



# BUG OFF

In the economically crucial effort to block biological invaders, biosecurity officials are up against humans. **by REBECCA HOWARD**

**N**ew Zealand is one of the few countries that enforces strict biosecurity controls, but droves of tourists and rising international trade mean it's no easy task.

"We are one of the last bastions that is relatively pest- and disease-free. It is a strong marketing point," says Ministry for Primary Industries (MPI) operations chief Roger Smith.

The battle is fought both at home and abroad and includes the use of drones, dogs, data and boots on the ground. "We look at biosecurity over a 100-year life cycle. We

have to address what's here today, what's coming in tomorrow," says Smith.

The stakes are high in a country that gets more than half its export income from the primary sector and trades on a reputation for being largely pest-free. That's not lost on Agriculture and Biosecurity Minister Damien O'Connor. He says exotic pests and diseases are "the biggest threat to the future of New Zealand's economy" and the "biggest challenge" on his desk. He is considering a review of the relevant laws.

There are about 15,000 plant, animal and marine pests and diseases on MPI's hit list, any one of which could limit access to

export markets or make areas less attractive to tourists and require costly control programmes. Smith says the approach to keeping them at bay is multipronged and seeks to cut off threats before they get here.

Trading partners are required to certify their products, and if something is flagged as high risk, MPI develops the necessary import protocols. "When the goods arrive here, they should be safe," he says.

The brown marmorated stink bug's threat to the likes of grapes, kiwifruit, apples, citrus and stone fruit puts it high on the most-not-wanted list. So far, the insect hasn't taken up residence here, but a few

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have been intercepted.

Lately, the bug has been found in Italy, and new tractor imports from there are under close scrutiny. All shipping containers from Italy now require treatment for the invasive pest before arriving or on arrival.

The cost generally falls to the importer and can be \$230-250, but MPI expects full compliance. "If you are the local dealer and you supply the tractor that wiped out the industry, you don't want to be that person," says Smith.

Despite inspections, some stink bugs still sneak through, so MPI also relies on the public, whom Smith calls his 4.7 million biosecurity officers. Smartphone apps are being developed to let people swiftly photograph and report any suspect plants or insects. Port areas have been flooded with advertising, and two dogs have been trained to sniff out the bugs.

### RISING RISK

People are a resource, but they also represent a major risk, all the more so when tourism is booming. "More people equals more risk," says Smith, but the goal is to reduce the risks by educating visitors before they board flights for New Zealand and imposing hefty fines on rule-breakers. As of last November, MPI had issued more than 9100 biosecurity infringements and given warnings to 1135 air passengers in 2017.

MPI passenger manager Craig Hughes says the penalties are a "stern reminder" for a simple mistake, but where it's intentional, "passengers can face prosecution or be refused entry into New Zealand".

In January, a Belgian air passenger was deported for trying to smuggle three sausages into Auckland. "If you can stop the risk from arriving, it's better for everyone," says Smith. It's no easy task, relying heavily on time-consuming one-to-one interviews.

The ministry uses a range of tools, including holograms and state-of-the-art X-ray machines adapted for biosecurity use, complemented by canines.

A seed or piece of dried meat invisible in an X-ray will be detected by a dog, says MPI detection technology manager Brett Hickman. "Dogs can process people very fast.

The brown marmorated stink bug, a major threat; myrtle rust fungus, which arrived last year.

If people are walking past, it looks like they might not be getting every bag, every person, but they do a very good job."

No biosecurity system is 100% secure, however, so border controls are backed up by an incursion-response system. Because of the potential threat to trade, any biosecurity breach requires immediate action.

Smith says he's kept awake at night by fear of a foot-and-mouth disease outbreak, which would deliver a \$10 billion jolt to the economy. "You have to notify the world and stop trading that day." MPI and a number of other agencies have a well-rehearsed response to foot-and-mouth, but it is deemed a low risk, he says.

Other threats have managed to get through, though, despite 540 frontline staff

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and thousands more behind the scenes. Last year, the airborne myrtle rust fungus, which has microscopic spores that can easily spread across large distances, entered the country, threatening the mānuka plant, which is the source of high-value honey exports.

The initial response was to quarantine and contain the infection. Drones, which can cover large areas more quickly than individuals, have been used to check the extent of the spread. However, given its

progress across the country, MPI is planning for the possibility of a widespread outbreak.

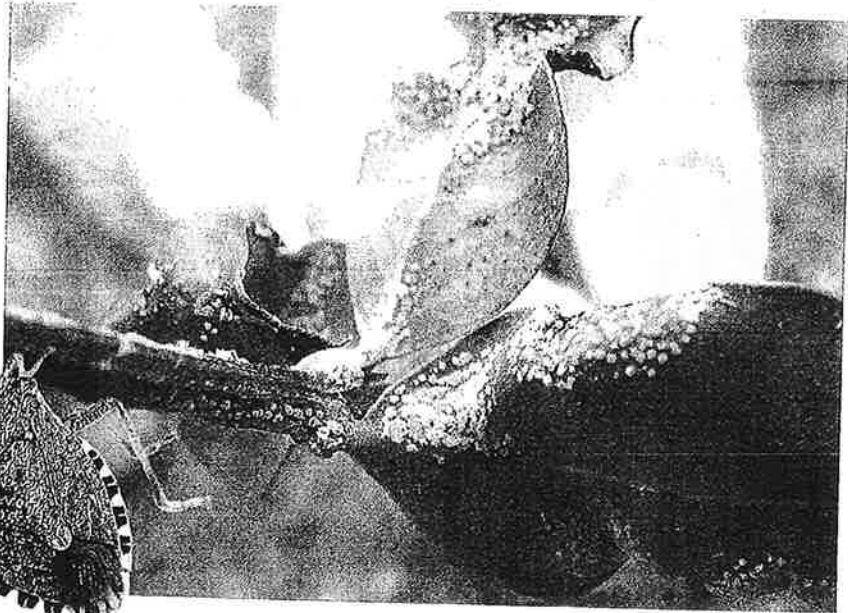
### CATTLE INFECTION

On the dairy front, red flags went up when *Mycoplasma bovis* was found in a South Canterbury herd owned by Van Leeuwen Dairy Group. The July outbreak was our first case of an incurable disease that has been prevalent in other countries for decades. It poses no food-safety risk but can cause udder infection, abortion, pneumonia and arthritis in cattle.

Smith says MPI had boots on the ground within 24 hours and moved to contain the disease, locking down properties and ordering a cull of about 4800 cattle on seven farms. By January, however, it had spread to at least 17 properties in both the North and South islands, making eradication increasingly difficult. MPI is now doing nationwide testing.

Both cases underscore the big challenges in keeping the country pest-free. The only way to protect New Zealand is for everyone to get involved, says Smith. He's backed by Federated Farmers president Katie Milne, who says farmers need "to make their farms a biosecurity fortress".

A Government Industry Agreement is being signed with all sectors, which Smith says looks "at what we need to do to be prepared". Under the agreement, industry bears part of the cost, and so far 17 primary-sector groups have signed up. "We have those discussions in peacetime. They are a work in progress. It is really about being prepared and who pays," he says. ■



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