



Pest e-alerts



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Fall Webworm Activity Reported Across Oklahoma

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Fall webworms are out in full force in Oklahoma, particularly in the eastern half of the state. Judging by the large number of webworm nests I encountered around the Keystone Lake area last week, 2009 promises to be a big year for these defoliating pests. Despite their common name, fall webworm caterpillars can be seen throughout Oklahoma as early as May. However, they are not normally this abundant! Their ghostly nests are an unwelcome sight for anyone, but pecan growers should be especially concerned with the appearance of such large populations at this point in the growing season.



Identification and Life Cycle: Adult moths are almost pure white and have a wingspread of about 1 1/4 inches. Some individual moths possess small, black spots on the front wings. Larvae may be pale yellow, yellowish green, greenish, or orange but most have two rows of black spots down the back. The head may be red or black, depending on the race or form (see below). The body is rather sparsely covered with long white hairs. They are found in webs on their host trees, which include at least 88 species of shade, fruit, and ornamental trees in the

United States. In Oklahoma, fall webworms are most commonly seen feeding on persimmon, pecan, black walnut, and hickory. However, sycamore, birch, and redbud are often attacked in years of heavy infestations, and this year is no exception. Occasionally, infestations are reported on cottonwood, American elm, and bald cypress. The blackheaded form is sometimes common on sweetgum.

Adults of the overwintering generation emerge during May or occasionally in late April. Egg laying occurs in late May and early June. Each female can lay 400 to 500 eggs in masses on the underside of leaves. Egg masses may have a pale green background color and are covered with white hairs that come from the female's abdomen. Two races or forms of this insect exist in Oklahoma: blackheaded and redheaded. Larvae of the blackheaded form possess a black head capsule and black spots (called tubercles) on the body. This form generally begins hatching in May and immediately begins to spin their fweb, which expands as the larvae feed and grow. In late June, larvae mature and leave their host tree to pupate. There are three generations per year of the blackheaded form in Oklahoma. The redheaded form possesses an orange head capsule and orange tubercles. This form is more common on pecan in Oklahoma. First-generation adults emerge during July, mate, and lay eggs. Second-generation larvae are usually present from late July into early October. There are two generations per year of the redheaded form in Oklahoma.



Fall webworm larvae pass through as many as eleven stages of development (called instars). They produce a silky web that serves as shelter for the developing caterpillars. These nests are found on the terminal ends of branches. When alarmed, all caterpillars within a nest will display synchronized, jerky movements, reportedly as a defense mechanism.

Damage

Damage is caused by larvae feeding on the leaves. Their populations are rarely large enough to defoliate trees except for young pecans and persimmons. On most forest and shade trees, the insect is detrimental mainly to the beauty of the host and is thus more of an aesthetic nuisance than a threat to the health of the tree. Actual damage can occur on pecan as defoliation affects tree vigor, yield, and nut quality. Earlier defoliation translates into more harmful damage, so pecan growers are advised to manage large populations of fall webworm that occur earlier in the season. Keep in mind that insecticide sprays will not eliminate the silky webs, which remain in trees until they naturally degrade during the following winter.



Management: Despite their nest-building and defensive posturing, more than 50 species of parasites and 36 species of predators are known to attack fall webworm in North America. However, attacks by natural enemies usually do not reduce webworm populations below economically damaging levels (for pecan orchards and small nursery trees ready for market).

Remember, with the exception of smaller trees during heavy infestations, fall webworms do not usually defoliate trees completely. Even so, deciduous trees are able to withstand defoliation events and should not die from webworm feeding unless the health of the tree is already compromised. Therefore, damage is mostly aesthetic and control is not typically warranted except in the case of pecan orchards and possibly tree nurseries.

Larvae and their webs may be simply pruned out and destroyed, but those infesting the higher canopy will need to be treated to achieve control. When using conventional insecticides that rely on contact, sufficient spray pressure is needed to reach and penetrate the webs of these caterpillars. Several insecticides will normally provide control if adequate spray penetrates the webbing. A partial list of conventional and biorational products for fall webworm control is provided below. Biorational products are those insecticides that are less toxic and more target specific, so they are generally more environmentally friendly and safer for the applicator than conventional insecticides. In addition, biorational products such as those containing Bt, spinosad, and insect growth regulators can be applied near the webbing area where caterpillars will eventually expand their feeding. As with any pesticide, be sure to check the label before each use to maximize efficacy, prevent phytotoxicity, and minimize adverse environmental impacts. Always keep in mind that the label is the law.

Active Ingredient	Trade Name(s)	Type and Delivery
Acephate	Orthene	Conventional systemic
Carbaryl	Sevin	Conventional spray
Chlorpyrifos	Dursban	Conventional spray
Deltamethrin	Deltagard	Conventional spray
Permethrin	Astro, Pounce, Prelude	Conventional spray
Chlorantraniliprole	Acelepryn	Biorational spray/systemic
<i>Bacillus thuringiensis</i> var. <i>kurstaki</i>	Dipel, Thuricide, Javelin	Biorational spray, bacterial insecticide
Methoxyfenozide	Intrepid	Biorational spray, IGR
Paraffinic oil	Sunspray UFO	Biorational spray
Tebufenozide	Confirm	Biorational spray, IGR
Spinosad	Conserve	Biorational spray

IGR = insect growth regulator

Oklahoma State University does not endorse any product and products mentioned in this article are intended for informational purposes only.

References:

Bambara, S. and J. Baker. 2006. Fall Webworm. North Carolina State University Insect Notes, NC Cooperative Extension Service, <http://www.ces.ncsu.edu/depts/ent/notes/O&T/trees/note46/note46.html>.

Johnson, W. T. and H. H. Lyon. 1991. Insects That Feed on Trees and Shrubs, Second Edition (revised). Cornell University Press.

Major Horticultural and Household Insects of Oklahoma, Oklahoma Cooperative Extension Service Circular E-918.

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