



ARKANSAS TREE FARM PROGRAM

www.arkforests.org
501-374-2441

FAMILIES & FORESTS

A NEWSLETTER FOR ARKANSAS TREE FARMERS

JANUARY 2019

Get to Know the Eastern Pine Weevil

Written by Chandler Barton, Forest Health Specialist with the Arkansas Forestry Commission

Tree Farmers and other pine landowners need to be able to recognize the signs and symptoms of eastern pine weevil, *Pissodes nemorensis*. This beetle is also widely known as the deodar weevil. It can be easy to identify, but many are unfamiliar with the damage it can cause. Furthermore, mortality caused by this beetle has been grossly unrecorded.



Eastern pine weevil is capable of killing pine trees between November and March (that's right, during winter months...). In Arkansas, the Ips pine engraver beetles are typically responsible for sporadic pine mortality year round. When encountering a dying pine tree, placing some blame on Ips can generally be an accurate conclusion. However, eastern pine weevil can kill trees without Ips. So there are certain clues that can allow an observer to determine if eastern pine weevil is the cause of death.

Description

Eastern pine weevil has a slender beak, known as a rostrum. Body length is approximately 6 mm, not including

the beak. Scales of white, brown, and tan color are speckled across its back, and generally, the white color takes the appearance of a single pair of spots near the end of the back.

Eggs are cream colored and are laid into tiny holes that are nearly impossible to see on the tree. Larvae are somewhat C-shaped in natural position, creamy white color, and their legs are absent. Larvae can reach an average length of about 7 mm before pupating. Larvae are found inside characteristic "chip cocoons" when they pupate and this is the most recognizable evidence of this insect.



Life History

Eastern pine weevil has one generation per year. Adults are long-lived and mostly inactive during the hot, summer months. Adults consume phloem anywhere on the tree by inserting their beak through the bark, leaving only a 0.5 mm size hole as evidence. External signs of feeding and egg laying are difficult to detect.

Eastern pine weevil generally chooses

THE TREE FARM PROGRAM...
is administered by the Arkansas Forestry Association (AFA) and its Tree Farm Committee.

AFA's goal is to provide relevant, timely information about the Tree Farm program and forestry resources.

the main stem below the branches for development. The feeding of the larvae is the most damaging, and the resulting foliar color change is typically the first symptom that is identified. Foliage turns red then brown as a result of the feeding under the bark that girdles the main stem.

Larvae construct winding galleries that may take an "H" shape in which most of the tunneling is oriented parallel to the grain of the wood. The tunnels may take sharp 90 degree turns (see photo). Mature larvae create pupal chambers in the outer sapwood and form characteristic "chip cocoons" from strips of sapwood.



Key Features of an Infestation

Eastern pine weevil attacks trees from September through March; however, the *continued on page 2*

The Importance of Herbaceous Weed Control in Young Pine Plantations

Written by Greg L Hay, Territory Manager, Nutrien Solutions

Foresters and tree farmers have historically regarded hardwoods as their primary competition in young pine plantations. However, research has repeatedly demonstrated that newly planted pines suffer greater competition for water and nutrients from weeds and grasses than from hardwoods. The value of weed and grass control for newly planted pines has been reported frequently over the last 30 years. Seedling growth responses attributed to herbaceous vegetation control increased merchantable volume yields 128% in 10-year-old loblolly plantations. Recent studies demonstrate phenomenal early pine seedling and sapling growth after control of herbaceous weeds. Pine survival was significantly greater with herbaceous plant control through 11 growing seasons. These studies and numerous others since, indicate that

weeds and grasses provide the greatest competitive impact during the first two years of pine development. In droughty conditions of the Western Gulf, herbaceous weed control can increase survival an average of 20% and may well mean the difference between successful stand establishment or having to re-plant. The development of effective, cost efficient herbicides along with various application techniques has made herbaceous weed control a commonly accepted forestry practice.

