Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel

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Skip the detergent

Do not use dish soaps or detergents to control insect or mite pests. Dishwashing liquids and laundry detergents such as Palmolive, Dawn, Ivory, Joy, Tide, and Dove are primarily designed to dissolve grease from dishes and clean clothes; not kill insect and mite pests. Furthermore, these materials contain coloring agents, perfumes, and degreasers that may cause plant injury (=phytotoxicity) by dissolving the waxy cuticle on leaf surfaces. What is most important, is that these materials are not registered pesticides as they do not have an EPA (Environmental Protection Agency) number. So, it is illegal to use them as pesticides.

Article provided by: Insight Pest Solutions that Raymond Cloyd contributed to and can be found at:
http://www.insightpest.com/pest-control

Raymond Cloyd

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Ash/Lilac Borer: Do Not Get "Bored" By This Borer

It is now time to start dealing with the ash/lilac borer (*Podosesia syringae*) in order to mitigate any damage to ash and other susceptible plants (trees and shrubs). It is important to note that this is not the same insect pest as the Emerald ash borer (*Agrilius planipennis*). The Emerald ash borer is a wood-boring beetle whereas the ash/lilac is a wood-boring caterpillar. Ash/lilac borer adults are typically active in mid-to-late-April to-early

May. They are brown, clearwing moths that resemble paper wasps. Peak moth activity usually occurs from May through June although this depends on temperatures. Adult females lay oval, tan eggs in cracks and crevices, or wounds at the base of plant stems. A single mated female may live about one week and lay up to 400 eggs. Below are the major biology and management points associated with this insect pest:

* Larvae cause plant damage by creating tunnels and feeding within the bark (cambium). They may also bore further into the wood and feed within the sapwood and heartwood.

* Larval feeding restricts the flow of water and nutrients causing shoot or branch dieback. Ash/lilac borer typically feeds near the base of plant stems creating swollen areas or cracks at the base of plants, and where major branches attach to the trunk.

* Evidence of larval feeding is the presence of light-colored sawdust that accumulates at the base of infected areas. Clear-wing borer larvae expel sawdust from cracks in the bark that accumulate at the base of infested trees and shrubs while beetle borers (particularly flat-headed borers) pack their galleries with sawdust-like frass.

* Ash/lilac borer overwinters as late-instar larvae located in feeding tunnels or galleries.

* In Kansas, there is one generation per year.

* The primary means of alleviating problems with ash/lilac borer is to avoid “plant stress” by properly implementing cultural practices such as irrigation (watering), fertility, pruning, and mulching. Stressed plants are much more susceptible to attack than so called “healthy plants.” For example, a two to three foot wide mulched area around the base of trees and shrubs will prevent injury from lawn mowers and weed-trimmers. Furthermore, it is recommended to avoid

pruning plants in late spring through early summer (under usual weather conditions), which is when moths are typically present.

* Insecticides containing the active ingredients, permethrin or bifenthrin may be applied to the bark—at least up to six feet from the base—in order to prevent ash/lilac borer larvae from entering plants. Clear-wing borer larvae crawl on the bark in search of entry points, which exposes them to insecticide residues.

* Pheromone traps are commercially available for capturing adult males. This indicates that females will eventually be laying eggs. The use of pheromone traps helps in timing applications of insecticides. Insecticide application sprays should be initiated seven to 10 days after capturing the first moths. Also, be sure to check traps two to three times per week and record the number of newly captured males.

* For more information regarding ash/lilac borer management contact your county or state extension specialist.

Raymond Cloyd

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How To Improve Performance Of Pesticides: Timing, Coverage, And Frequency

Pesticides such as insecticides and miticides are commonly used to suppress insect and/or mite pest populations. In fact, extensive inputs from pesticides are generally required in order to maintain the aesthetic quality of ornamental plants and protect them from insect and mite pest feeding damage. However, it is important to use pesticides properly, and you can minimize pesticide inputs by understanding three key factors associated with maximizing pesticide performance: ***timing***, ***coverage***, and ***frequency***.

Timing refers to applying pesticides (in this case, insecticides and miticides) when the most susceptible life stage of a given insect or mite pest is present. For insect and mite pests, the most susceptible life stages to most contact pesticides, in general, are the larva/nymph and adult. The egg and pupa tend to be more resilient, and are thus less susceptible to pesticide applications. Therefore, it is important to understand the biology of a given insect and/or mite pest so as to increase the effectiveness of a pesticide application. When using systemic insecticides that are applied to the soil (or growing medium), it is recommended to make applications prior to noticing phloem-feeding insects such as aphids, whiteflies, mealybugs, and soft scales as it will take the active ingredient of the systemic insecticide some time to move or translocate throughout the plant, although this depends on water solubility (the higher the water solubility the faster the active ingredient will translocate through the plant vascular system). Examples of systemic insecticides that may be used include acephate (Orthene), imidacloprid (Merit), and thiamethoxam (Flagship) [it is important to note that both imidacloprid and thiamethoxam are neonicotinoid systemic insectidicides so they should be used such as to avoid any direct or indirect harmful effects to bees]. It is also critical to note that temperature influences the life cycle and thus the

presence of susceptible life stages. The higher the temperature, the faster that insects and mites complete development. This should be taken into consideration when timing applications of pesticides. In order to minimize harm to honey bees from pesticide applications it is recommended to spray in the early morning, before honey bees are active, or spray on cloudy, over-cast days when honey bees are less active.

