

NASA technology comes to Australian cotton fields

After six years of successful operation, the multi-spectral imaging and variable rate technology developed by In-Time Inc of Cleveland Mississippi is now used by thousands of cotton farmers over several million acres in the US cotton belt. And the Australian licence for the technology has now been taken up by Wee Waa company, Belt-Wide Agriculture, operated by consultant Steve Madden along with Joe Townsend (consultant) and John McKee (grower) from Mississippi.

One reason this technology has been well accepted in the US is that it allows products to be applied exactly where they are needed in the field, at the rates best suited for each management zone. Often a zero rate is very effective for parts of fields. As a bonus, there are usually savings of input costs, and in the US, this type of crop husbandry has been shown to improve overall yields.

With VRT images, defoliant can be applied where needed at precise rates — the lush cotton getting a higher rate of defoliant at a higher volume, while the



Melinda Crofts (Auscott Narrabri) and Joe Townsend discuss variable rate technology.

most mature cotton gets much less defoliant and boll opener. In many cases, a VRT application results in a once over defoliation. This gives a financial as well as a time advantage at harvest time.

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Belt-Wide Agriculture Pty Ltd.

Multispectral Digital Visual Image Maps and variable rate prescriptions now available in Australia

Apply herbicides, insecticides, plant growth regulators, fertilisers and defoliant, only where they are needed, at the rate they are needed.

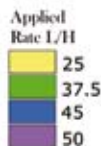
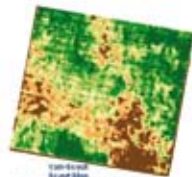
Using **In-Time**® Technology

24 hour turnaround time from flight acquisition to fieldmaps and VRT prescriptions

Call us now 0427 235 352
 Joe Townsend, John McKee or Steve Madden
 email at: beltwideag@northnet.com.au



Technology developed by NASA
 Reduce Your Input Costs
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Scout like never before. Treat like never before.



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Belt-Wide's services are offered for cotton, but other crops may also benefit. Images (pictures) in different wave-lengths are taken by an airplane from 12,000 feet altitude. The images are then put into 'scout maps' which are available in 24 hours or less from acquisition. The scout maps divide the cotton field into seven management zones based on plant vigor or bio-mass.

These images highlight the differences in the field, putting them into zones which can easily be distinguished from each other. The farmer, consultant or agronomist can then take the scout map to the field. This can be either done with a printed copy of the scout map, or in a PDA (hand held computer) equipped with a GPS unit and suitable software.

Ground truthing the image enables the farmer, consultant, or agronomist to write a prescription for variable

rate application of whatever is needed in the crop. The time frame from image acquisition to VRT application can be as little as 24 hours.

Variable rate technology from InTime and Belt-Wide has been used for herbicides, insecticides, miticides, plant growth regulators, fertilisers, defoliants, and other agronomic uses such as drainage problems or drift or hail complaints.

Several planes and ground sprayers are now equipped and are making variable rate applications to cotton in Australia. The airplanes are equipped the same as the 50 odd planes that have been making variable rate applications to cotton in the US. Adaptations to Australian manufactured sprayers and technologies are also being done successfully.

This system will be demonstrated at the National Australian Cotton Trade Show in Moree on May 24-25.

How it works...

Following is the procedure that Steve Madden took to write the prescription for Field 9 at Willawah, Wee Waa.

It was the first time this technology had been used outside the US.

- 1. An airplane mounted with a camera at 12 000 ft took a multispectral digital visual image on March 7. Steve downloaded the resultant scout map (which is classified into seven management zones) from the Intime website onto his GPS compatible handheld computer on March 8.**
- 2. He traveled to the field the same day, inspected the field and wrote a prescription for each of the zones according to the rates of defoliant required to defoliate the crop in those zones. After writing the prescription in the field, he logged onto the Intime website, entered and downloaded the prescription and emailed it to Aircair Aviation. Aircair then applied the prescribed chemicals for each of the zones that afternoon.**
- 3. The result was a once over defoliation by air. Higher rates of defoliation products (Dropp and Prep) in combination with higher volumes of water were used on the highest biomass zones and lower rates on the least biomass zones. By achieving a once over defoliation, the grower has saved an application (\$13 per hectare) and defoliant (\$15 per hectare) for an investment of \$10 per hectare in obtaining the scout map and prescription generation from the Intime website.**

