

SECTIONAL AND VARIABLE RATE BOOM SPRAYER FOR PINEAPPLE FARMING

Automated sectional and variable rate control systems can minimise crop over-spraying and inputs



The precise application of chemicals and fertilisers have economic and environmental benefits - ensuring only what is required is applied



A GPS system can be integrated to ensure the boom sections are automatically turned off when passing outside the cropped area

Integration of GPS into a modified boomspray

A standard industry boom spray can be modified for: automatic turn on/off, precise volume application, and sectional turn on/off for angled fields

Cost of GPS installation + boomspray modification is approximately AU\$ 25,000 - 30,000

Up to 8% of input volume savings can be achieved

This estimates to a \$1,976/ha saving in pesticide and fertiliser costs per full crop and ratoon cycle



Variable rate and sectional control boomspray



Boomspray plumbing

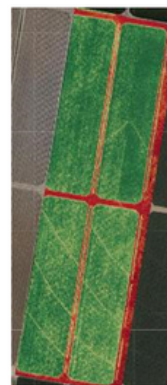
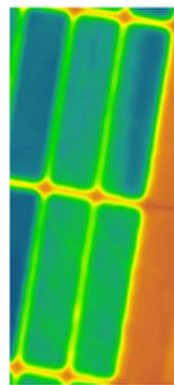


Automated sectional controls

Integration of aerial imagery into a pineapple operation

Satellite and drone images aid in identifying crop health issues before in-field assessments.

Drone images were found to provide a clearer picture of crop uniformity, weeds, headlands, cross drains, and soil changes over satellite images



Comparative map - Satellite Imagery (left), drone imagery (right)

Weed control - demonstration trial

A manual sectional and variable rate boom sprayer was used to apply herbicides

The boom spray operator manually controlled the spray, applying herbicide only in weed-affected areas, avoiding areas without weeds (using the sectional control function)

Weeds were effectively managed

Compared to broadcast application, 60% less herbicide was used and less crop was damaged



Random spread of bluetop in a pineapple field

Take home messages

GPS can improve pineapple farming in areas such as land preparation, fumigation, bed forming, and planting.

Precision farming technology can support the pineapple industry to reduce environmental impacts and increase profits.

FOR MORE INFORMATION OR FREE ADVICE:

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