

Drones vs. moths: Dutch use hi-tech to protect crops

By **MIKE CORDER**

Associated Press

MONSTER, Netherlands — Dutch cress grower Rob Baan has enlisted high-tech helpers to tackle a pest in his greenhouses: palm-sized drones seek and destroy moths that produce caterpillars that can chew up his crops.

"I have unique products where you don't get certification to spray chemicals and I don't want it," Baan said in an interview in a greenhouse bathed in the pink glow of LED lights that help his seedlings grow. His company, Koppert Cress, exports aromatic seedlings, plants and flowers to top-end restaurants around the world.

A keen adopter of innovative technology in his greenhouses, Baan turned to PATS Indoor Drone Solutions, a startup that is developing autonomous drone systems as greenhouse sentinels, to add another layer of protection for his plants.

The drones themselves are basic, but they are steered by smart technology aided by special cameras that scan the airspace in greenhouses.

The drones instantly kill the moths by flying into them, destroying them in midair.



Mike Corder/Associated Press

A moth-killing drone hovers over crops in a greenhouse in Monster, Netherlands, Thursday, Feb. 25, 2021. A Dutch startup is using drones to kill moths in midair as a way of protecting valuable crops in greenhouses that are damaged by caterpillars.

"So it sees the moth flying by, it knows where the drone is ... and then it just directs the drone towards the moth," said PATS chief technical officer Kevin van Hecke.

There weren't any moths around on a recent greenhouse

visit by The Associated Press, but the company has released video shot in a controlled environment that shows how one bug is instantly pulverized by a drone rotor.

The drones form part of an array of pest control systems in

Baan's greenhouses that also includes other bugs, pheromone traps and bumblebees.

The drone system is the brainchild of former students from the Technical University in Delft who thought up the idea after wondering if they might be able to use

drones to kill mosquitos buzzing around their rooms at night.

Baan says the drone control system is smart enough to distinguish between good and bad critters.

"You don't want to kill a ladybug, because a ladybug is very helpful against aphids," he said. "So they should kill the bad ones, not the good ones. And the good ones are sometimes very expensive — I pay at least 50 cents for one bumblebee, so I don't want them to kill my bumblebees."

The young company is still working to perfect the technology.

"It's still a development product, but we ... have very good results. We are targeting moths and we are taking out moths every night in an autonomous way without human intervention," said PATS CEO Bram Tijmons. "I think that's a good step forward."

Baan also acknowledges that the system still needs refining.

"I think they still need too many drones ... but it will be manageable, it will be less," he said. "I think they can do this greenhouse in the future maybe with 50 small drones, and then it's very beneficial."

JOBLESS

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December, according to the state's report. Unemployment in Union County in that span moved also fell by a 10th of a percent while Baker County's fell by half a percent.

Nonfarm payroll employment rose 8,300 jobs in January, following a loss of 27,500 in December, the employment department reported. Three industries each added close to 2,000 jobs in January: retail trade (+2,100 jobs); leisure and hospitality (+2,100); and private educational services (+1,900). Two of the major industries cut about 1,000 jobs: transportation, warehousing, and utilities (-1,000 jobs) and construction (-800).

Despite the net job gain in January, employment remains substantially below pre-pandemic levels, the state reported.

Total nonfarm payroll employment has dropped 162,800 jobs, or 8.3%, since January 2020. Nearly all industries have cut jobs during that time. Leisure and hospitality is down 76,800 jobs, or 35.6%, since January 2020. Private educational services experienced the second largest percentage decline in that time, as it cut 8,400 jobs, or 22.6%.

The only industry to add jobs in the past 12 months was transportation, warehousing and utilities, which added 4,100 jobs, or 5.6%.

Newly revised employment numbers show job growth was stronger than initially reported in the second half of 2020. The trend in the last six months of the year was revised upward by an average of 8,700 jobs. However, the pandemic-induced drop during the spring of 2020 was 8,000 jobs larger than previously estimated.

Manufacturing was looking better than the previous estimates indicated, with upward revisions of about 2,300 jobs during the last six months of 2020, according to the report.

Nondurable goods manufacturing has added 3,500 jobs since April. Similarly, wholesale trade employment was revised upward; it added 1,500 jobs since its spring-2020 low point. Professional and technical services was also revised upward substantially. It employed 101,100 jobs in January, which was essentially equal to its high point of a year ago. For the December data, only three major industries were revised downward substantially due to the annual revisions: retail trade (-2,200 jobs); transportation, warehousing, and utilities (-1,500); and private educational services (-1,500).

