (SBPV)	*Iflavirus Slow Bee Paralysis*	State Ag. Dept.	14	0	24	24
Small Brown Planthopper	*Laodelphax striatellus*	State Ag. Dept.	11	0	25	25
Small Hive Beetle	*Aethina tumida*	State Ag. Dept.	14	0	24	24
Spongy Moth	*Lymantria dispar dispar*	State Ag. Dept.	11	0	121	121
Spongy Moth	*Lymantria dispar dispar*	State DNRC	1	0	50	50
Spongy Moth	*Lymantria dispar dispar*	USDA APHIS	13	0	343	343
Spotted Lanternfly	*Lycorma delicatula*	State Ag. Dept.	9	0	25	25
Sunn Pest	*Eurygaster integriceps*	State Ag. Dept.	11	0	25	25
Tomato Leaf Miner	*Phthorimaea absoluta*	State Ag. Dept.	8	0	25	25
Varroa Mite	*Varroa destructor*	State Ag. Dept.	14	13	11	24
Wheat Blast	*Magnaporthe oryzae Triticum* pathotype	State Ag. Dept.	11	0	25	25
White-winged Spongy Moth	*Lymantria postalba*	State Ag. Dept.	8	0	25	25
Totals with * means data incomplete	———	———	———	—	—	—
REPORT TOTAL				**118**	**4160**	**4278**

NATIONAL AGRICULTURAL PEST INFORMATION SYSTEM (NAPIS)
2025 Summary Report

Pest Common Name	Pest Scientific Name	Data Source	Number of Counties Sampled	Positives	Negatives	Total
Acute Bee Paralysis (APBV)	*Aparavirus Acute Bee Paralysis*	State Ag. Dept.	14	0	9	9*
American Foulbrood	*Paenibacillus larvae larvae*	State Ag. Dept.	14	0	17	17*
Apis mellifera Solinvivirus-1 (AmSV1)	*Apis Solinvivirus*	State Ag. Dept.	14	0	9	9*
Asian Honeybee	*Apis ceranae*	State Ag. Dept.	14	0	17	17*
Asian Spongy Moth	*Lymantria dispar asiatica*	State Ag. Dept.	6	0	25	25
Bud Borer	*Crocidosema aporema*	State Ag. Dept.	12	0	25	25
Black-arched Tussock Moth	*Lymantria monacha*	State Ag. Dept.	6	0	25	25
Black Spruce Beetle	*Tetropium castaneum*	USDA APHIS PPQ	15	0	15	15
Brown Spruce Longhorned Beetle	*Tetropium fuscum*	USDA APHIS PPQ	15	0	15	15
Casuarina Tussock Moth	*Lymantria xylina*	State Ag. Dept.	6	0	25	25
Chalkbrood	*Ascosphaera apis*	State Ag. Dept.	14	4	13	17*
Chickpea Cyst Nematode	*Heterodera ciceri*	State Ag. Dept.	12	0	25	25
Chronic Bee Paralysis (CBPV)	Unassigned Paralysis Virus	State Ag. Dept.	14	3	6	9*
Cochlicellid Snail	*Cochlicella* spp.	State Ag. Dept.	12	0	50	50
Cucurbit Beetle	*Diabrotica speciosa*	State Ag. Dept.	12	0	25	25
Deformed Wing Virus-A (DWV-A)	*Iflavirus Deformed Wing Virus type A*	State Ag. Dept.	14	4	5	9*
Deformed Wing Virus-B (DWV-B)	*Iflavirus Deformed Wing Virus type B*	State Ag. Dept.	14	9	0	9*
Eastern Heath Snail	*Xerolenta obvia*	State Ag. Dept.	12	7	43	50
Eastern Heath Snail	*Xerolenta obvia*	USDA APHIS	56	0	1224	1224
Emerald Ash Borer	*Agrilus plannipennis*	State Ag. Dept.	4	0	10	10
European Foulbrood	*Melissococcus plutonius*	State Ag. Dept.	14	0	17	17*
Golden Twin Spot Moth	*Chrysodeixis chalcites*	State Ag. Dept.	12	0	25	25
Hygromiid Snails	*Cernuella* spp.	State Ag. Dept.	12	0	50	50
Hygromiid Snails	*Monacha* spp.	State Ag. Dept.	12	0	50	50
Israeli Acute Bee Paralysis (IAPV)	*Aparavirus Israeli Acute Paralysis*	State Ag. Dept.	14	4	5	9*
Japanese Beetle	*Popillia japonica*	State Ag. Dept.	5	18	132	150
Japanese Beetle	*Popillia japonica*	USDA APHIS	6	0	33	33
Karnel Bunt	*Tilletia indica*	State Ag. Dept.	12	0	82	82
Kashmir Bee Virus (KBV)	*Aparavirus Kashmir Bee Virus*	State Ag. Dept.	14	0	9	9*
Lake Sinai-2	*Sinaivirus Lake Sinai Virus-2*	State Ag. Dept.	14	5	4	9*

Pest Common Name	Pest Scientific Name	Data Source	Number of Counties Sampled	Positives	Negatives	Total
Maritime Garden Snail	*Cernuella virgata*	State Ag. Dept.	12	0	50	50
Masson Pine Moth	*Dendrolimus punctatus*	State Ag. Dept.	6	0	25	25
Nosema spores	*Nosema ceranae*	State Ag. Dept.	14	9	8	17*
Parasitic Mite	*Tropilaelaps* spp.	State Ag. Dept.	14	0	17	17*
Parasitic Mite Syndrome	Parasitic Mite Syndrome	State Ag. Dept.	14	1	16	17*
Pine Beauty Moth	*Panolis flammea*	USDA APHIS PPQ	15	0	15	15
Pine Sawfly	*Diprion pini*	State Ag. Dept.	6	0	25	25
Pine Sawfly	*Diprion pini*	USDA APHIS PPQ	15	0	15	15
Pine-tree Lappet	*Dendrolimus pini*	State Ag. Dept.	6	0	25	25
Pine-tree Lappet	*Dendrolimus pini*	USDA APHIS PPQ	15	0	15	15
Rosy Spongy Moth	*Lymantria mathura*	USDA APHIS PPQ	15	0	15	15
Sacbrood	*Morator aetatulas virus*	State Ag. Dept.	14	1	16	17*
Scots Pine Blister Rust	*Cronartium flaccidum*	State Ag. Dept.	6	0	25	25
Shadow Spongy Moth	*Lymantria umbrosa*	State Ag. Dept.	6	0	25	25
Siberian Silk Moth	*Dendrolimus sibiricus*	State Ag. Dept.	6	0	25	25
Slow Bee Paralysis (SBPV)	*Iflavirus Slow Bee Paralysis*	State Ag. Dept.	14	0	9	9*
Small Hive Beetle	*Aethina tumida*	State Ag. Dept.	14	0	17	17*
Spongy Moth	*Lymantria dispar dispar*	State Ag. Dept.	10	1	97	98
Spongy Moth	*Lymantria dispar dispar*	State DNRC	2	0	50	50
Spongy Moth	*Lymantria dispar dispar*	USDA APHIS PPQ	15	0	343	343
Spongy Moth	*Lymantria dispar dispar*	USDA Forest Service	33	0	306	306
Varroa Mite	*Varroa destructor*	State Ag. Dept.	14	13	4	17*
White-winged Spongy Moth	*Lymantria postalba*	State Ag. Dept.	6	0	25	25
Totals with * means data incomplete	———	———	———	—	—	—
REPORT TOTAL				**78**	**3159**	**3237**

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