

# Agricultural data rules

## *Best Management Practice*

**Authors:**

**Associate Professor Leanne Wiseman - Griffith University**

**Professor Jay Sanderson - USC**



**RDC PARTNERS**



**RESEARCH PARTNERS**



## About the authors

**Leanne Wiseman** is an Associate Professor in Law at the Griffith Law School, Griffith University and Associate Director of the Australian Centre for Intellectual Property in Agriculture ([www.acipa.edu.au](http://www.acipa.edu.au)). Leanne researches and publishes in the areas of intellectual property, corporate and contract law. Leanne's current research focuses on the intersection between law, technology and agriculture, with particular focus on the legal issues arising from the adoption and uptake of digital agricultural technologies.

Contact: [l.wiseman@griffith.edu.au](mailto:l.wiseman@griffith.edu.au)

**Jay Sanderson** is Professor in Law at USC Australia and a member of the Australian Centre for Intellectual Property in Agriculture. He is also an Adjunct Research Fellow with the Law Futures Centre (Griffith Law School, Griffith University). Jay researches and publishes in the areas of intellectual property, food and agriculture; his current research focuses on trade marks, certification and BioTrade.

Contact: [jsander4@usc.edu.au](mailto:jsander4@usc.edu.au)

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# Table of Contents

|     |  |    |
|-----|--|----|
| 1   | Opportunity for comment on the Agricultural Data Rules: Best Management Practice Guide ..... | 1  |
| 2   | Overview .....   | 1  |
| 2.1 | Audience and role of peak industry bodies .....  | 1  |
| 2.2 | What is Best Management Practice for Agricultural Data? .....                                | 2  |
| 2.3 | The importance of Best Management Practice for Agricultural Data .....                       | 2  |
| 2.4 | Purposes and aims of Australian Agricultural Data Rules .....                                | 3  |
| 2.5 | What is Agricultural Data? .....   | 3  |
| 3   | Agricultural Data Rules: Best Management Practice .....                                      | 4  |
| 3.1 | Foundation: People, Responsibilities and Structures.....                                     | 5  |
| 3.2 | Pillar 1: Agricultural Data Management Principles and Policy .....                           | 6  |
| 3.3 | Pillar 2: Capacity and Capability .....  | 9  |
| 3.4 | Pillar 3: Risk, regulation and compliance .....  | 10 |
| 5   | Action Plan .....  | 12 |
|     | References.....  | 14 |

# 1 Opportunity for comment on the Agricultural Data Rules: Best Management Practice Guide

You are invited to examine this Agricultural Data Rules: Best Management Practice Guide and the associated actions. Comments are due by **Wednesday 18 September at 5 pm and should be emailed to:**

**Carol Ballard: [c.ballard@griffith.edu.au](mailto:c.ballard@griffith.edu.au)**

We note that this document sets out an initial approach to the Agricultural Data Rules: Best Management Practice Guide, and that the views expressed may be revised, including considering comments received.

## 2 Overview

Agricultural data must be managed like any other asset. This requires strategy and best management practice. There needs to be a clear direction and sense of what needs to be achieved through the collection, use and sharing of agricultural data. The aim of an Agricultural Data Strategy is to guide the creation of an enabling environment where Australian Agricultural Industries are able to produce and share high quality data outputs, while ensuring best practices in Ag Data Management Policies and Procedures at all levels, including project level.

The other key aspect of managing data as an asset is developing best management practice for Agricultural Data. This is the focus of this project and is a crucial first step in ensuring the whole of the **Australian Agricultural Industry** develops best practice in the collection, use and sharing of agricultural data while ensuring farmers' legal, ethical and security concerns are addressed.

The key pillars and components of **Agricultural Data Rules: Best Management Practice** are presented in Figure 1.

### 2.1 Audience and role of peak industry bodies

It is important to note the aim and purpose of this document is to provide a guide to best data management practice to farmers and the agri-businesses and associations who collect, manage and share their data. It is noted that Government and their Departments are regulated by many existing legal obligations and data management principles and practices and thus already adhere to many of the best management practice principles outlined here.

We acknowledge that peak Agricultural industry bodies such as the National Farmers' Federation, their state counterparts and Industry associations play in representing the interests of farmers and believe that they play a key role in encouraging the adoption and

uptake of best data management principles, whether that be through an Agricultural Data Code of Practice or by other means.

## 2.2 What is Best Management Practice for Agricultural Data?

Agricultural Data rules require the organisation and implementation of policies, procedures, structures, roles and responsibilities that outline rules of engagement for the effective management of agricultural data assets.

