Kansas State University Extension Entomology Newsletter

For Agribusinesses, Applicators, Consultants, Extension Personnel & Homeowners

Department of Entomology
123 West Waters Hall
K-State Research and Extension
Manhattan, Kansas 66506
785-532-5891
http://blogs.k-state.edu/kansasbugs/
http://www.entomology.ksu.edu/extension

April 19, 2024, No. 5

News Corner

NEWS CORNER

Ash/Lilac Borer

Figure 1. Ash-lilac borer adult (City of Edmonton).

Now is the time of year to prevent or alleviate damage from the ash/lilac borer, *Podosesia syringae*. Ash/lilac borer adults are usually active from late April through June, although activity is dependent on temperature. Adults are brown, clearwing moths that resemble paper wasps (Figure 1). Adult females lay tan, oval shaped eggs in cracks and crevices, or wounds at the base of plant stems. One female can live for approximately one week and lay up to 400 eggs. Below are nine key points associated with the biology, ecology, and management of the ash/lilac borer:

1. Larvae cause plant damage by tunneling and feeding within the bark (cambium) (Figure 2). Larvae will also tunnel further into the wood and feed within the sapwood and heartwood.
2. Feeding by the larvae restricts the flow of water and nutrients in plants, resulting in shoot or branch dieback. Ash/lilac borer larvae feed at the base of plant stems causing swollen areas or cracks, and they also feed where major branches attach to the trunk.

Figure 2. Ash-lilac borer larva tunnelling within the bark (David Cappaert).

3. The presence of light colored sawdust (frass) accumulating at the base of infected trees or shrubs (Figure 3) is evidence of larval feeding.
4. Ash/lilac borer overwinters as a late instar larva located in feeding tunnels or galleries.
5. Trees or shrubs infested with ash/lilac borers will have brown papery pupal cases protruding from the bark (Figure 4), which is where adults emerge from.
6. There is usually one generation per year in Kansas.
7. The primary means of managing ash/lilac borer is to avoid plant stress by providing proper cultural practices including; irrigation (watering), fertilization, pruning, and mulching. In general, plants that are stressed are more susceptible to attack by ash/lilac borer than plants that are healthy. A two to three foot wide mulched area around the base of plants prevents injury from lawn mowers and weed trimmers that can girdle plants leading to stress. In addition, avoid pruning plants in late spring through early summer because adults are usually present and the volatiles emitted from pruning cuts may attract adult females.
8. Insecticides containing the active ingredients, permethrin, bifenthrin, or chlorantraniliprole can be applied to the bark—at least up to six feet from the base—to prevent ash/lilac borer larvae from entering plants after emerging (eclosing) from eggs. After larvae emerge (eclose) from eggs, they move around on the bark searching for entry points, which exposes them to insecticide spray applications. Once larvae are inside the plant, they are not susceptible to insecticide spray applications. Systemic insecticides applied to the soil or injected into plants will not provide protection from ash/lilac borer larvae feeding.
9. Commercially available pheromone traps capture adult males, which helps in estimating when females will be laying eggs. Pheromone traps assist in timing insecticide applications when the larvae are present, which will result in killing larvae before they enter plants. Insecticide spray applications should begin seven to 10 days after capturing the first adults. Check pheromone traps two to three times per week for the presence of newly captured adult males.

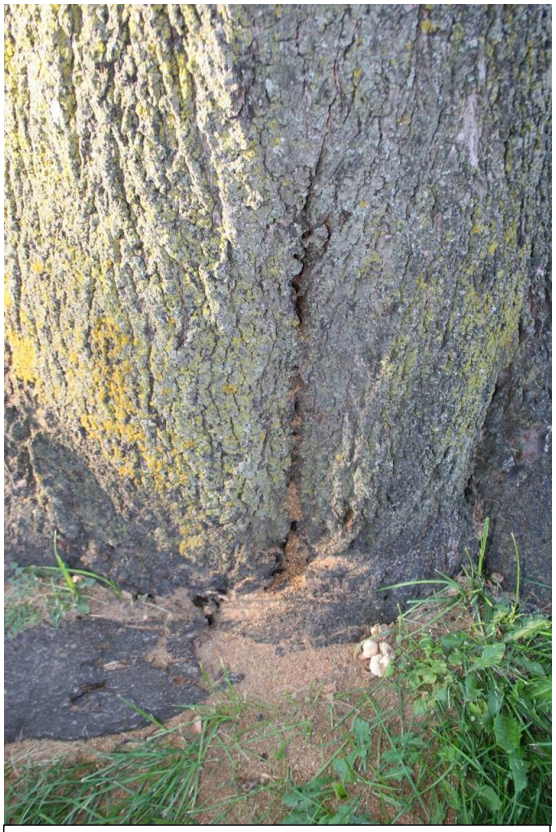


Figure 3. Sawdust located at the base of an infected tree (Raymond Cloyd).

