

New technology just the bees' knees for orchardists

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Earning a living off the sheep's back comes naturally to New Zealanders but a Tauranga entrepreneur has found a way to live off the bee's back.

Geoff Willacy's company Bee Force is on the brink of going worldwide with technology that turns bees into highly-charged, super-efficient pollination drones after tests in New Zealand proved successful.

Willacy, working with Christchurch based electronics innovators Edac, has created a system which dusts bees with pollen in kiwifruit orchards, upping their efficiency as nature pollinators. The documented results show an increase in yield of \$10,000 to \$30,000 per hectare in kiwifruit orchards.

Currently there are 2000 Bee Force units installed in orchard hives, mainly around the Bay of Plenty. With 80,000 hives on kiwifruit orchards nationwide, the potential was staggering, Willacy said.

No surprise, then, that government funding arm Technology New Zealand has dished out \$359,000 in funding Bee Force to extend testing to take the technology to a new level.

"The potential increase for the export crop is phenomenal. When you present that to the government, it's easy to argue that it is more than useful to the national economy," Willacy said.

Trials under way in New Zealand and Australia are testing the efficiency of the system in turning bees into delivery systems for tiny anti-disease bacteriological and fungicidal agents.

In an age when widespread spraying of orchards is seen as environmental hazard, Willacy's systems built into beehives can dose each bee which then delivers the agent directly to blossoms on trees – the critical target in battling fire blight in apples and other orchard menaces. That, said Willacy, himself opposed to widespread spraying, cuts down the amount of agent needed and stops windblown sprays carrying on to neighbouring properties.

But now comes the hard part. "We've done the proving, now we have to commercialise what is a very good idea," Willacy said.

Patents have been applied for in key markets, said Willacy, whose pumped \$2 million of his own money into the development of the technology.

Australia, Canada, the US and South Africa are among the area he's seeking protection in – all large fruit producers.

But inquiries have come from outside the orchardist industry. One inquiry came from a small village in Austria, where spraying is outlawed, looking for a way to protect 300-year old ornamental pear trees from blight.

On the verge of global expansion, for which he's seeking partners in overseas markets, Willacy laughed as he recalls the origin of the technology behind the Bee Force.

It came to Willacy, an orchardist for much of his life, many years ago, but it was in a public toilets that he finally realised how it could become a reality.

There Willacy noticed a device delivering bursts of air-fresher. He approached the manufacturers Edac, shortlisted in the Westpac hi-tech awards earlier this month.

So was begun a partnership that is set to draft in millions upon millions of little workers in orchards the world over.