



LET THERE BE LIGHT

Katie Berdan Wolden/Oregon Flowers
A row of Oregon Flowers' greenhouses lit from the inside.

The rise of high-tech farming and the light revolution

By SIERRA DAWN MCCLAIN
Capital Press



Sierra Dawn McClain/Capital Press
Jeff Sharpe of STracker in Ashland, Ore., stands next to raised solar panels. Raising them allows room for farmers to plant crops or run livestock in the shade they create.

AURORA, Ore. — Tyler Meskers poked his finger into half-frozen soil. Dwarfed by towers of potted lily bulbs, he stood in a giant freezer that smelled like spring.

But it wasn't spring. It was a 95-degree summer day.

Meskers, vice president of Oregon Flowers Inc., a cut flower business in Aurora, was trying to replicate the seasons in chilled warehouses. And in his glass greenhouses — some of the largest in the state — he and his family were trying to harness and replicate the sun itself.

The Meskers family is among a group of innovators pushing light to new levels in agriculture. Because of advancements in knowledge and technology, both indoor and outdoor farmers are finding creative ways to manipulate light to increase yields, alter plant color and flavor and make shade their ally.



Sierra Dawn McClain/Capital Press
The Meskers family. Left to right are Martin, Helene, Megan, Kase, Tyler and Beckham.

Making better plants

Plants convert light into energy through photosynthesis. But there is much more to light than meets the eye.

According to Andrew McAllister, a University of Michigan applied physicist, plants use light to "decide" which direction to grow, what size to make leaves and when to flower.

There are different kinds of light, McAllister explained in a study, meaning different wavelengths. To our eyes, longer wavelengths appear red and shorter wavelengths violet. There is also light our eyes can't see, that we only feel. Wavelengths longer than red, called infrared light, make us feel warm. Wavelengths shorter than violet, called ultraviolet, make us sunburn.

Christopher Currey, an associate professor at Iowa State University, wrote in a report

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SOLARCULTURE

Farmers or landowners interested in working with Pine Gate Renewables on a dual-use "solarculture" project on their land can submit an inquiry to: <https://pinegaterenewables.com/landowners/>

Claudia Weeks, site operations manager for Pine Gate Renewables, said many factors are considered for each solar project — including topography, soil conditions, nearby electrical infrastructure and if that region is expecting solar power — but farmers are always invited to ask about collaborating.

Farm credit quality remains solid

By MATEUSZ PERKOWSKI
Capital Press

Economic fallout from the coronavirus outbreak hasn't yet severely hindered farmers from getting or repaying loans from a major network of agricultural lenders.

While the Farm Credit System's financial results for the first half of 2020 reflect continued stability in agriculture, experts say the pandemic's effects on agricultural debt may still be felt in the future.

"Nobody really knows what the impact is going to be. It's still a volatile environment," said Hal Johnson, senior financial analyst with the Farm Credit Administration, which regulates system lenders.



Farm Credit

Despite the coronavirus pandemic, farmers have still been able to take out and repay loans to the Farm Credit System of lenders, which hasn't seen a severe deterioration in credit quality.

"Certainly, we expect credit stress to increase in the portfolio," he said. "It's just very difficult to understand to what extent that's going to happen."

The Farm Credit System, which consists of 72 lending institutions, was created by Congress more than a century ago to provide loans to farmers and agricultural businesses across the U.S.

The network's total loan volume has grown 3.5% to \$297 billion during the first half of 2020, according to the Federal Farm Credit Banks Funding Corp., which raises money for system lenders.

In that time, Farm Credit System lenders have earned a combined net income of nearly \$2.9 billion, up about 7.7% from the same point



Todd Van Hoose

last year, according to FFCB.

The increase in loan volume is "normal" and driven primarily by real estate

mortgages, which have continued growing during the pandemic, said Johnson.

Farmland values have largely held firm so farmers have kept buying properties, especially since interest rates are attractive, he said. "This is an opportunity to lock in low rates for a long period of time."

Despite the disruption caused by the coronavirus outbreak, farmers still face beneficial "economies of scale" to spread their fixed costs over a larger number of acres, Johnson said.

Anecdotally, the desirability of agricultural real estate may also be spurred

by the isolation of such properties, said Todd Van Hoose, president and CEO of the Farm Credit Council, a trade association of system lenders.

"There continues to be a lot of people escaping from cities and buying farmland," he said.

Meanwhile, growers have been financially buoyed by assistance from the federal government, such as the USDA's \$19 billion Coronavirus Food Assistance Program, which provides direct support to farmers and ranchers while buying food that's distributed to the needy.

"Even though crop prices are low, there is a flow to what someone can earn from planting," Johnson said.

Interest rates on the loans made to growers have dropped but Farm Credit

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Washington traps another Asian giant hornet

By DON JENKINS
Capital Press

Another Asian giant hornet has been trapped by the Washington State Department of Agriculture in northwest Washington, intensifying the search for the nests of the invasive species.

The hornet was collected from a trap baited with orange juice and rice wine July 29 near Custer in Whatcom County. Entomologists confirmed the specimen was a male hornet on Aug. 13, the department announced Monday.

The hornet was the second trapped by the department and seventh detected in Whatcom County since late last year.

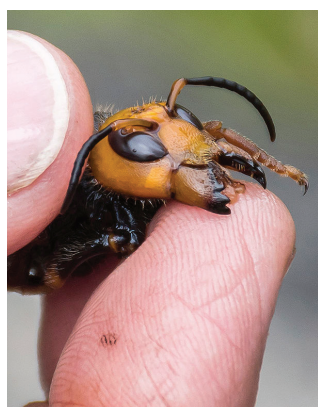
The Asian giant hornet, the largest hornet in the world, had never before been discovered in the U.S.

The hornets can wipe out hives of pollinators, such as honey bees, in mass attacks.

The hornet was the first male detected. It was found near where a mated queen was found dead and where hornets are dead and where have killed bees last year.

The department previously trapped an unmated queen July 14.

More male hornets should emerge this month and September as colonies



Karla Salp/WSDA
An Asian giant hornet.

develop, agriculture department entomologist Sven Spechiger said.

The department has said it will hang more traps in hopes of capturing one alive. The traps will have screens to keep the hornet from drowning.

If a live hornet is secured, the department has said it will try to attach an electronic tracking device to the hornet and follow it back to its nest. To calm the hornet, the department will chill it and won't take chances with carbon dioxide, Spechiger said.

"We're not going to risk killing an Asian giant hornet," he said. "We'll go simply with ice inside of a cooler."

Asian giant hornets nest in the ground. The department plans to eradicate nests with pesticides.

