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Researchers turn to IPM to control alfalfa pests

Some pests exhibit resistance to insecticides

By **CECILIA PARSONS**
For the Capital Press

Emerging issues in alfalfa pest control include insecticide resistance and the expanding range of some pests.

University of California entomologists and integrated pest management specialists revealed research plans to update management and control of pests in alfalfa at a field day at the UC Kearney Agriculture Research and Education Center.

UC-Davis entomology specialist Larry Godfrey said new alfalfa production research would be directed at integrated pest management.

Godfrey said growers have become increasingly dependent on insecticides over the past 20 years as alfalfa has gone from a crop known for strong integrated pest management to one that relies on insecticide use.

Research efforts in alfalfa IPM have been limited in the last 20 years, he said, due to needs in competing crops, reduction in research personnel and limited support from the industry.

Now that chlorpyrifos use is under the regulatory gun, there will be more emphasis on integrated pest management to handle pest outbreaks, Godfrey said.

Next year researchers will also look at insecticide resistance statewide.

"Resistance to pyrethroid was rampant this year, something new in Scott Valley," Godfrey said.

Range of the damaging blue alfalfa aphid also expanded north to the Klamath region. Outbreaks of spotted alfalfa aphid were reported in July and August.

The blue alfalfa aphid and the two strains of the pea aphid prefer lower temperatures with 60 degrees optimal for its development.

Populations reach damaging levels in the spring. Pea aphids often re-occur in fall as well.

Both species may be present in alfalfa fields at the same time as al-

falфа weevils. The blue alfalfa aphid prefers the plant terminals while the pea aphid is usually more generally distributed.

When these aphids feed on alfalfa they also inject a toxin that slows growth and reduces yield. Honeydew excreted by the aphid results in the growth of sooty mold, which reduces hay palatability.

There is no resistance in alfalfa cultivars to pea aphid, a common early pest, but there is good resistance in most alfalfa varieties to the blue alfalfa aphid and spotted aphid.

Using an IPM plan with populations of natural enemies is important in managing these aphids, Godfrey said.

He also reported a trial will begin next spring to improve management of alfalfa weevil. Weevil larvae feeding on terminal buds and leaves can cause significant damage to a stand.

Alfalfa weevil is a pest in production areas east of the Sierra Nevada and in the northern hay growing areas of California. In other areas the alfalfa weevil has been displaced by

the Egyptian alfalfa weevil, an even more serious pest.

Godfrey said the Department of Pesticide Regulation-funded research will focus on biological control, reduced risk pesticides and resistant varieties.

Vonny Barlow, A UCCE adviser in Riverside County, said the number of alfalfa entomologists in California is shrinking along with alfalfa acreage in some areas.

A combination of factors is driving the expanded range of some alfalfa pests, Barlow said. Production practices, insecticide use, development of tolerance along with the environment and human impact can make a difference in insect behavior.

He pointed to three pests that can affect production. Ground mealybug is a below-surface pest that is difficult to control. Typically found in heavy clay soils, its feeding interacts with stressful environmental conditions and results in stunted plants. Crop rotation, Barlow said, appears to be the only management option.

The clover root curculio is another below-surface alfalfa pest that

is found in sandy soils. Its feeding creates gouges in the taproot of the plant that is a pathway for fungal infection.

The three-cornered alfalfa hopper is difficult to manage, Barlow said. It flies so an areawide management program is needed to establish control.

Use of the IPM Decision Support tool can assist growers with management of pests, said Pete Goodell, IPM Extension adviser at Kearney.

The tool can be used for planning and providing strategies for pest control. It can be found at www2.ipm.ucanr.edu/decisionsupport.

The IPM program is also seeking help in reporting pest outbreaks. Pest spotters would report pests on a shared database. The program then alerts growers to outbreaks and provides predictive models.

Farmers considering becoming an alfalfa cooperator for iPIPE should contact Julie Golod at 814-689-9184 or golodj689@zedxinc.com. More information on iPIPE can be found at <http://ed.ipipe.org>.



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CALIFORNIA EVENTS PROVIDE EARLY-SEASON PRACTICE





FFA members get ready to show their animals at the Tehama District Fair in Red Bluff, Calif., on Sept. 23. The early-season schedule for FFA students continued this month with competitions at Lassen College in Susanville, Calif., and Shasta College in Redding, Calif. (Photo: Tim Hearnden/Capital Press)

Students make corsages as part of an FFA floral design competition last fall at Shasta College in Redding, Calif. The annual competition helps students gear up for larger events that are held later in the school year. (Photo: Tim Hearnden/Capital Press)

FFA members take a test of their veterinary knowledge during a competition last fall at Shasta College in Redding, Calif. (Photo: Tim Hearnden/Capital Press)

REDDING, Calif. – A pair of events this month helped FFA members in Northern and Central California get a jump on the competition.

Field days at Lassen College in Susanville on Oct. 8 and at Shasta College in Redding on Oct. 13 provided some early-season practice for students gearing up for larger contests later in the school year.

Contests at the two events ranged from livestock judging to soils, horticulture, small engines, welding and agricultural mechanics. Some veterinary students took a written test to show their knowledge.

As many as 1,000 high-schoolers from as far away as Paso Robles were expected at the Shasta College event, whose 21 contests included a timed competitions in which students cut through a log with a saw and drove a tractor through an obstacle course.

"It's definitely a launching contest," said Trena Kimler-Richards, an agriculture instructor at Shasta College. "It's where schools bring in a lot of their first-time freshmen to compete."

While the Shasta College event has been put on for many years, the Lassen event was in its second year and was also run as "kind of an introductory process" for students, Kimler-Richards said. A few of the contests at the Susanville meet were held at Lassen High School, a co-sponsor of the event.

Awards were given to winning individuals and teams, and a small college club information fair was held at the Shasta College meet so that students could explore future options.

For some students, the two meets are a chance to practice before big statewide and national contests, organizers have said. A student can "get your first competition under your belt" and learn what he or she did right and wrong, one student said last year.

The events came as members were preparing for the National FFA Convention and Expo, held Oct. 19-22 in Indianapolis. About 80,000 high school students from across the country were expected at the national convention.



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