



DRONES TAKE PRECISION FARMING TO NEW HEIGHTS

Scientists at Deakin University are helping Australian farmers improve their yields through data provided by drones and satellite imaging.

Associate Professor John Hornbuckle, from Deakin’s Centre for Regional and Rural Futures, with funding support from the Cotton Research and Development Corporation, has been assisting farmers to exploit the technology.

With research partners CSIRO and the NSW Department of Primary Industries, Associate Professor Hornbuckle has developed an app, called IrriSAT, which is being used by farmers in several states and has potential for use in other countries.

“We can now gain new insights into the effects of water and nitrogen management on plant growth.

From there, growers can develop strategies to maximise yields across the farm, based on analysing the best and worst-performing areas.”



**ASSOCIATE PROFESSOR JOHN HORNBUCKLE
CENTRE FOR REGIONAL AND RURAL FUTURES**

He noted that the recently-launched Sentinel 2 satellite has the ability to monitor the cellular structure of crops through infrared photography, so farmers can even gain a picture of internal plant health. For instance, specific nutrients, like nitrogen, affect chlorophyll content,



which can be observed through how much light is reflected – and areas requiring fertiliser top-up can easily be identified in the new data.

According to Associate Professor Hornbuckle, one of the major advantages of using a drone platform is the ability to take images when required. This customisation allows farmers to monitor patterns and changes more closely. It improves the ability to monitor water use, identify weeds, and observe effects of events such as soil compaction from wet harvests.

“Farmers using this technology are seeing crop yields increase and water consumption reduced significantly. This technology is helping us make much better use of our precious resources,” he said. *Read on: bit.ly/DRdrone*

ENABLING A SUSTAINABLE WORLD

Deakin University supports one of the world’s most prestigious environmental and marine science research programs. Our ecologists are helping to protect vulnerable flora and fauna across the globe from disease, rapid development and climate change.

In the agricultural sphere, our experts are focussing on designing smarter technologies to solve productivity problems.

deakin.edu.au

Deakin University CRICOS Provider Code 00113B

Water management advice is also being provided to farmers and rural planners, as countries seek new responses to population growth and climate change.

At the newly-expanded TERI-Deakin Nanobiotechnology Research Centre in India, our researchers are seeking solutions to global issues such as food security for growing populations in changing climates, sustainable agricultural practices and environmental sustainability.