

Researchers study biological controls for stinkbugs, other pests

By ERIC MORTENSON
Capital Press

CORVALLIS — Vaughn Walton is in his 10th year at Oregon State University, a period that's coincided with the arrival of invasive, damaging pests.

Spotted wing drosophila, or SWD, a tiny fruit fly that lays its eggs primarily in ripening berries and causes them to collapse in a gooey mess, is number one on Walton's list.

Controlling it costs blueberry and caneberry growers an estimated \$14 million to \$15 million annually in Oregon alone, Walton said. They've gone from perhaps a single clean-up spray before harvest to six or seven sprays per season, he said.

Now comes the brown marmorated stinkbug, or BMSB, which attacks everything the SWD favors plus a wide range of tree fruit and vegetables. Its mouthpiece is tough enough to pierce hazelnut shells and to puncture apples, pears and cherries. Walton issued a special alert this year for wine grape growers, who are likely to see late sea-



Eric Mortenson/Capital Press

Oregon State University's Vaughn Walton, left, and Betsey Miller are researching the use of parasitic wasps to attack pests such as brown marmorated stinkbugs.

son stinkbug infestations that could taint wine.

"The economic impact may be bigger" than SWD, Walton said.

Last year's long, warm growing season, followed by a mild winter, allowed for additional generations of stinkbugs to make themselves at home.

"Those populations are going to continue building,"

Walton said.

Increased pesticide use is the immediate control tool, but the expense of that in terms of money and public ill will may be unsustainable.

Walton and other OSU researchers continue to press for biological controls of pests. One of the most promising options involves using tiny parasitic wasps, which insert their eggs into stinkbug eggs,

for example. The wasp larvae feed on their hosts as they emerge.

In China, a wasp called *Trissolcus japonicus* takes out 50 to 90 percent of the potential BMSB population. Oregon Department of Agriculture researchers obtained some of the wasps from China for study under quarantine, but the process is complicated and strictly controlled.

Brown marmorated stink bug



Courtesy of en.wikipedia.org

Binomial name:
Halyomorpha halys
Appearance: Shield shaped and dark, mottled brown
Diet: Primarily tree fruits
Life cycle: One or two generations in cooler climates; up to five in warmer ones
Origin: Asia
First observed in U.S.: Mid-1990s
Size: 14-17 mm (Actual size)



Sources: Penn State Extension; U.S. Environmental Protection Agency

Capital Press graphic

Researchers can't just turn them loose and hope for the best. Among other things,

they must show the wasps won't attack beneficial insects; some parasitoids aren't particular.

Walton and others are cheered by news that a native population of *Trissolcus japonicus* has been found in Maryland. That discovery could loosen controls and speed up use of the wasp against BMSB on the West Coast.

Walton wishes biological controls received more attention and funding. Compared to pesticides, targeted bio-control can be self-regulating. As pest populations decrease, parasitoid numbers drop as well, he said.

Meanwhile, OSU reminds growers of simple pest management practices such as using weed fabric, the black mesh berry growers often place around plants. The material retains heat, and can fry pest larvae dropping from the plant.

Increased pesticide use isn't the only answer, Walton said.

"We really need pesticides, but we need to be less dependent on them," he said.



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