Best Management Practice will help:

- Establish roles and responsibilities to be accountable for decisions related to agricultural data;
- Establish policies, procedures and institutional arrangements to manage agricultural data;
- Promote sharing of agricultural data (where possible);
- Build trust in the collection, use and sharing of agricultural data;
- Ensure appropriate safeguards to protect against risks associated with misuse of agricultural data.

## 2.3 The importance of Best Management Practice for Agricultural Data

For Australian agriculture and Australian farmers and producers to achieve the productivity gains possible from the new and emerging digital technologies, there is an urgent and continuing need to build up trust in the way that agricultural data is collected, managed and shared. For trust to be developed, Australian farmers and producers must be confident that, should they wish to share their agricultural data, their data is being managed in ways that protect their privacy, provide assurance in relation to the ethical use, security and safety of data and that risk and liability is allocated appropriately.

The rewards and risks of sharing agricultural data are great, yet around the world, the issue of what is best practice for the governance of agricultural data is still being debated. For Australian agriculture, we suggest a crucial first step is the development of Australia-wide agricultural data rules, which will encourage the adoption of best management practice principles in agricultural data management. **This will bring transparency and trust around the collection, use and sharing of agricultural data.**

Agricultural data must be managed like any other asset. This will facilitate better control and use of agricultural data to achieve productivity gains and regulatory compliance, and reduce risks. Best practice in data management is an important first step. Indeed, “buy in” is vital to the success of agricultural data management principles and policies and is one of the main challenges for voluntary schemes such as Agricultural Codes of Conduct (such as

those adopted in the US, NZ and EU) and the associated certification and accreditation practices.

## 2.4 Purposes and aims of Australian Agricultural Data Rules

Australia's Agricultural Data Rules must be underpinned by clear purposes and aims.

There are two broad purposes for establishing clear and consistent Data Rules:

- **Improve processes:** including improving agricultural data quality, regulatory compliance and more effective use of agricultural data to achieve defined goals; and
- **Reduce risk:** including risk management, data security and privacy.

Underlying these, is the foundational aim of **empowering farmers and farm businesses** to govern their agricultural data assets more effectively.

## 2.5 What is Agricultural Data?

Agricultural and farm data can be defined in a number of ways. For example, the *EU Code of Conduct on Agricultural Data Sharing by Contractual Agreement* (2018) defines agricultural data as including farm data; machine data; service data; agri-supply data (input); and agri-service provider data.

For the purposes of these agricultural data rules, we define agricultural data to incorporate two key (in some cases, interrelated) aspects:

*Farmer data:* includes data relating to the individual (i.e. personal data such as names, addresses, financial and other information as defined as 'personal information' under Australia's *Privacy Act*) and non-personal farmer data (such as property boundaries)

*Farm data:* includes soil, climate, weather, agronomic, machine/service and input data.

Importantly, farmer and farm data is often interrelated and unable to be easily separated. Further, it should be recognised that once either farmer or farm data is aggregated by business or along the supply chain, this data takes on different characteristics and is regulated by the data aggregators through their data licences and terms of use.

### 2.4.1 Distinction between personal and non-personal

Not all data and information is treated equally. Importantly, *Australian Privacy Law* distinguishes between different types of data or information – that is, personal and non-personal information. Put simply:

- ‘Personal information’ is data or information that can be used to identify a person, such as name, address, location data, telephone number, medical records and bank account details.
- ‘Non-personal information’ is data or information that cannot be used to identify a person.

Often, data such as agronomic data, machine data and weather data is non-personal information. However, this is not always a simple distinction to make.

The distinction between personal and non-personal information is an important one to make because under *Australia’s Privacy Act 1988*, a set of *Australian Privacy Principles (APPs)* exist that apply only to ‘personal information’.

While not legally binding, the draft **Guide to Big Data and the Australian Privacy Principles** (the Guide) outlines key privacy requirements and encourages the implementation of the Privacy Management Framework to facilitate big data activities while protecting personal information. The Guide sets out considerations and privacy tips, which are useful for ensuring compliance with *APP guidelines and the Privacy Act 1988* when handling personal information for big data activities.

The Guide encourages entities to use big data and to conduct big data activities in a way that personifies the privacy principles, and includes matters such as:

- ensuring that personal information is collected through ‘lawful and fair means’;
- that data is only disclosed for the primary purpose for which it was created;
- how entities should ensure the quality and security of the information they possess; and
- ‘tak[ing] reasonable steps to protect the information from misuse, interference and loss, as well as unauthorised access, modification or disclosure’.

