

# Agricultural Research Federation: Agriculture Data Cloud

## The Agriculture Research Data Cloud project, has created AgReFed – the Agricultural Research Federation that supports data discovery and innovation.

It shares research, industry, and government data to enhance decision making and to generate new insights into the productivity, profitability and resilience of Australia's agricultural industries.

It provides the social and technical infrastructure required for agricultural researchers and the agriculture sector access to reliable and relevant data to enable data discoveries, research efficiencies and improved outcomes. This is achieved through improving the Findability, Accessibility, Interoperability and Reusability of Agricultural data.

Its foundational activities and engagement have focussed on:

- Development of a data stewardship framework relevant to the agriculture domain.
- Post-capture data management from information collected via sensor networks and remote sensing sources.
- Processes to ensure that the data quality and reliability are known (i.e. metadata) and the FAIR principles apply.
- Interoperability of data and services to facilitate integration of biological and yield data with sensor network and remote sensing data, enabling advanced analyses.
- Development of the AgReFed portal to federate and present datasets in a single point of access.
- Encouraging the long-term management of the data via a stewardship framework adopted by trusted data curators.

### Start date

10 July 2018

### Expected completion date

31 May 2019

### Investment by ARDC

\$800,000

### Co-investment partners

[CSIRO](#)

[University of Western Australia](#)

[University of New England](#)

[The University of Adelaide](#)

[Department of Primary Industries and Regional](#)

[Development - Western Australia](#)

### Lead node

CeRDI |  UNIVERSITY AUSTRALIA

## 2. FAIR Data assessment

Assessment of "FAIRness" of exemplar datasets, using the ARDC FAIR self-assessment tool.

## 4. Solution architecture for delivery of datasets via AgReFed portal

Information architecture to improve FAIRness for each exemplar dataset. Federated technical and computational architecture of AgReFed portal to deliver on identified use cases.

## 1. Agriculture Research Data Cloud requirements identified and documented

Establish data stewardship and governance framework: availability and longevity of data guidelines for exemplar datasets.

## 3. Trusted repositories assessment

Assessment of the "Trustedness" of data providers' repositories, based on the CoreTrustSeal Repositories Requirements.

## 5. Datasets made FAIR

Findable: metadata records published in Research Data Australia. Accessible: data is made accessible via services that are federated by the AgReFed portal. Interoperable: standard vocabularies and data exchange formats are used

## 6. Development and endorsement of an agriculture specific data stewardship framework

The Stewardship Framework identifies the requirements for creating a trusted, safe, sustainable mechanism for data providers to share agricultural data, while also increasing the 'FAIRness' of the data. It articulates a set of principles, policies, roles and accountabilities, and governance arrangements that will enable Agricultural data to be sustainably managed, shared and (re)used.



to present and describe datasets. Reusable: datasets are comprehensively described in machine-readable metadata, and have clear usage licences.

## 7. AgReFed portal live

By 31 May 2019, the AgReFed portal will go live to provide a single point of access to multiple exemplar datasets. It also features basic tools to authorise access, spatially visualise the data, query/filter the data, and download datasets.

### Core features



#### Sustainability

Development of a data stewardship framework relevant to the Agriculture domain for the long-term management and accessibility of FAIR Agricultural data.



#### Discoverability

AgReFed portal provides a single point-of-access to FAIR Agricultural data.



#### Transformation

Advanced analyses are made possible through the integration of biological and yield data with sensor network and remote sensing data.

## Who is this project for?

- Researchers
- Agronomists
- Growers and Producers
- Industry
- Government



## What does this project enable?

The AgReFed provides access to reliable, interoperable, enhanced agricultural data collections to enable seamless data input into decision support tools used by farmers and agronomists. This will accelerate innovation by enabling advanced analysis techniques, tools and services to help inform management and policy decisions, thereby enhancing the translation of research to real world on-farm benefits.



## Handy resources

- Access [AgReFed](#)
- Learn more about [AgReFed](#)





CSIRO



University of Western Australia



University of New England



The University of Adelaide



Department of Primary Industries and Regional Development - Western Australia



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