Business column: Use these common tools to save you time and money on your taxes

Receipts, like memories, tend to fade with time. That's just one reason to digitize and track tax-related information. The right apps and habits can save space, time, money and hassle — but only if you use them.



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"Apps should make things easier, not more complicated," says Clare Levison, a certified public accountant in Blacksburg, Virginia. "The definition of a good app is what works for you, not the one that's the trendiest."

Use tools that you already have

Apps don't have to be elaborate. The camera on your phone, for example, can capture receipts and other documentation. Levison recommends regularly transferring those images to a designated folder in your photo app to make them easier to find later.

"You don't want those photos mixed in with all your other selfies and whatever," Levison says.

Similarly, you can create folders in your email account to collect tax-related documents. If you're an active investor, for example, you can put your trade confirmations there (or set up a filter so the confirmations are

routed there automatically). If you purchase supplies for your business online, a folder can collect emailed receipts.

Another common-place tool that can be helpful, especially for anyone claiming business expenses or mileage, is a calendar app. These records can help document meetings with clients, business travel and other potentially deductible events.

"The IRS auditor always asks for a copy of my calendar," says Leonard Wright, a San Diego CPA who's been audited four times.

Calendar records should be kept for at least seven years, which is how long the IRS typically has to audit you. (There's no time limit if the agency suspects tax fraud, however, so be sure your choice of electronic calendar lets you retain enough history.)

You also need to regularly download monthly statements from your financial institutions, says Kelley C. Long, a CPA and personal finance specialist in Chicago.

If the IRS suspects you've underreported income, it may ask for bank and brokerage statements. If you use a credit card for business or other tax-related purposes, those statements can help support your deductions. While the institutions are required to keep your records for several years, you may have to pay fees

to access older statements.

Be sure you're storing for the long term

Ideally, your computer and phone are already being backed up into the cloud so that you can access your data if the devices are lost, stolen or destroyed. If not, you want to make sure that at least your tax information is regularly transferred to a secure cloud storage system or other safe, off-site location.

The key is to keep information safe and accessible, which means choosing electronic over paper wherever possible. Paper is bulky, inefficient and vulnerable to all kinds of disasters, including fire and flood. Ink can fade, particularly on receipts needed to document expenses (credit card or bank statements typically aren't considered enough documentation without the accompanying receipts).

"I usually tell business owners, 'No receipt, then no deduction,'" says Bob Fay, a CPA in Canton, Ohio, who is also a consumer financial education advocate for the American Institute of Certified Public Accountants. "This is a short message that sticks with them as they have so much on their plate every day."

But the time the IRS gets around to asking for those receipts, all you may have left is flimsy, unreadable paper if you haven't captured a digital version,

Levison says.

Also, paper documents can cost you more.

"People still give their CPAs literally a shoebox," Long says. "What your CPA does then is pay one of their interns to scan all that stuff into their systems and they charge you for that."

Consider specialized apps to make it easy

Sometimes, specialized apps can make sense. Scanner apps can help you capture tax-related paperwork, and some have optical character recognition that allows you to turn images into editable — and searchable — files.

If you have an iPhone or iPad and itemize your expenses, ItsDeductible and iDonatedIt can help you track charitable gifts throughout the year and find values for noncash donations, such as clothes and household goods. (These apps don't have Android versions.)

Apps that create expense reports, such as Expensify or Everlance, can help gig workers

and other self-employed people track business-related costs.

Wright, the much-audited CPA, swears by apps that help track mileage, such as MileIQ, TripLog or Everlance.

"Many of these apps are easy to maintain and allow you to track and distinguish between business or personal use," Wright says. "They're so simple you can do that while you're in line at the supermarket."

But it's crucial to develop the habit of using the apps and other processes you set up, says CPA Tim Todd of Lynchburg, Virginia. Otherwise, you're not creating the digital paper trail you'll need to survive an audit. Plus, you could be costing yourself money.

"Keeping records in real time can also help make sure you don't forget those items come tax time," Todd says.

Liz Weston is a columnist for the personal finance website NerdWallet.com, which provides columns to The Associated Press.

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