There are two groups of herbicides used for herbaceous weed control in pine plantations. They are divided by their type of activity as related to the stage of weed development. Preemergent herbicides are soil active and can be applied from late summer through early spring before

weeds germinate and grow. Post emergent herbicides are applied after plants begin to grow because they have foliar activity. Preemergent herbicides today are often tank mixed with other products used for site preparation applied in late summer or early fall. This practice eliminates the need for a stand-alone herbaceous weed control treatment following site preparation, saving the cost of a supplemental application. If planting is performed in late winter, preemergent herbicides can be applied immediately after planting. Because the freshly planted trees are easily visible, this season of application allows for a band treatment to be performed by ground methods via backpacks or 4-wheelers. A band treatment is simply a 3-5 foot-wide band applied over the top of a row of trees. The method of application is very economical in that you treat only the *continued on page 2*

Weevil, con't.

peak of dispersal is in October. Generally, landowners will notice the red crowns of attacked trees from January to March. An infestation is sporadic, and trees may be killed singly or in clusters throughout the stand.

This is important: an infestation of eastern pine weevil is short-lived. Mortality rarely exceeds five percent of the total trees in a stand. So even though the sudden observation of mortality is surprising, it is not a cause for alarm. A properly managed pine forest is the best defense against eastern pine weevil. Consulting a forester must be done to ensure that a forest is thinning at the correct time. For questions related to the weevil, email chandler.barton@agriculture.arkansas.gov.



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LEARN TO BURN
An Introduction to Prescribed Fire for Landowners

An introduction to prescribed fire to educate landowners on the safe and effective use of fire as a land management tool. Topics include fire ecology, using fire to maintain wildlife habitat, writing a prescribed burn plan, liability, personal protective equipment and tools. Lunch will be provided at no charge. This event is sponsored by AR Game and Fish Commission, Quail Forever and AR Forestry Association.

January 26
9 a.m. - 3 p.m.—Stone County Fairgrounds—Mt. View
Register at: <https://learn-to-burn-mtview.eventbrite.com>

January 29
9 a.m. - 3 p.m.—Ozarka College, Room AF109—Ash Flat
Register at: <https://learn-to-burn-ashflat.eventbrite.com>

February 14
9 a.m. - 3 p.m.—4-H Center—Malvern
Register at: <https://learn-to-burn-malvern-4-h-center-2-1419.eventbrite.com>

Space is limited

ATFS Fly-in

Join the American Forest Foundation for the 2019 ATFS Congressional Fly-in and Hill Day on May 1-2, at the Key Bridge Marriott in Arlington, Va. Get an in-depth briefing on federal policy issues, learn strategies for being an effective advocate, and meet face-to-face with your Members of Congress.

Registration is open now, and the \$50.00 registration **fee will be waived for registrations received before February 1!**

For more information, visit: <https://www.eventbrite.com/e/2019-atfs-congressional-fly-in-and-hill-day-registration-38639561970>

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Mark your calendars for these upcoming educational opportunities:

January 26

Learn to Burn: Introduction to Prescribed Fire for Landowners

Stone County Fairgrounds, Mt. View - 10 a.m.

January 29

Learn to Burn: Introduction to Prescribed Fire for Landowners

Ozarka College, Room AF109, Ash Flat - 10 a.m.

February 8

PLT Project WILD Workshop

Donald W. Reynolds YMCA
of Warren & Bradley County

207 N Main Street, Warren - 9 a.m. - 3:30 p.m.

February 14

Learn to Burn: Introduction to Prescribed Fire for Landowners

4-H Center, Malvern - 10 a.m.

Herbaceous Weeds Control, con't.

area immediately adjacent to the planted trees.

Post emergent herbicides are applied after weeds and grasses begin to turn green and grow. Consequently, planted pines are often difficult to discern resulting in the need for broadcast applications unless the planted tract has been ripped or bedded allowing for employment of a banded application via backpack sprayers.

With the operational use of Sulfometuron Methyl (Oust XP) for over thirty years, Marestalk/Horseweed and Fireweed have developed a resistance to this product and will proliferate when their susceptible competition is eliminated. Although new chemistry has been developed to address these resistant species, at present the pricing/cost has prevented widespread operational adoption of their use.

Planting pine trees represents a major investment decision for the forest landowner. Herbaceous weed control will help achieve the best survival and growth possible for your newly planted pine, thereby protecting and enhancing your investment. Selecting which herbicides to use and how to apply them will depend on the competitive weed and grass species present, soil type, physical site conditions and type of site preparation performed.

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