Embedding the F.A.I.R. principles into a National Agricultural Data Governance Framework: an Australian perspective

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Australian agricultural landscape

- Federal Government
  Dept of Ag and Water resources
- State Governments
- Rural Development Corporations (15 RDCs) across all rural industries
- National Farming Federation (and State FFs)
- Peak Industry Councils and associations
- Research organisations eg CSIRO,
- Etc etc
The *Accelerating Precision to Decision Agriculture (P2D)* project is supported by funding from the Australian Government's Department of Agriculture and Water Resources as part of its Rural R&D for Profit program. Led by CRDC, the P2D project involves all Rural Research and Development Corporations, and is focused on three main aims:

- Facilitating the development of digital technology in Australian agriculture.
- Fostering the establishment of appropriate legal frameworks, data systems and access to critical datasets.
- Identifying the data communications systems required to deliver the benefits of digital agriculture to the Australia farm and agribusiness sectors.

Download the P2D program brochure.

**Outcomes:**

**P2D summary report**

*Accelerating precision agriculture to decision agriculture: Enabling digital agriculture in Australia*

Implementing the recommendations from the P2D project will set the stage for increasing the profitability of producers, providing clarity and trust in data ownership and access rights, and stimulating an innovation environment that facilitates the development and adoption of technology. This Summary Report brings together the key findings and aggregates the 67 detailed recommendations into 13 key recommendations. It also provides direction on the next steps required to implement the recommendations.

- Download the P2D Summary Report
- Download the P2D Summary Overview Fact Sheet

TECHNICAL REPORT

ACCELERATING PRECISION AGRICULTURE TO DECISION AGRICULTURE

Enabling digital agriculture in Australia

The legal dimensions of digital agriculture in Australia:
An examination of the current and future state of data rules dealing with ownership, access, privacy and trust. L. Wiseman and J. Sanderson
KEY FINDINGS

Data Analysis and Decision Support Tools
There is a need for a platform for owners and users of agricultural data to exchange, market and value add data for a variety of end purposes. Fully-enabled decision agriculture require models and analytics with the ability to transform data into insights applicable to decision-making.

Trust & Legal Barriers
Currently, the legal and regulatory frameworks around agriculture data are piecemeal and ad hoc. 56% of producers indicated having no trust or little trust in service/technology providers maintaining their data privacy.

Value Proposition
Producers indicated the value of changing to digital agriculture is not clear. Value was not only related to monetary value, but also peace of mind, confidence, social and lifestyle factors. If digital agriculture is to be adopted, it needs to be sustained by consistency of service and support and the reliability of technology.

Connectivity
A lack of access to mobile and internet telecommunications infrastructure is a major impediment to the adoption of digital agriculture systems. 55% of producers reported that they relied on the mobile phone network for internet, yet 43% had patchy or no mobile reception across their property.

Availability of Appropriate Data
The whole agriculture value chain irrespective of industry sector could gain from improved access and interoperability of stored data through dissemination of datasets that are valuable across the rural sector that are also widely used in other industries.

Digital Literacy
A digital skills and capability gap was identified across the value chain, including within the RDCs. It was identified that education support was not only required to up-skill the agricultural sectors but also to generate more data scientists and engage them with agriculture.
Leadership

A need for greater leadership in digital agriculture was identified, with common issues across industries. There is a need for digital agriculture policy, governance, strategy and cross industry collaboration.
Availability of Appropriate Data

The whole agriculture value chain irrespective of industry sector could gain from improved access and interoperability of stored data through dissemination of datasets that are valuable across the rural sector that are also widely used in other industries.
F.A.I.R. in Australian Agriculture

• National approach to Data Governance?

• Fundamental part of the national approach is to ensure agricultural data is findable, accessible, interoperable and reusable

• General acceptance that the principles are useful because they:
  – support knowledge discovery and innovation
  – support data and knowledge integration
  – promote sharing and reuse of data
  – are discipline independent and allow for differences in disciplines
  – help data and metadata to be ‘machine readable’, supporting new discoveries through the harvest and analysis of multiple datasets.
Introduction

In the new knowledge economy, skills, knowledge and new ideas are a country’s most valuable resource. Keeping ahead of this economic transformation requires a new approach to knowledge discovery and dissemination that combines strong policies with core infrastructure and cultural change.

Other countries—including the USA, Canada, China and in the UK and European Union—are making policy, funding and legislative changes to improve the discoverability and impact of their research publications and data. A new model, F.A.I.R. [1], is being adopted worldwide to make research output data Findable, Accessible, Interoperable and Reusable[2].

Australia’s ability to remain competitive and contribute fully to the global economy relies on it grasping the new opportunities available for research dissemination to advance knowledge, solve complex real world problems and stimulate innovation. Lack of access to interlinked evidence in research publications and research data currently inhibits national and international research and scholarship, collaboration, and public debate.

This statement affirms the need to make Australia’s publicly funded research outputs F.A.I.R., recognising this will require different approaches across different types of research output, a long-term national commitment and consideration of the global change agenda.
By 2020, Australian publicly funded researchers and research organisations will have in place policies, standards and practices to:

1. Make publicly funded research outputs findable, accessible, interoperable and reusable.

Specifically:

- (a) make research publications immediately free to read at the time of publication through a range of different strategies, either via a publisher’s website or an institutional or other acceptable public repository.
- (b) make research data directly related to research publications as open as possible and as closed as necessary, in accord with the Australian Government Public Data Policy Statement.
- (c) apply Creative Commons licences and utilise international metadata standards to research outputs to ensure accessibility, interoperability and reusability.
- (d) ensure that authors/creators obtain and retain all necessary rights to enable the authorisation of publication and re-use in any format at any time.
- (e) support the development of incentives for researchers to make research outputs available in accord with this policy.

2. Value and practically support a range of dissemination models, recognising discipline diversity, whilst maintaining a commitment to the principles of this policy.

3. Ensure that the application of this policy is in accordance with the Australian Code for the Responsible Conduct of Research and other codes of practice which lay out requirements to disseminate research responsibly, ethically and for the benefit of the Australian and international community.
F.A.I.R. in Australian Agriculture:

- National approach
- Challenges?
- The unique interrelationships between Government, rural industries, agribusinesses, advisers and farmers and producers in Australia
- It is not just about the data: requires underlying infrastructures, policies, procedure, guidelines, tools, platforms, software and skills (not only digital literacy but legal literacy)
Moving forward

- To enable better management of data
- More dialogue around who controls (rather than owns) and who can access data
- Access/Benefit sharing?
- Future Privacy reforms
- Future Data Laws
  - Data as a consumer right?