Figure 4. Pupal cases of ash-lilac borer protruding from tree trunk (Raymond Cloyd).

Raymond Cloyd – Horticultural Entomology/Plant Protection

White Grubs Damaging Brome Fields

White grubs, the larvae of beetles commonly known as May beetles and June beetles, can be pests of many different commodities. Recently, reports of dead patches in brome fields have been reported (Figure 1). The sizes of the dead patches varied across affected fields, but in all cases white grubs could easily be found in soil when collecting samples from the areas (Figure 2). This strongly indicates that the white grubs are responsible for the observed dead zones.

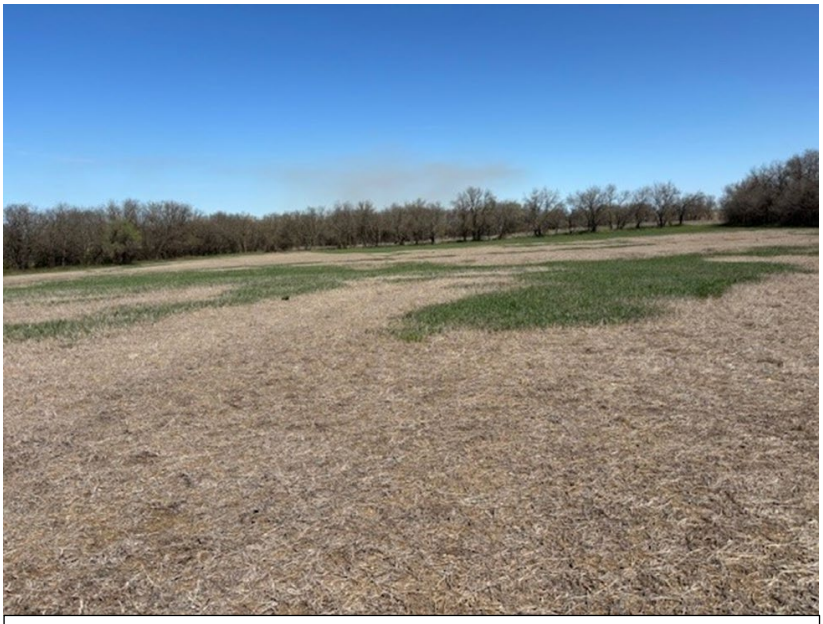


Figure 1. Brome field damaged by white grubs (Charlene Miller).

These beetle larvae are below ground pests, feeding on root systems, and can impact a field for several seasons as they take three years to fully mature. Eggs are laid in the spring when adult beetles are attracted to fields. After hatching, the tiny grubs will feed on roots all season long. This first season of feeding often goes completely unnoticed due the small size of the larvae which prevents significant root damage. When the soil cools off in the fall, the larvae, now larger from a season of feeding, descend in the soil profile and overwinter there. The following spring as soil temperatures increase, the larvae move up into the rootzone of the field and commence feeding. It is during this second season of feeding that damage can become apparent. The larger size of the grubs means that more root tissue can be consumed faster. So, when white grub populations are large enough, it can lead to the appearance of the dead spots in brome fields like those being observed this spring.

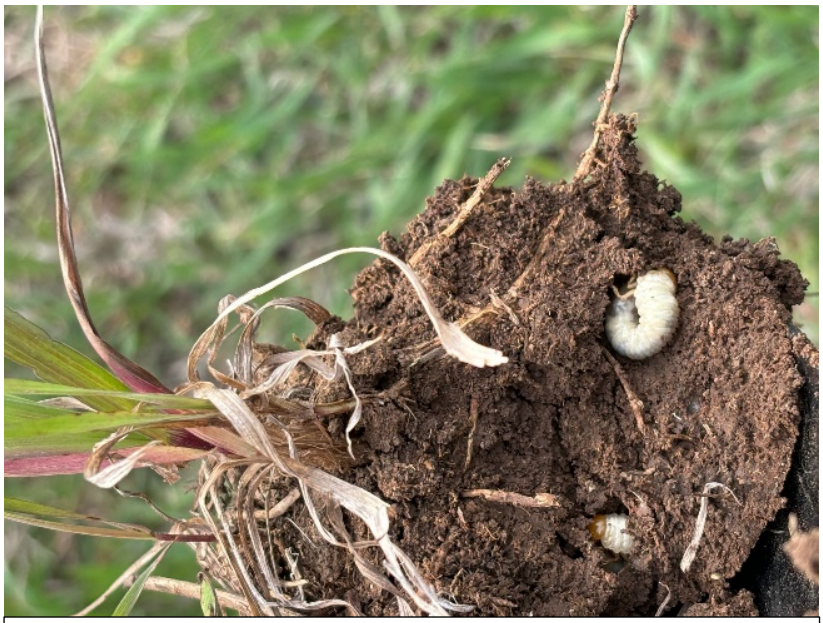


Figure 2. White grubs in brome soil sample (Charlene Miller).

