

Nurseries recruit pest predators

Insecticide alternatives sought to overcome chemical resistance, public wariness

By **MATEUSZ PERKOWSKI**
Capital Press

Nurseryman Jordan Hart admits he was initially skeptical of introducing predatory insects to kill pests in his greenhouses.

"I thought it would be a waste of my time," he said.

Despite these doubts, he stuck with the biocontrol program at Harts Nursery near Jefferson, Ore., and began seeing results within several months.

"It wasn't as difficult as I thought it would be," Hart said. "You'd only find little pockets of insects around."

Four years later, Hart said the nursery has totally eliminated insecticides in its plant propagation greenhouse and reduced usage of the chemicals by half in the rest of the operation.

Apart from saving money on chemicals, biocontrols have proven more durable than insecticides, which lose efficacy over time, he said.

"An insect can't become resistant to death by another insect, where they can become resistant to chemicals," Hart said.

Experts say several factors are driving nurseries to recruit predatory insects: declining potency of certain chemicals, increasing regulatory scrutiny and wariness of insecticides among consumers.

"It seems like that's the way the whole industry is moving," Hart said.

Beginning in 2015, concerns about potential harms to pollinators prompted retail giant Home Depot to require labels for plants treated with neonicotinoids, a class of pesticides that critics blame for bee deaths.

Retailers and consumers are generally becoming more inquisitive about what pesticides are applied to plants, said Kath-



Mateusz Perkowski/Capital Press

Jordan Hart, lead grower at Harts Nursery near Jefferson, Ore., applies predatory insects to control thrips and other pests in his plant propagation greenhouse. Experts say more nurseries are turning to biocontrol due to increased regulatory scrutiny, public wariness of insecticides and the reduced efficacy of some chemicals

leen Baughman, manager of integrated pest management for the Iwasaki Bros., Inc., nursery near Hillsboro, Ore.

"Our sales manager gets calls every day from customers to see if it's safe to put in their yard because of bees," she said. "We know the customer base is thinking about it, for sure."

Nurseries have reasons to seek alternatives to insecticides apart from public relations, said Brian Spencer, president of Applied Bio-nomics, a Victoria, B.C., company that produces predatory insects.

While the U.S. Environmental Protection Agency traditionally scrutinized pesticides for their health effects on humans, its regulatory focus is increasingly turning to overall environmental impacts, he said.

"It will be harder to register pesticides in the future," Spencer said.

By regularly spraying plants with insecticides, nurseries are effectively selecting for pests that can withstand those chemicals and gradually reducing their effectiveness, he said.

"Chemistries always have a limited time frame when they

can work," Spencer said.

These combined factors lead Spencer to believe that demand will strengthen for predatory insects grown by his company and other insectaries.

"This business has always been puttering along, but in the next five years, I think it's going to explode," he said.

John Maurer, owner of Evergreen Growers Supply, said his sales of beneficial insects have been rising every year.

Not only are farmers experimenting with such methods, but those who already use biocontrols are upping their orders, Maurer said.

"They're finding that it works," he said.

Iwasaki Bros. produces 500 varieties of plants in 16 acres of greenhouses, so the company "started small" when introducing biological control methods, focusing on crops that would respond more readily to such pest management, said Baughman.

In some cases, like herbs and vegetables, the nursery didn't have many registered pesticides to employ in the first place, she said. "The cupboard is kind of bare anyway."

Baughman said she's still refining the use of predatory insects, but the results have been encouraging so far. Between 2011 and 2013, the company cut its overall pesticide costs by half and reduced its volume of neonicotinoids by 85 percent.

In comparing chemical versus biological methods of pest control, Baughman has found the costs to be roughly equal.

Predatory insects are seen as expensive, but labor and equipment add to the application cost of insecticides, she said.

"The cost of your pesticide is not the true cost of your spray," she said.

Even when the total expense of biocontrol is higher, the technique can have intangible benefits. For example, the nursery avoids disruptions associated with excluding employees from greenhouses after chemical applications, Baughman said.

Relying on predatory insects does require some nuance, however.

Nurseries have to release them at a time when there are enough pests to feed upon, or the predators will "set up shop elsewhere," she said.



Matthew Weaver/Capital Press

Farm Direction president Kevin Van Trump delivers his economic forecast Feb. 4 at the Spokane Ag Expo and Pacific Northwest Farm Forum in Spokane.