It is important to note, however, that the APPs specifically concern ‘personal information’.

By contrast, ‘non-personal information’ is generally governed by the law of contract, i.e. the data licences that parties enter.

### 3 Agricultural Data Rules: Best Management Practice

The foundation of Australia’s Agricultural Data Rules is **People, Responsibilities and Structures**. Without the right people and structures in place around agricultural data, best management practice will not be achieved and agricultural data as assets will not be realised.

In addition to **People, Responsibilities and Structures**, there is a need for data policies and procedures to be in place. A further fundamental aspect is **Capacity and Capability**

**Building.** Best practice around agricultural data also requires awareness of the **regulatory environment** to ensure **compliance and risk** mitigation. Accordingly there are three pillars that underpin best management practices around data rules:

1. **Policies & Procedures;**
2. **Capacity & Capability; and**
3. **Risk, Regulation & Compliance.**

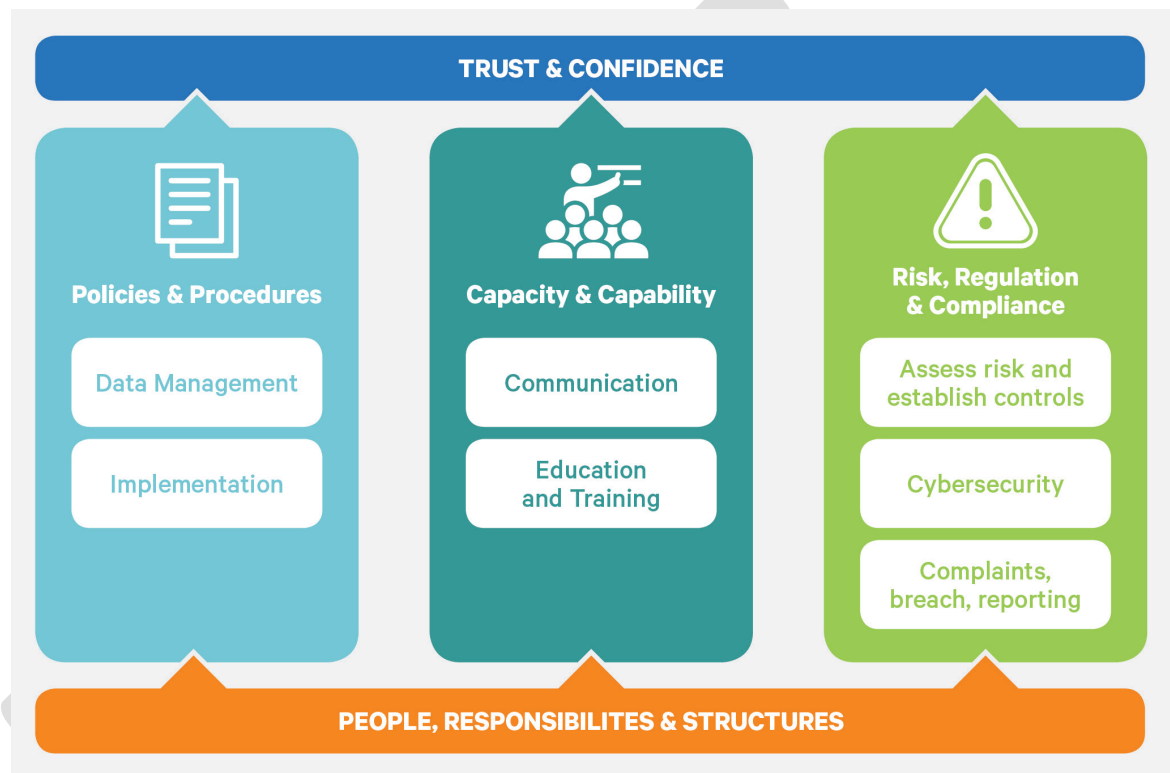


Figure 1: Agricultural Data Rules: Best Management Practice

### 3.1 Foundation: People, Responsibilities and Structures

#### Overview of People, Responsibilities & Structures:

- Identification of current data practices will assist farmers and agri-businesses to identify strengths and weaknesses within their data management practices within their organisations. This will assist farmers and agri-businesses identify the steps that need to be taken to allocate appropriate data management roles, responsibilities and structures.
- To support their farming constituents, peak industry bodies and associations should also review current data management practices and identify the steps that need to be taken to allocate appropriate data management roles, responsibilities and structures.



