

Researchers use tiny samurai wasp to control stinkbugs

By **GEORGE PLAVEN**
Capital Press

CORVALLIS — The samurai wasp may be small, but it is a mighty assassin of one of Oregon agriculture's most detested pests — the brown marmorated stinkbug.

No bigger than a pinhead, the tiny wasp lays its eggs inside the eggs of stinkbugs, killing the host when they hatch. Stinkbugs first arrived in Oregon in 2004 and are a scourge to farmers, damaging high-value crops including wine grapes, blueberries, cherries and hazelnuts.

Researchers know the samurai wasp can be an effective biological control for stinkbugs. A new study from Oregon State University goes a step farther, describing how farmers can integrate the wasp as part of an overall management strategy.

David Lowenstein, an entomologist and postdoctoral research associate at OSU, led the study, which focuses on the impacts of different insecticides on wasp survival. His results found that some chemicals were highly lethal to the wasp, while others were more suitable.

The study was published recently in the Jour-



Oregon Department of Agriculture/Chris Hedstrom
An adult samurai wasp lays eggs in a mass of brown marmorated stinkbug eggs.

nal of Economic Entomology. Funding came from the Oregon Hazelnut Commission, Oregon Raspberry and Blackberry Commission and the USDA Specialty Crop Research Initiative, which is assisting more than 50 researchers across the U.S. studying ways to defeat the stinkbug.

Like the stinkbug, the samurai wasp is native to east Asia. It was discovered in 2016 in the Willamette

Valley, and since then OSU has bred colonies of the wasp in Corvallis and at the North Willamette Research and Extension Center in Aurora to distribute to commercial orchards.

"They are not available commercially," Lowenstein said. "We're the sole group that is rearing the parasitoid and trying to get it established in different parts of the state."

However, Lowenstein

said it does no good to distribute the wasps while farmers are spraying certain types of insecticides to control other pests.

For the study, Lowenstein tested the effects of nine insecticides on samurai wasps in lab and field trials. He said neonicotinoids and pyrethroids were "fairly toxic" to the wasps, while diamide insecticides were less toxic.

One reason for this is

because diamide insecticides specifically target sucking and chewing insects, such as filbertworm larvae in hazelnut trees, while neonicotinoids and pyrethroids are "broad-spectrum" insecticides, Lowenstein said.

"The application of this work is that, for someone who wants to benefit from biological control from the samurai wasp, first they're going to have to time it around when they apply insecticides," he said. "We don't expect chemical insecticide use is going to go away. It's just how can you integrate them together."

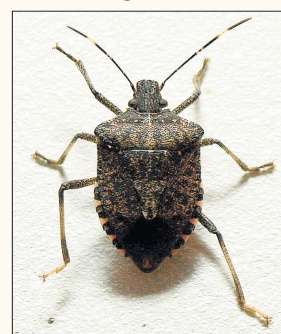
Lowenstein also suggested that orchards maintain natural areas around the property where samurai wasps can retreat during crop spraying.

Stinkbugs are found in 24 of Oregon's 36 counties. OSU has already distributed samurai wasps at 63 locations across the state for bio-control.

The wasps are not harmful to humans and do not sting people, Lowenstein said.

"There's no way you are going to confuse this with a yellowjacket," he said. "If you have a samurai wasp on your property you won't even know it's there unless you are seeing its effect, which is less stinkbugs."

Brown marmorated stinkbug



Courtesy of en.wikipedia.org

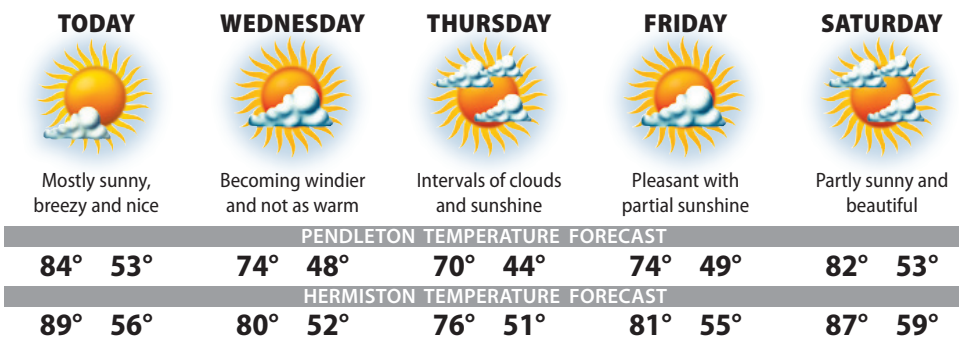
Binomial name:
Halyomorpha halys
Appearance: Shield shaped and dark, mottled brown
Diet: Primarily tree fruits
Life cycle: One or two generations in cooler climates; up to five in warmer ones
Origin: Asia
First observed in U.S.: Mid-1990s
14-17 mm (Actual size)
Sources: Penn State Extension; U.S. Environmental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