Coverage is important especially for contact pesticides. It is always recommended to obtain thorough coverage of all plant parts including the leaves, stems, and flowers. The use of an adjuvant may be required to enhance coverage, which increases the spreadability of the spray solution; thus enhancing coverage, especially on waxy leaves. An adjuvant is a material added to a pesticide mixture or solution in order to improve or alter deposition, toxicity, mixing ability, persistence, and/or other attributes that will enhance performance. One type of adjuvant is a surfactant, which reduces the surface tension of spray droplets allowing for better coverage on waxy or hairy leaf surfaces of certain plants, or the outer covering (cuticle) of insects such as scales and mealybugs.

How important is coverage in regards to translaminar pesticides? Translaminar pesticides are those in which the material (spray solution) penetrates leaf tissues and forms a reservoir of active ingredient within the leaf. This provides residual activity against a number of plant-feeding pests such as the twospotted spider mite (*Tetranychus urticae*). Regardless, it is still recommended to thoroughly cover all plant parts; and especially the upper and lower sides of leaves. This is because many insecticides and miticides with translaminar properties have contact activity as well. Examples of insecticides/miticides that have translaminar activity include abamectin (Avid), etoxazole (TetraSan), spinosad (Conserve), spiromesifen (Forbid and Judo), and spirotetramat (Kontos).

Frequency will depend on the residual activity of a given pesticide. As always, it is important to read the product label to obtain information on the frequency of application. In general, recommendations are usually for making pesticide applications once every seven days. However, this will depend on the residual activity of the pesticide (short-term vs. long-term). Nonetheless, too many applications may also result in phytotoxicity (=plant injury) to plants. For example, if you apply insecticidal soaps (potassium salts of fatty acids) or horticultural oils (mineral, petroleum, paraffinic, or neem-based) too frequently (three times per week), this will likely lead to phytotoxicity. Furthermore, applying the same pesticide continuously may promote resistance developing in insect and/or mite pest populations. This is why it is important to rotate pesticides with different modes of action after the completion of a generation. In addition, the time of year or season (spring vs. summer) may affect the frequency of application due to the influence of temperature on the life cycle of the insect or mite pest. As the ambient air temperature increases, this reduces the time required for the life cycle to be completed; thus resulting in more frequent applications.

In conclusion, ***timing***, ***coverage***, and ***frequency*** are important factors to consider in order to insure success when using pesticides to suppress insect and/or mite populations. However, proper pesticide stewardship is critical to avoid problems such as phytotoxicity and resistance. Finally—and most importantly—read the label of all pesticides prior to use, and follow label directions explicitly.

Raymond Cloyd

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Alfalfa Weevils

Alfalfa weevils continue to be active throughout north central Kansas. However, egg hatch has diminished considerably. Most larvae are 2nd or 3rd instars (mostly mature and/or maturing). Mr. Tom Maxwell, Saline County Ag and Natural Resources Agent, even found several pupae in Saline County on 15 April. Remember, 2nd and 3rd instar larvae are the larger worms and can thus do the most defoliation. However, the recent rain and cooler temperatures will allow the plants to add new foliage to replenish that defoliated by the weevils. So, the prime alfalfa weevil feeding should be completed in the next week. Then, there may be a few adults hanging around in alfalfa fields until warm (85°F) temperatures return. Even then they will sometimes remain until the first cutting, but they do very little actual feeding – possibly feeding a little on stems which is called 'barking'. Several treated alfalfa fields were sampled over the past 7 days and all applications seemed to provide acceptable control.

Termites

Received a couple of calls about termite swarms. As the rains and warmer temperatures pass through the state this week mature termite colonies will start swarming. If you notice these swarms around a building it is recommended to call a professional pest control company to help determine the best course of action to protect any wooden structures. For more information on termite identification and control please visit: http://www.ksre.ksu.edu/bookstore/pubs/MF722.pdf

Jeff Whitworth

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Insect Diagnostic Laboratory Report

http://entomology.k-state.edu/extension/diagnostician/recent-samples.html

Eva Zurek

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Sincerely,

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