- Identifying roles, responsibilities and structures ensures the efficient and effective use of resources in managing data, and provides lines of accountability around data collection, storage and security.
- Farmers and agri-businesses (including advisers) are advised to have a designated individual (e.g. Data Steward) to identify data flow and existing data practices. This is necessary to shape and manage data collection, use and sharing in the farming business or agri-business. This should include identification of any third-party sharing arrangements.
- Key aspects of a Data Steward 's role are:
  - Having responsibility over the management of agricultural data including the collection, use and sharing of data.
  - Awareness of regulatory requirements such as confidentiality, privacy and compliance.
- The position of Data Steward may not be a full-time position, responsibility for data management could, in some cases, be assigned to an existing employee.

### 3.2 Pillar 1: Agricultural Data Management Principles and Policy

#### Overview of Ag Data Management Principles & Policies:

- Data Management Principles and Policies are required to ensure the collection, use and sharing of agricultural data is done in a consistent and effective manner.
- There are benefits in making Ag Data Management Principles and Policies transparent to data contributors, data suppliers, data intermediaries and data users.
- Principles and policies need to be consistent with the Australian Government's Data Sharing Principles and be legally compliant and consistent with other approaches and frameworks including:
  - The **Five Safes**<sup>1</sup> is a framework for helping make decisions about making effective use of data, which is *confidential or sensitive*. The Five Safes Framework provides a structure for assessing and managing disclosure risk that is appropriate to the intended data use.
    - Safe Projects: Is the use of the data appropriate?

<sup>1</sup>

<https://www.abs.gov.au/>

- Safe People: Can the users be trusted to use it in an appropriate manner?
  - Safe Settings: Does the access facility limit unauthorised use?
  - Safe Data: Is there a disclosure risk in the data itself?
  - Safe Outputs: Are the statistical results non-disclosure?
- The F.A.I.R. Principles<sup>2</sup> are also a set of guiding principles for rendering data:
- Findable;  
This includes assigning a persistent identifier (like a DOI or Handle), having rich metadata to describe the data and making sure it is findable through disciplinary discovery portals (local and international).
  - Accessible;  
This may include making the data open using a standardised protocol. However, the data does not necessarily have to be open. There are sometimes good reasons why data cannot be made open, for example, privacy concerns, national security or commercial interests. If it is not open, there should be clarity and transparency around the conditions governing access and reuse.
  - Interoperable;  
To be interoperable the data will need to use community agreed formats, language and vocabularies. The metadata will also need to use a community agreed standards and vocabularies, and contain links to related information using identifiers; and
  - Reusable;  
Reusable data should maintain its initial richness. For example, it should not be diminished for the purpose of explaining the findings in one particular publication. It needs a clear machine readable licence and provenance information on how the data was formed. It should also have discipline-specific data and metadata standards to give it rich contextual information that will allow for reuse.

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<sup>2</sup>

<https://www.ands.org.au/working-with-data/fairdata>

**Agricultural Data Principles** should reflect high-level strategic approaches to data management. Perhaps most importantly, **honesty and transparency** in the way data is managed should be the primary goal when developing data management principles.

Matters that should be addressed by Data Management Principles are:




- Ownership, control and custody of data;
- Sharing of data; particularly any third-party access;
- Accessibility, usability and interoperability of data;
- Accuracy and suitability of data;
- Safety, security and de-identification; and
- Mechanism for review.

### **Implementation of Ag-Data Policies and Procedures**

- There are numerous organisations that collect, use and share agricultural data so implementation of data management practices needs to be varied (i.e. It is not a one-size fits all approach).
- Different implementation strategies may be needed for farmers and agri-businesses.
- Barriers to implementation include a general lack of awareness of the potential risks that may arise from misuse or incorrect data sharing practices that may expose farmers and agri-businesses to legal liabilities.
- To improve agricultural data management practices, some countries have adopted voluntary Agricultural Data Codes of Practices: such as in the US (2014), NZ (2014) and the EU (2018). Importantly, though, Agricultural Data Codes of Practice are one piece of the larger puzzle of how best to protect farmers and their data while maximising the potential for agriculture.

Currently, the National Farmers' Federation (NFF) is developing an Australian Data Code of Practice, and it is anticipated that a draft code will be made available at the end of 2019.