FOR MORE INFORMATION

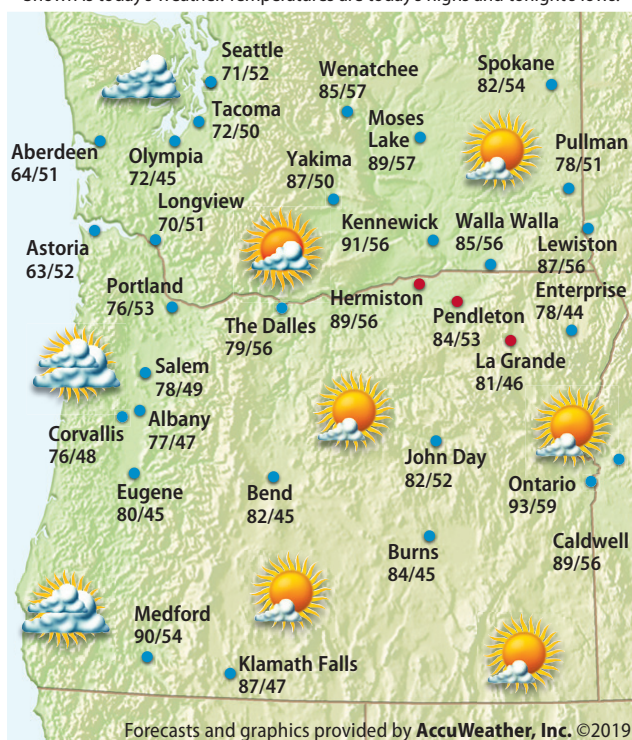
More information about brown marmorated stinkbugs, including reported sightings of the pest across Oregon, is available online. Visit: <https://agsci.oregonstate.edu/bmsb/brown-marmorated-stink-bug>

Forecast for Pendleton Area



OREGON FORECAST

Shown is today's weather. Temperatures are today's highs and tonight's lows.



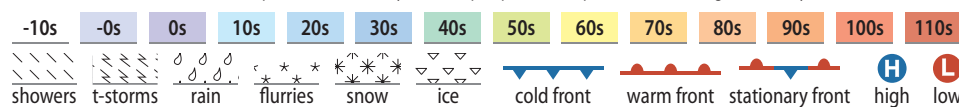
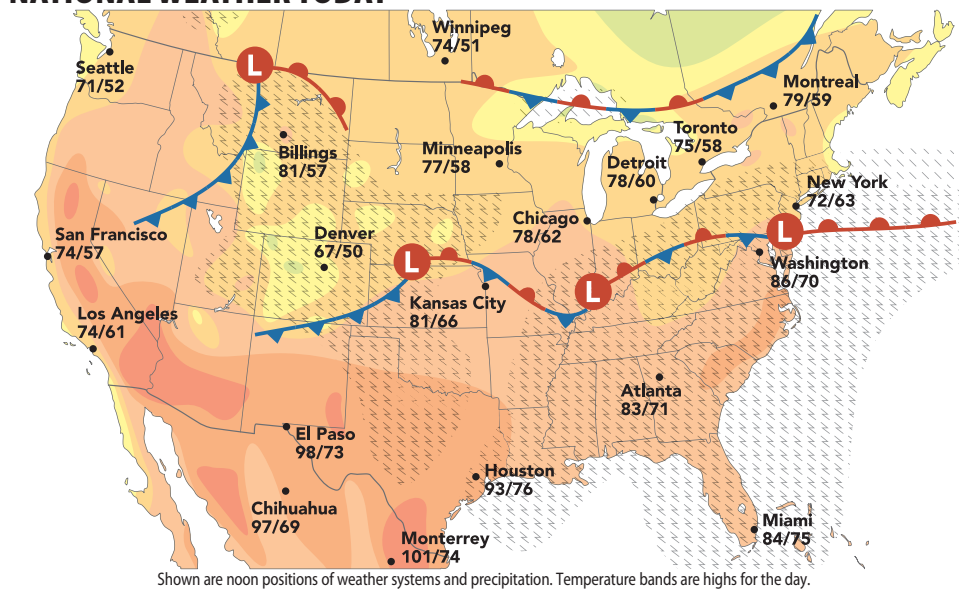
ALMANAC

