

COLLEGE OF AGRICULTURAL, HUMAN, AND NATURAL RESOURCE SCIENCES

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WSU's Green Times – May 2015

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Events & more

JUNE FARM WALKS

Cover cropping on a diversified vegetable farm, Let Us Farm

June 1, Oakville, WA

Building soil tilth: Grazing sheep on cover crop, Zakarison Partnership

June 8, Pullman WA

Both walks are presented by Tilth Producers and WSU Small Farms Program. [Register.](#)

Poplar for Biofuels Field Tour

June 30, Hayden, ID

[Learn more.](#)

NEW! Extension Drought Website

Find timely updates and a wealth of water conservation information to help

with a dry year.
drought.wsu.edu

Vineyard natural habitats assist with butterfly comeback

Washington wine grape vineyards experimenting with sustainable pest management systems are seeing an unexpected benefit: an increase in butterflies.

Over the years, loss in natural habitat has seen the decline in numbers of around 50 species of butterflies in eastern Washington. But in a recent Washington State University study published in the June issue of the *Journal of Insect Conservation*, researchers found that vineyards that create nearby natural habitats have three times the number of butterfly species and four times more butterflies than conventional vineyards.



WSU researchers recorded 29 separate species in “habitat-enhanced” vineyards, compared to nine species in conventional vineyards. In terms of raw numbers, they counted on average 20 butterflies in habitat-enhanced vineyards compared to five in conventional areas.

A fluttery side effect

David James, an associate professor in WSU’s Department of Entomology, wrote the paper with colleagues. He said butterfly increase was not the goal of the return of natural habitats. Instead, growers want to reduce pesticide usage.



Native plants grown alongside a

To help control pests, they plant native sage-steppe shrubbery in and around their vineyards. These native plants, such as desert buckwheat shrubs, attract “good” insects like parasitic wasps, James said.

Wasps feed on mealybugs and other “bad” insects that can be harmful to the vineyards. But as a side benefit, these vineyards are seeing the return of other

Walla Walla vineyard attract and sustain butterflies as well as natural enemies of pests.

inhabitants that had declined when natural habitat was removed.

“Conservation of butterflies is becoming an issue because all species are declining,” James said. “The habitat has been taken away by agriculture. This is a way of giving back. We’re showing that an agricultural industry can live alongside the natural ecology and help preserve and conserve it.”

This method of conservation may be exclusive to Washington, since vineyards in this state already face fewer pests and use fewer chemicals than vineyards in states like California.

“We’re fortunate here to have the perfect place to be able to have this sustainable option,” James said.

Why butterflies?

The increase in butterfly numbers isn’t directly beneficial to vineyards. Butterflies don’t eat any pests or have any direct economic benefit. But they naturally live on the returned native plants, both as caterpillars and as adult butterflies. They also have immense aesthetic appeal to people, are important pollinators and are an important part of healthy ecosystems.

James said the viticulture industry is unusual in agriculture because many vineyards and wineries invite people onto the property to enjoy the product.

“To have butterflies flying around could be part of a tourism drive and an attraction for visitors,” he said. “In these days of organic production and not wanting pesticides on food, butterflies can be a symbol of that. To show butterflies flying around vineyards has great aesthetic and commercial appeal.”

Career coming full circle

James has been working on pest management in grapes and other crops for several decades. But his interest in entomology started with butterflies. He’s written a few books on butterflies, including “Life Histories of Cascadia Butterflies”



A caterpillar of a monarch butterfly feeds on milkweed in a WSU Prosser vineyard in June 2014.

(<http://osupress.oregonstate.edu/book/life-histories-of-cascadia-butterflies>) about species that live in Washington. But he's rarely been able to study them professionally because they don't have a large economic impact.

"It's very rare to get a job that involves butterflies. They weren't even under threat when I started my career," said James, who wrote his Ph.D. dissertation 30 years ago about the monarch butterfly. "But to now combine practical pest management work with butterflies is remarkable. And I think it will only grow as we continue to see the benefits of natural pest management around the world. Nature conservation and agriculture will be intimately linked in the future. The Washington wine grape industry is a pioneer of this movement."

