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Idaho

Mormon crickets on the march in parts of Idaho

By SEAN ELLIS
Capital Press

At a glance

Mormon cricket *(Anabrus simplex)*

These insects are actually a shield-backed katydid. The common name is derived from this pest's destruction of the crops of Mormon settlers in the mid-1800s.

Appearance: 1.5 to 2 inches long (adult phase). Varied color from gray green, purplish, brown to black. Hind tibiae are spiny; its wings are underdeveloped and it cannot fly.

Behavior: One generation annually; outbreaks can last 5 to 10 years. Vast bands will migrate up to 50 miles, feeding on field and forage crops, fruit trees, vineyards and grains.

Range: Found throughout Western North America.

Habitat: Areas of rangeland shrubs, forbs and grasses.

Damage: Voracious eaters, Mormon crickets have powerful mandibles that can strip trees of foliage and destroy their fruit.



Source: Washington State University

Courtesy of U.S. Geological Survey

Alan Kenaga/Capital Press

NAMPA, Idaho — Mormon crickets, which can devastate farm fields in short order during infestations, are on the march in parts of Idaho.

Owyhee County vineyard owner Tom Elias said the harsh winter ruined about 85 percent of his wine grape crop in Marsing this year “and then (a few) weeks ago I had Mormon crickets come through and they finished it off.”

Elias has dealt with the pest in past years but never to this extent.

“Those suckers are huge this year; the biggest ones I’ve ever seen,” he said. “I woke up one morning to my house, my car, my tractor, greenhouse, everything, covered in Mormon crickets. And they eat everything in sight.”

The Idaho State Department of Agriculture, which handles Mormon cricket problems on state land — and private ground when asked — has received a lot of calls in the past two weeks about the pest, said ISDA Plant Industries Administrator Lloyd Knight.

“It’s plenty busy right

now,” he said. “Things are a lot busier than they were a few weeks ago.”

Knight said the Mormon cricket infestations this year are location-specific. The department has received a lot of calls from people in Washington, Gem and Owyhee counties.

The USDA’s Animal and Plant Health Inspection Service controls Mormon cricket infestations on federal lands.

“We are seeing significantly higher Mormon cricket populations on (Bureau of Land Management) land and a small amount of Forest Service land in southwestern



USDA photo by Paul Ver Hagen
Mormon crickets cross a road near Reynolds Creek in Owyhee County in southwestern Idaho.

Idaho this year and we are receiving more complaints from neighboring landowners as a result,” Brian Marschman, who heads the APHIS plant health program in Idaho, told Capital Press in an email.

He said Owyhee and Washington counties have the highest populations this year.

“In a few locations we have seen populations as high as 70 per square yard,” he said.

APHIS has treated about 500 acres of BLM land in Owyhee County this year but hasn’t been able to treat larger tracts because of the higher than usual amount of water in the area and the presence of

Online

Go to the ISDA website at www.agri.idaho.gov and click on “Plants & Insects” on the left and then on “Grasshopper and Mormon Cricket Control Program.”

sensitive species, Marschman said.

“We have seen the level of complaints drop after our limited treatments, though,” he said.

Marschman said there is no clear explanation why Mormon cricket populations are much higher this year. Surveys in 2016 indicated an uptick from record low populations from 2012 to 2015.

“However, cricket infestations at this level were not expected,” he added.

Marschman said his agency has not seen or heard about high grasshopper numbers anywhere in the state.

The ISDA, when asked, distributes bait free of charge to private landowners with more than 5 acres of farmland. The department distributed 89,000 pounds of bait to 138 landowners last year for Mormon cricket and grasshopper suppression.

Researchers test sterile litchi tomato as nematode ‘trap crop’

By JOHN O’CONNELL
Capital Press

ABERDEEN, Idaho — Researchers are conducting field trials with a new, sterile version of litchi tomato — a “trap crop” that stimulates hatching of destructive pale cyst nematodes in the absence of a viable host.

PCN, a microscopic worm that can survive in soil for decades without a host and dramatically reduces potato yields, was discovered in Eastern Idaho in 2006. A 7.5-mile radius of Bonneville and Bingham counties — the only location in the U.S. where the pest is known to exist — is under quarantine while USDA and the Idaho State Department of Agriculture work to eradicate it.

In recent years, University of Idaho has used litchi tomato as an alternative control method to methyl bromide, a powerful fumigant that has been phased out of the eradication program for environmental reasons.

But use of litchi tomato has been strictly monitored and special protocols have been established to destroy viable seeds to prevent the trap crop from spreading and becoming a new weed in the area.

“We feel great about this because it answers concerns that this could become a weed itself by escaping out in the field,” University of Idaho Extension weed scientist Pam Hutchinson said.

Due to a shortage of litchi tomato seed, only one quarantined commercial field has been planted in litchi tomato this summer. Hutchinson transplanted about 2,000 of



University of Idaho Extension weed scientist Pam Hutchinson shows a plot of sterile litchi tomato on July 6. The trap crop, used to control pale cyst nematode, was transplanted at the UI’s Aberdeen Research and Extension Center.

the new sterile litchi tomato seedlings into a plot within the trap crop field. Hutchinson has been pleased by the health of the sterile plants in the commercial plot, as well as in a demonstration plot in Aberdeen.

“The main reason why we transplanted them down here was to make sure they could grow in our conditions in a quarantined field near Shelley,” Hutchinson said.

Chuck Brown, a research

geneticist with USDA’s Agricultural Research Service in Prosser, Wash., developed a litchi tomato seed without prickles from European varieties. Joe Kuhl, a UI associate professor of plant genetics, generated sterile litchi tomato from Brown’s seed. Kuhl explained he used laboratory methods to induce a litchi tomato variety with two sets of chromosomes, called a diploid, to have four sets of chromosomes, called a tetraploid.

He then conventionally crossed the diploid with the tetraploid and identified progeny with three sets of chromosomes, which are sterile.

Kuhl will likely use laboratory tissue cultures to expand sterile litchi tomato for commercial planting.

He said the challenge will be producing enough seedlings while keeping costs down.

“We are using a series of experimental protocols to de-

termine whether the scaling up can be coupled with cost-saving measures,” Kuhl said.

In commercial field testing by UI’s PCN program director, Louise-Marie Dandurand, litchi tomato reduced PCN eggs by 45 percent and cyst multiplication by 75 percent.

Hutchinson has also conducted herbicide trials in litchi tomato, identifying three products that help control weeds without harming the trap crop.



Contributed photo

‘Hot’ potato psyllid confirmed in Power County

Capital Press

AMERICAN FALLS, Idaho — A potato psyllid recently collected from a sticky trap at a Power County potato field has tested positive for the Liberibacter bacterium, which causes zebra chip disease.

According to an alert sent July 7 to growers, a University of Idaho scouting program captured 31 psyllids from sticky cards during the preceding week. Psyllids were found in 20 of 95 fields involved in the university’s program.

Another psyllid captured at UI’s Kimberly Research and Extension Center also tested positive for Liberibacter in early June.

Experts say psyllid pressure has been light this year compared to last summer, though little zebra chip disease surfaced in the 2016 potato crop.

Zebra chip disease creates bands in tuber flesh that darken during frying. The disease, spread by the tiny, winged psyllids, was first confirmed in the Northwest during 2011. The UI program is intended to alert growers of the presence of psyllids harboring Liberibacter to guide their insecticide spraying decisions.

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