PENDLETON through 3 p.m. yest.			
TEMP.	HIGH	LOW	
Yesterday	86°	57°	
Normals	79°	52°	
Records	108° (1961)	40° (1932)	
PRECIPITATION			
24 hours ending 3 p.m.	0.00"		
Month to date	0.05"		
Normal month to date	0.83"		
Year to date	9.33"		
Last year to date	6.33"		
Normal year to date	7.34"		
HERMISTON through 3 p.m. yest.			
TEMP.	HIGH	LOW	
Yesterday	88°	65°	
Normals	80°	53°	
Records	106° (1961)	40° (1949)	
PRECIPITATION			
24 hours ending 3 p.m.	0.00"		
Month to date	Trace		
Normal month to date	0.39"		
Year to date	4.42"		
Last year to date	5.02"		
Normal year to date	5.50"		
WINDS (in mph)			
Today	WSW 8-16	WSW 10-20	
Pendleton	W 8-16	WSW 10-20	
SUN AND MOON			
Sunrise today	5:05 a.m.		
Sunset tonight	8:47 p.m.		
Moonrise today	10:10 p.m.		
Moonset today	6:17 a.m.		
Last	New	First	Full
June 25	July 2	July 9	July 16

NATIONAL EXTREMES

Yesterday's National Extremes: (for the 48 contiguous states)
High 104° in Needles, Calif. Low 33° in Yellowstone N.P., Wyo.

NATIONAL WEATHER TODAY



All seven of Oregon's public universities will raise tuition

By **SARAH ZIMMERMAN**
Associated Press

SALEM — All seven of Oregon's public universities will raise tuition for the 2019-20 school year, with officials citing increased costs and less money than expected from legislators.

The hikes range from 2.33% at Western Oregon University in Monmouth to 9.9% at Ashland's Southern Oregon University.

Gov. Kate Brown had made education a priority of this session, repeatedly saying that she wanted to create a "seamless system of education from cradle to career." The Democrat expressed disappointment that higher education wasn't involved in a \$2 billion increase for K-12 schools that legislators approved earlier this year, and she has continued to push the Legislature to increase university budgets to avoid tuition increases higher than 5%.

Legislators recommended a two-year higher education budget of \$836.9 million.

That is \$100 million more than last biennium, though schools like the University of Oregon said they needed at least \$120 million more to keep tuition increases below 5%. The University of Oregon, the state's largest public university, will raise tuition 6.91% next school year.

State universities can raise tuition on their own if it's an increase of 5% or less. Any tuition hike above 5% requires a review by the Higher Education

Coordinating Commission, which met last week and approved the increases.

"None of us are happy that we will have to raise tuition by over 5 percent this year," Jamie Moffitt, vice president for finance and administration and chief financial officer, said in a statement. "Unfortunately, we had little choice given the current financial situation."

Molly Blanchett, a spokeswoman for the University of Oregon, said the school has to address a \$34 million recurring budget gap and that they're "facing a very challenging budget situation" because of declining international enrollment and increases in employee health care and retirement costs.

Schools that were able to contain tuition increases are doing so at a major cost.

Portland State University was bracing for an 11% increase in tuition, though the school reduced that to 4.97% at the last minute, thanks in part to the legislative increase in funding. But the school still has to bridge an \$18.6 million shortfall next year and is pursuing 2% cuts across the university, according to a statement.

Western Oregon University, which will have the smallest tuition increase among the state's seven universities, said it will operate on a deficit budget to avoid larger tuition hikes.

"We know that deficit budgeting is not sustainable, but the university's mission is to provide affordable degree pathways, and we met the chal-

lenge to keep tuition within reach for our students" said WOU President Rex Fuller.

Speaker of the House Tina Kotek said last week that the \$100 million extra is "a substantial investment in higher ed," and it's unlikely that colleges will see additional legislative investment this session.

"We got as much as we think we can get into their system and now they're going to have to show us why they can't live with it," she said.

Thirty years ago, the state paid for two-thirds of its universities' operating budgets, with tuition covering the remaining third. That ratio has now flipped completely.

Southern Oregon University, which will raise tuition by nearly 10%, committed to automatically lowering that increase if legislators agreed to give more money. But even in the most optimistic of funding scenarios, SOU would have likely had to raise tuition above that 5% number because of years of legislative disinvestment that have forced administrators to run on deficit budgets.

"No option available to us would have been painless," said SOU President Schott in a statement. "These are the best choices for our students and the university, as lawmakers continue to shift the burden of higher education from the state to our students and their families."

The Legislature is expected to approve the final public university budget this week.

CORRECTIONS: The *East Oregonian* works hard to be accurate and sincerely regrets any errors. If you notice a mistake in the paper, please call 541-966-0818.

EAST OREGONIAN

— Founded Oct. 16, 1875 —

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333 E. Main St., Hermiston 541-567-6211
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East Oregonian (USPS 164-980) is published daily except Sunday, Monday and postal holidays, by the EO Media Group, 211 S.E. Byers Ave. Pendleton, OR 97801. Periodicals postage paid at Pendleton, OR.
Postmaster: send address changes to East Oregonian, 211 S.E. Byers Ave. Pendleton, OR 97801.
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