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- Predict crop disease outbreaks and act accordingly.

- Access interactive maps that incorporate satellite imagery and real time data

- Analyse the health and maturity of crops

- Develop and shift farming strategies

- Submit detailed reports to industry stakeholders from anywhere on the farm

- Regional forecast

- Convert imagery into yield maps

For further information contact:
Dr. Andrew Robson
Tel: 02 6773 4085
Email: andrew.robson@une.edu.au
Website: http://www.une.edu.au

Peanut Growers Gain Accurate Yield Predictions

AUSTRALIA'S peanut growers are trialling powerful, smart mapping technology to gain accurate yield predictions and deliver a major advantage at harvest time.

The project also enables farmers to predict crop disease outbreaks. The program was developed by Andrew Robson, a University of New England research fellow, in partnership with the Peanut Company of Australia (PCA), which procures and markets peanuts from about 200 growers.

Queensland's peanut capital, Kingaroy, was chosen as the frontline of the precision agriculture program, which aims to revolutionise farming.

Farmers can access interactive maps that incorporate satellite imagery and real-time data, including soil, irrigation, pest and nutrient conditions, to analyse the health and maturity of their crops; develop and shift farming strategies; and submit detailed reports to industry stakeholders from anywhere on the farm.

"The maps we generate not only provide a regional forecast, which is important for PCA, but at the grower levels we convert imagery into yield maps showing the growers high/low growth areas," said Dr Robson, who is part of UNE's Precision Agriculture Research Group.

"They then have the ability to go in during the season and do their own sort of investigation of what is driving that, whether it is soil issues, pest or -disease, and then respond with appropriate action."

The maps display yield variability layers derived from satellite imagery using specific algorithms, along with additional spatial information.

The technology is being adapted for other industries, including sugarcane, avocado and cotton.

Dr Robson said the Australian peanut industry provided a good test case for the tool to potentially be exported to overseas markets including the US.

Dr. Graeme Wright - PCA's Manager of Breeding and Innovation

"Growers will seek these yield maps because they have no other way of knowing that spatial variability or production within their paddocks," he said.

Queensland produces more than 95 per cent of Australia's peanut crop, with the main growing areas in the Burnett region, Bundaberg, central Queensland and Atherton Tableland.

PCA's manager of breeding and innovation, Dr Graeme Wright says "This imagery gives us a pretty good correlated measure of the maturity of the crop under the ground, so that is a really powerful tool for a grower. Potentially a farmer could go in, based on this map, and just harvest particular areas that are at their optimal maturity and then leave others until they become fully mature."

He said farmers did not need to be mapping experts or have expensive software to use the cloud-based technology.

Dr Wright said the industry was keen to see the technology commercialised. "It is very high on the priority list for us to commercialise it and for the benefit of our growers too because there are so many positives for the industry."

The technology would mean more efficient production, reduced costs, better quality crops, lower disease levels and more "paddock-to-plate" traceability, which was important in markets such as Japan and Korea, he said.

Imagery captured by a range of satellites has been used for this research. Geoimage are proud of our association with Andrew and we look forward to his expansion into other industries with great anticipation.