



## Robots and drones the future in horticulture

Samantha Gee

New Zealand Young Grower of the Year Hamish Gates talks about drone technology at the New Zealand Horticulture Conference at the Rutherford Hotel.

The use of robots, drones and automated systems are the future when it comes to enhancing efficiency and productivity within the horticulture industry.

Technological developments were the focus during the second day of the New Zealand Horticulture Conference held at the Rutherford Hotel on Thursday.

New Zealand Young Grower of the Year for 2015 Hamish Gates said drones could be used in a number of ways to benefit growers and horticulturalists around the country.

Supplied

Horticulture New Zealand Conference delegates watching the DroneMate Agriculture demonstration.

A drone enthusiast, he said the devices could be programmed to inspect an orchard and provide detailed feedback about the health of the each individual plant and even address problems by crop spraying.

"What we face is very much an ag-revolution, we are getting technologies and all sorts of things coming at us left, right and centre on the growers seat and we need to find out how they actually help us."

Drones could be fitted with a variety of different sensors, cameras or sprayers for crop imaging, monitoring plant and soil health, or addressing problems.

"It lets you get off the quad bike and not have to go up and down the rows, all day every day searching for problems, you can find out before you have had your morning coffee if you've actually got any issues to go and tackle that day."

He encouraged growers to embrace new drone technologies to improve their operations.

"It is an awesome technology we are getting towards and we are just scratching the surface of where we can go and what we can do."

Robotics Plus founder Steve Saunders said there was a huge scope for robotics within the industry.

Ad Feedback



The Tauranga based kiwifruit farmer said Robotics Plus emerged from the need to solve the growing challenges in the primary industry like; labour shortages, sustainability for growers, pollination gaps and yield security.

RoboticsPlus funds and manages development research into horticulture robotics

He said the horticulture industry was facing many challenges which required forward thinking and investing in capability for the future.

Saunders said the shortage and struggle of attracting and retaining suitable labour into horticulture had driven many of Robotics Plus projects.

It was also key that the developments in technology were affordable.

"There is no point building a robotic machine that no-one can afford to buy to replace labour," he said. "We have to be realistic."

Waste was another key issue. Saunders said 50 per cent of what was produced in the kiwifruit sector was not consumed and technology could be used to improve that figure.

"Having more integrity, more understanding of that fruit from the minute you pick it, to taking it all the way through the process chain, the more likely that fruit is going to be successfully consumed at the other end."

The Multipurpose Orchard Robotics project is a collaboration between Robotics Plus, Plant and Food Research and Auckland and Waikato Universities with the aim to automate the harvesting and pollination of kiwifruit and apples.

The four-year project began in 2015 with over \$10 million in funding and 21 engineers and scientists working on the project.

Compass Fruit in Nelson had adopted some of the packing technology developed by Robotics Plus.

Its machines are capable of packing 120 apples per minute. One robot can do the work of two and a half people.

The technology is leased and growers pay per apple packed.

However Saunders said automation was not going to solve everything in the orchard, and addressing the challenges would require an approach that used a combination of different technologies

- Stuff