- In order to facilitate implementation it may be useful to consider the introduction of a data traffic-light system. For example:

|   |   |
|---|---|
|  | Personal or sensitive information that cannot be shared   |
|  | Information that can be shared in certain circumstances (e.g. where informed consent is provided) |
|  | Data that is in the public domain   |

**Table 1. Data traffic-light system**

### 3.3 Pillar 2: Capacity and Capability

#### Overview of capacity and capability:

- Given that Best Management Practice in Agricultural data rules is between 80 and 95% communication (Hopwood, 2018), training, education and awareness raising will ensure that best practice will become part of day-to-day work practices.
- Farmers and agri-business need to develop awareness and appropriate responses to the following issues:
  1. What is the value of the data?
  2. Who owns or controls the management of data?
  3. Is data being shared?
  4. Who has access to the data?
  5. How will the data be used?
  6. How is the data aggregated and does the aggregation protect the data contributors?
  7. Is there Personal Data or Personal information contained in the data?  
(i.e. is the personal information/data protected by the Privacy Policy of the company and Australian Privacy Law?)
  8. Is the appropriate anonymisation or de-identification in place?
  9. Can the data be accessed and withdrawn?
  10. What happens if there is a data breach, i.e. which laws apply?

### 3.4 Pillar 3: Risk, regulation and compliance

#### Overview of risk, regulation and compliance:

- Best Management Practice Data Rules must consider issues of risk, regulation and compliance.

There are legal obligations, duties and responsibilities around **privacy and confidentiality** aspects of data, particularly when data is shared or released.

For example, a current requirement is mandatory notifications of breach that was introduced by the *Privacy Amendment (Notifiable Data Breaches) Act 2017* (Cth) in 2017. Recognising that notification of a breach can limit damage, and promote transparency, agencies and organisations governed by the *Privacy Act 1988* (Cth) are obliged to notify the Privacy Commissioner and affected customers ‘as soon as practicable’ after becoming aware that a data breach has occurred. It also should be noted that, where an organisation *suspects* that a data breach has occurred, it is required to assess whether a breach has in fact occurred.

There are also **competition and consumer laws** that may impact upon agricultural data collection and aggregation practices, for example, there are Unfair Terms laws within in the *Australian Consumer Law* (ACL) and anti-competitive provisions of the *Competition and Consumer Act 2010* (CCA).

The competition and privacy aspects of data collection more generally have recently been examined by the ACCC in its **Final Report on the Digital Platforms Inquiry** (ACCC, 2019). While the inquiry focussed on anti-competitive behaviour and the market power of tech giants such as online search engines, social media and digital content aggregators, the recommendations highlight the view of the Government that Australia’s legal and regulatory framework needs to be updated to ensure it was “fit for purpose” to respond to the unprecedented and unforeseen growth in data aggregation. This signals the Government is taking the protection of individual’s privacy very seriously and that it is willing to take steps to ensure that there is informed consent gained prior to data sharing.

This stance is in line with the recent introduction of the Consumer Data Right in Australia, giving individuals more control over personal data collected about them.

Both of these developments highlight the importance of compliance with the legal and regulatory aspects of data collection, management and use.

In addition to specific data laws and regulations, some farmers and agri-businesses need to comply with, and manage risks from, various other legal frameworks around environment, biosecurity and workplace health and safety issues.

- To manage the risks associated with data collection, use and sharing, farmers and businesses must have a dedicated Data Steward (See People, Responsibilities and Structures).
- For relevant bodies, the [Australian Government Information Security Manual 2019](#) provides guidance on approaches to those issues.

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## 5 Action Plan

To adopt and implement **Agricultural Data Rules: Best Management Practice** the following actions need to be taken:

*Action 1: Appoint data steward.*

*Action 2: Identify data roles, responsibilities and structures.*

*Action 3: Develop data management policies and procedures.*

*Action 4: Implement data management policies and procedures, starting with:*

- i. *Introduction of a Farm Data Code of Practice:* To raise awareness around data use and streamline data practices within Australia. This may include a certification and branding strategy for Australian agricultural data.

*Action 5: Build capacity and capability around data management, starting with:*

- i. *Data management education and training programs;*
- ii. *Awareness raising of the risk, regulation and compliance requirements of data management*

| Action   | 2019 |     |     | 2020 |     |     |     |     |     |     |     |     |     |     |     |
|--|------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|  | Oct  | Nov | Dec | Jan  | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| 1. Appoint data steward                                  |      |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 2. Identify data roles, responsibilities and structures  |      |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 3. Develop data management policies and procedures       |      |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 4. Introduction of Australian Farm Data Code of Practice |      |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| 5. Data education and training programs                  |      |     |     |      |     |     |     |     |     |     |     |     |     |     |     |

**Table 2. Best Management Practice Action Plan and Timeline**



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