Feeding will continue this season and the grubs will once again overwinter in the soil at the end of the fall. The following spring, feeding damage should be minimal as they will stop feeding in late spring to create an earthen chamber to finish development and emerge as adult beetles the following spring.

With the damage already done this year, what can be done about the dead spots? Depending on the extent of the damaged area, there are a couple of potential options. Replanting the dead areas could be considered if losses are not

extreme. Replanting brome in the fall would give the plants time to develop a stronger root system that could minimize grub damage the following spring when they resume feeding. Before replanting, treatment of the areas with carbaryl could help reduce the grub population, but this option is not guaranteed to solve the problem as older grubs are less susceptible. It is important to get the insecticide carried into the soil profile where the grubs are more likely to come in contact; surface application will not be effective, especially if the area is covered with dead vegetation.

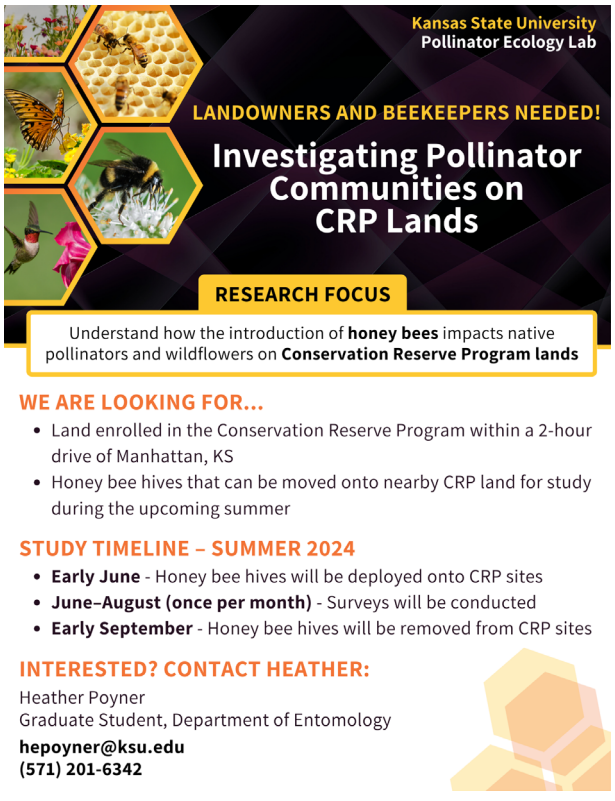
In situations where losses were very large, replanting to something else all together is an option. If this is done, the remaining brome and any other live plants should be destroyed at least 2 to 4 weeks before planting. To reduce injury from remaining grubs, the seed should be treated with an insecticidal seed treatment and a planting time insecticide application might be considered.

Anthony Zukoff—Southwest Research and Extension Center – Garden City, KS

HOME

Beekeepers and Landowners Needed! Investigating Honey Bee and Native Pollinators on Conservation Reserve Program Lands

The Kansas State University College of Agriculture is sponsoring a research study on the impacts of honey bee introduction on native pollinator communities on Conservation Reserve Program (CRP) lands. This study is led by Heather Poyner, a graduate student in the Pollinator Ecology Lab in the K-State Department of Entomology. The research team is seeking beekeepers who are willing to provide hives for the study and landowners with land that is currently enrolled in the Conservation Reserve Program.



Research Focus:

This study aims to understand how the Conservation Reserve Program is supporting native pollinator communities and assess how the introduction of honey bees impacts native pollinators and wildflowers. This study will provide valuable insight into how to optimize the benefits of CRP plantings for native pollinators and determine the potential impacts of beekeeping on native pollinator communities.

Study Details:

We are looking for….

- Honey bee hives that can be moved onto nearby CRP land for study during the upcoming summer
- Land currently enrolled in the Conservation Reserve Program within a 2-hour drive of Manhattan, Kansas

Study timeline – Summer 2024

- **Late May/Early June** – Honey bee hives will be deployed
- **June–August** (once per month) – Pollinator and plant community surveys will be conducted
- **Early September** – Honey bee hives will be removed

If you are interested in participating or would like to learn more about this research, please reach out to Heather Poyner at hepoyner@ksu.edu or (571) 201-6342.

Heather Poyner — Graduate Student, Pollinator Ecology Lab

HOME

Sincerely,

Raymond A. Cloyd
Professor and Extension Specialist
Horticultural Entomology/Plant Protection
Phone: 785-532-4750
Fax: 785-532-6232
e-mail: rcloyd@ksu.edu

Anthony Zukoff
Extension Associate – Entomology
Southwest Research and Extension Center
Garden City, KS
Phone: 620-275-9164
e-mail: azukoff@k-state.edu
@westksbugs
Need an insect identified? Visit the Insect Diagnostics Program Website

Heather Poyner
Graduate Student, Pollinator Ecology Lab
Department of Entomology, Kansas State University
Phone: (571) 201-6342
e-mail: hepoyner@ksu.edu

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