Wheat prices could increase, expert says

Fuel prices, cyber terrorism are factors to watch

By **MATTHEW WEAVER**
Capital Press

SPOKANE — Wheat prices could soon increase, a marketing consultant predicts.

Kevin Van Trump, CEO and founder of Farm Direction, believes some wheat prices could soon hit \$7 per bushel. Bids last week at Portland for U.S. 1 soft white wheat with ordinary protein were mostly \$6.49 per bushel.

Van Trump pointed to the impacts of some hedge fund managers investing in the commodity markets to protect against the risk in their stock portfolios. If they start buying and weather issues impact wheat supplies, he said, "wheat will come out of there like crazy. It will really pull out of the hole, I think."

Van Trump advised farmers to take advantage of price spikes first and ask questions late.

"Wheat is insanely dangerous to the upside," Van Trump said. "When you see the spike, and it starts to take off and move, don't just sit there and say, 'Wow, I wonder why it's moving higher.' Who cares? If

Online
<http://farmdirection.com>

it's profitable, pull the trigger."

Big factors to watch in the wheat market include the value of other currencies in relation to the stronger U.S. dollar, political unrest and possible weather issues in the wheat growing regions of Russia and Ukraine, and index and hedge fund influences.

"Wheat is the most quickly impacted by currency valuations or devaluations, so wheat will be the first market to get hit with currency changes," Van Trump said.

Other global issues to watch include:

- He advised farmers to look in low diesel fuel prices, as petroleum prices will begin to rebound.

- With continuous cyber attacks on U.S. banks, he said, it's "only a matter of time" before a major financial institution is shut down.

- Demographics will change with the rise of the millennial generation. The most common age in the United States today is 22, Van Trump said. By 2025, millennials will be 75 percent of the workforce, he said.

"The stock market rips higher when you have an influx of workers between 35-49," he said. "The oldest ones turn 35 this year."

Idaho cereal industry learns from sprout damage

By **JOHN O'CONNELL**
Capital Press

POCATELLO — Wheat raised on dry land and late-maturing varieties fared best during a 2014 Idaho growing season marked by widespread sprout damage, according to a recent analysis by University of Idaho wheat breeder Jianli Chen.

Chen, with UI's Aberdeen Research and Extension Center, evaluated 800 wheat lines raised in Aberdeen, Kimberly, Tetonia, Parma, Soda Springs and Moscow during 2014, when record August moisture triggered pre-harvest sprouting and a crop problem known as low falling numbers.

The falling numbers test quantifies activity of a starch-degrading enzyme, alpha amylase, triggered when grain kernels sprout. Higher numbers are desirable, reflecting a greater quantity of intact starch, which is critical for bread making.

'Big data' experts agree: Read the fine print

By **MATTHEW WEAVER**
Capital Press

SPOKANE — As high-tech innovations continue to help farmers become more productive, the massive amount of data they generate and how it will be used is something producers need to understand.

The Spokane Ag Expo and Pacific Northwest Farm Forum hosted a panel Wednesday on "big data," or the collection, storage and use of a farmer's data from his equipment in a larger database.

Barrie Robison, associate director of the University of Idaho Institute for Bioinformatics and Evolutionary Studies, likened big data's potential in agriculture to the medical field. Information in a general database could help determine the right drug and the right dose for individual patients. Similarly, data from a farm database could help determine the right inputs to use in a particular circumstance.

In theory, big data could help farmers make decisions to increase their yields, reduce water and fertilizer use and

battle pests, with solutions tailored to the individual grower, Robison said.

But big data also comes with questions about privacy, ownership of the information, accuracy and the skill level of the workers involved to analyze the data, Robison said.

"The reality is the data are so all-inclusive, the amount of information there is remarkable — when did you spray (this chemical) on this field at what speed and how much water did you use?" Robison said. "You have all of this information about you and your operation in a giant database. Let's ask, Who would we want to access that?"

Robison raised the possibility of collaborators, competitors, the government and banks being able to see the data.

"If it's in there, you have to really pay attention to who is allowed to see it and why would they want to see it," he said.

Kirk Wesley, key accounts manager for CNH Industrial, advised growers to thoroughly read the terms of use before signing an agreement.



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