

Accelerating Precision Agriculture to Decision Agriculture

Lessons Learnt from Big Data use in America could cut costs for Australian Farmers

A study of big data use in America has revealed the potential for decision agriculture to significantly cut farm costs and improve outcomes to meet consumer demands and regulatory requirements.

The Accelerating Precision Agriculture to Decision Agriculture research project is establishing international best practice in data use to develop frameworks, policies and guidelines for Australian farmers, that will remove current barriers and capitalise on the full impact of digital technology.

Australian Farm Institute General Manager Research, Richard Heath, says the landscape has changed significantly in America over the past two years, with the emergence of farm data cooperatives and new analytics frameworks that use aggregated data to deliver benefits across all farm operations.

“Decision agriculture is using analytical platforms, accessing aggregated data from different machines and digital technologies and from multiple farms, to help farmers get a faster, cheaper or better result,” said Mr Heath.

“By looking at case studies in the United States we can see how big data is being used to

improve outcomes in all kinds of areas, from variety selection to chemical application and negotiating the right price for farm inputs.

“Some of the platforms we looked at were reporting input cost savings of up to 50 per cent for

farmers,” said Mr Health.

“Others are reducing the time and uncertainty involved in meeting compliance requirements in heavily regulated industries, by integrating farm and machinery data with stewardship programs.”



Mr Heath said an interesting development in America is the adaptation of technology used in other industries, to address the needs of agriculture.

“One of the platforms we looked at uses a barcode to track products from the farm to the retailer. This has flow-on benefits for the producer, including meeting a greater consumer demand for product knowledge and quality assurance.”

Based on America’s recent experiences, Mr Heath says Australia might soon see the emergence of farm data cooperatives, that operate independently to machinery or chemical companies.

“A key benefit for growers is more control over how farm data is used. These cooperatives offer a central data repository with protections around access and privacy and, in some cases, help to negotiate with organisations who want the data.

“Some offer analytics services as a value add, providing management insights on key issues like yield by soil type or fertiliser regimes.”

Mr Heath said the more complex cooperatives give individual growers access to anonymous, accumulated data - in an easy to use format - which is used as a benchmark for making critical operational decisions, around agronomic practices, pricing and finance.

“Big data use is going to be critical to profits in agriculture in the future and Australia can’t afford to get left behind,” said Mr Heath.

Learning from successes overseas is just one part of a broader project to give farmers the confidence, legal guidance and tools they need to access datasets, analytical platforms and data systems.

Growers can learn more about the project, including international case studies and a national survey of growers, by visiting the website - www.farminstitute.org.au/P2Dproject.

Led by the Cotton Research and Development Corporation, the project is jointly funded by the Department of Agriculture and Water Resources Rural R&D For Profit Programme and all 15 Rural Development Corporations, contributing more than \$3.5 million over 18 months.

Accelerating Precision Agriculture to Decision Agriculture is the first research project to have all Australian RDCs as partners and has engaged research support from three universities, CSIRO Data 61, the Australian Farm Institute and the Data to Decisions CRC.

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