

Capitol Region Agronomy Team Report



ALFALFA WEEVILS ARE HATCHING! Del Voight Extension Agronomy Agent, Capitol Region

The mild winter has enabled many insects to increase in population and, in some cases, damage area crops. Already we have many insects that are damaging timothy, orchardgrass, small grains, and alfalfa. This article details the alfalfa pests that are important today.

Area fields are infested with both alfalfa weevils and pea aphids, of which I will detail alfalfa weevils. Alfalfa weevils have grown in population over the last few years and have accounted for huge losses in income for area producers from their feeding on the leaf portion of the plant, reducing the relative feed value and protein content of the hay.

Weevils follow a life cycle referred to as complete metamorphosis (change). This means the insect progresses through an egg, larvae, and adult stage that appear to be completely different in appearance but are still the same insect.

Adults — hard-bodied, dark-colored insects with a distinct snout — search for alfalfa fields in the fall that have as many egg laying sites as possible. Fields that are mowed close to the ground in the fall eliminate egg-laying sites for these adults (Dively, U. of Maryland). Those same adults awaken in the spring and begin laying more eggs in alfalfa fields. In general, the fall-laid eggs account for 20 percent of the total hatch in the spring and the spring-laid eggs account for 80 percent of the total spring hatch. Adult females can lay from 500 to 2,000 eggs, so there can be significant numbers if left unchecked by growers.

You can walk through alfalfa fields and find larvae feeding, the result of the fall-laid eggs. Just last week I received reports of adults in area fields and laying more eggs, which will end up as the official spring hatch. These eggs should hatch in the next several days and begin feeding immediately.

Entomologists at Penn State and other universities can predict the activity of the pest and potential damage through the use of heat units. This method is simply a measure of the accumulated



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heat from Jan. 1. By following the heat, we can predict egg hatch, larvae growth, and, more importantly, the period which the insect is no longer a problem. Generally it takes from 14-21 days from egg to adult, depending on heat accumulation.

This year we had first egg hatch the last week of March, indicating the fall-laid eggs. Last year this did not occur until the April 19, showing just how far ahead we are this year.

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Observing recent heat unit patterns and the next two-week forecast, it appears that the third instar stage for fall laid eggs was set to occur from April 14-April 21, 2002. This will be the time that growers will need to have already determined the need for treatment. Spring laid eggs should be active at this time as well and growers will need to time crop protection product ap-

Holstein Winners Announced

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SENIOR TWO YEAR OLD



Jr. All-PA Tower-Vue Lee Ruthie
Scott Walton, Carlisle



Reserve Penn Gate Linjet Penelope
Clayton Wood, Littlestown

FOUR YEAR OLD



Jr. All-PA Santee-Acres Encore Sunkist
Daniel Oliver, Greencastle



Reserve McCulloughs Adolph Verona
Tobin Stuff, Mercersburg



Jr. All-PA Bell-Stone R Hero Selena
Andrew Stoner, Waynesboro



Reserve Turnpike-View Skyback Penny
Dustin Horning, Stevens



Hon. Men. Resher Delaware Mone
Emily Cloninger, Centre Hall



Reserve Highland-H Stardust Lolpop
Christy Hindman, Brockway



Hon. Men. Three Miles Bandanna
Chase Miles, Smethport

JUNIOR THREE YEAR OLD



Jr. All-PA Brook Lodge Nice Annie
D. Jared Hillegas, Berlin



Hon. Men. Woodbine Rudolph Elie
Christi Knight, Airville



Jr. All-PA Penn Gate Skywheel All Abbey
Clayton Wood, Littlestown



Reserve Highland-H Astro Lily
Brian Hindman, Brockway

125,000 LBS. CLASS



Jr. All-PA Bell-Stone Whip Stuffy Boy
Andrew Stoner, Waynesboro



Reserve Rocky-Side Star Laur Lurece
Eric Hixson, Conneltsville



Hon. Men. Great-View Del Christmas Belle
Holly Miller, Harrisburg

AGED COW



Jr. All-PA Hickory Green Bstar Patty
Scott Walton, Carlisle



Hon. Men. Penn Gate Jed Duchess
Clayton Wood, Littlestown



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plications to correspond with these dates.

To scout for this pest, growers should be collecting (randomly) 30 stems from the field. Using a bucket, the scout will tap the stems along the edge of the bucket. The larvae will fall to the bottom of the bucket and can be counted by the scout. If more than 60 larvae are counted, then a treatment is warranted immediately. Another method is to observe leaves, and if four out of 10 leaves have shot holes, then treatment is called for.

Widespread depletion of the population is of major concern. Fungal pathogens as well as parasitic wasps need some weevils around in order for them to survive. These biological weapons accounted for the massive drop in weevil populations 15 years

ago. The fungal pathogen requires warm and damp weather to infect larvae and kill them. If the conditions exist, it could well mean an application of an insecticide is not warranted. In addition, parasitic wasps place eggs inside the adult weevils and the egg eats the weevil adult inside out. If growers see large amounts of either disease of these wasps, then the avoidance of chemical control may be the result.

If crop protection products are needed, growers have many options available to them. Applications using synthetic pyrethroids (contact insecticides) such as Warrior, Baythroid, or Pounce need to come in contact with the insect to be effective. For this reason, growers need to increase application rates to a minimum of 20 gallons per acre and prefera-

bly with pressures exceeding 40 psi. Applications of organophosphates (Furadan, Dimethoate, Lorsban), which use both contact and systemic pathways to insects, require applications in warmer weather to be highly active. For this reason, growers need to allow for warm weather (60 degree F) to improve the effectiveness of these materials. Also, carbamates such as Sevin are effective but also must come in contact with the pest similar to synthetic pyrethroids.

Weevils are active now and growers need to take action to determine the need for treatment. This spring suggests a similar pattern to spring 2000 and we may see weevil activity on the re-growth of second cutting, so growers must be scouting weekly to determine additional control measures.