Funding for the work came from Western Sustainable Agriculture Research and Education, the Northwest Center for Small Fruits Research, and the Washington Association of Wine Grape Growers.

Is organic fruit growth on the horizon?



Consumer demand for organic foods is on the rise and expected to continue. In Washington, organic tree fruit production is expanding. Will demand and supply keep pace with each other?

Read the full story by WSU scientists David Granatstein and Elizabeth Kirby published in [Good Fruit Grower](#)

Plastic a valuable option for farmers' markets

Farmers' markets wanting to increase purchases by customers should consider accepting more than just cash or checks as payment, according to Washington State University researchers.



"Customers are willing to buy more if they have other payment options," said Karina Gallardo, a WSU associate professor and extension specialist in the School of Economic Sciences. "They may not necessarily pay more, but they'll buy more."

That's one of the results of a study recently published in the International

Food and Agribusiness Management Review.

Gallardo and her colleagues worked with 12 farmers' markets around Washington, providing them with electronic payment machines that could accept credit or debit cards and electronic benefit transfer (EBT) cards.

They then surveyed 12 managers, 48 vendors and 96 customers from the markets.

The surveys showed that customers at farmers' markets care primarily about having local vendors and high-quality produce. The surveys didn't show that electronic payment options would draw in more people, but that running out of cash would limit purchases.

In the study, farmers' market managers received a machine paid for by a Washington State Department of Agriculture specialty crop block grant. Instead of customers using their credit cards at each vendor booth, they purchased tokens from the manager by credit, debit or EBT card. The vendors accepted the tokens and cashed them in with the manager at the end of the day.

"Cash is fast, which is why vendors like it," Gallardo said. "And if the technology goes down, it really slows down their business. But if the manager has the machine, then it doesn't affect the farmer as much if it's not working."

For managers, the survey showed they liked offering another service for customers that also benefited vendors. The managers want lower fees and reliable, high quality technology in the machines. The survey showed they were willing to pay a little more for that reliability.

"Most of the time, it was the managers themselves running the machines," Gallardo said. "They didn't want to deal with faulty equipment."

The study, published in February, is based on data collected in 2011. Gallardo hopes to start new surveys to see if technological advances in electronic payments, using devices like the Square credit card reader or smartphone apps, have changed how vendors and customers interact.

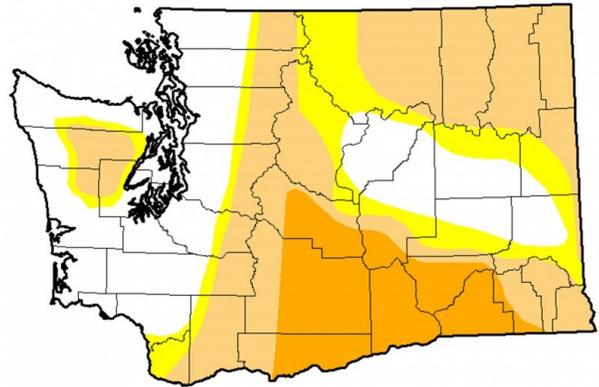
"Making purchases easier for customers is helpful, but it still comes down to high-quality, local produce," Gallardo said. "At the end of the day, that's the biggest draw for farmers' markets."

El Nino bad for Washington drought, good for

California

Despite recent rains, the drought settling over Washington state that spurred the governor to declare an emergency last week is likely to grow worse – driven by a strengthening El Nino weather pattern from the Pacific Ocean.

El Nino may be renewing hope for relief in drought-stricken California, but it's more likely to bring more heat and dryness to the Northwest, said a Washington State University climate scientist who's monitoring the state's dry-off conditions. [Read the full story.](#)



Washington drought:
Severe=orange. Moderate=beige.
Abnormally dry=yellow.

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