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The Future of Agriculture?

'Data-Driven Agriculture' 'Smart Farming'

 Traditional Equipment like Tractors, now with Sensors

 Newer types of technology and data collection: Satellite Imagery, Drones

 Granular, real time insight – soil, water, nutrients, weather, crops (etc)



Image: Midjourney





The Datafication of Everything

- 'Data is the New Oil'
 - More Data! More 'Artificial Intelligence'!



Monsanto Buys Weather Big Data Company Climate Corporation For Around \$1.1B

Today's big acquisition is a huge agritech exit: Biotech company Monsanto has bought Climate Corporation for approximately \$1.1 billion.

2 Oct 2013



Agriculture

'Big' Data : Volume, Variety, Velocity F Fortune

John Deere Is Paying \$305 Million for This Silicon Valley Company

John Deere's is acquiring Blue River Technology for its machine learning-powered crop sprayers.

6 Sept 2017

Image: Midjourney







THE CLIN





The Promise



The Amazing Ways John Deere Uses Al And Machine Vision To Help Feed 10 Billion People



Agricultural businesses are faced with the challenge of feeding a growing world population while reducing the environmental impact and...

15 Mar 2019

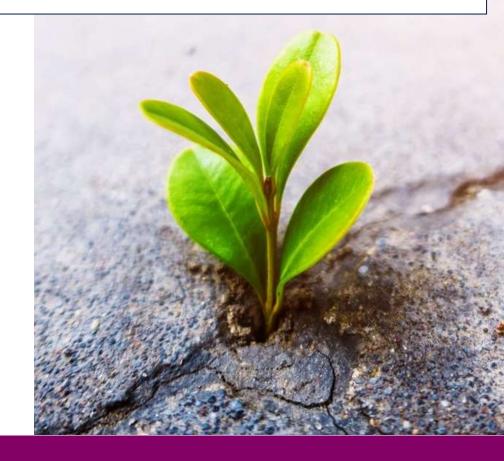
Support Decision Making

- On-Farm : Crop Recommendations, Nutrient Recommendations, 'Sustainable Intensification'
- Off-Farm : Environmental Impact Monitoring; Research and Innovation

Governance

 Transparency and Traceability; Food Quality and Environmental Regulations

Automation related efficiencies







The Peril

- Who controls the data?
- Asymmetries in Power
 - Price Discrimination?
 - Insurance Products, Farming Inputs
 - Market Speculation?
- Data for 'Good'
- The Challenge: Limit Harm, Increase Benefit



Image: Midjourney





The State of Play - Data Licenses

- Terms and Conditions that come along with Equipment; But
 - people do not read them; or
 - do not understand them; or
 - lack knowledge to make an informed decision; or
 - are not offered choices that accurately reflect their preferences.
- Harms from data are hard to estimate – and can develop over time
- Farmers have no alternative

A survey from Australia on terms of conditions around data, when signing up to a service :

- 47% of primary producers said they had 'no understanding';
- 27% said they had 'little understanding'. (Wiseman and Sanderson 2018).

Another study (in Australia):

• 74% of the respondents claimed to not know much about the terms regarding data use and collection in agreements they had entered into; 9% indicated that they had a good understanding of the terms and conditions. (Wiseman et al, 2019).





The State of Play – Codes of Conduct



EU Code of conduct on agricultural data sharing by contractual agreement







American Farm Bureau
Federation's Privacy and Security
Principles for Farm Data

- + Guiding Principles
- Voluntary



Australian Farm Data Code

- Nothing about 'Positive' Use



Conclusion: Ways Forward and Questions

- Closer regulation and scrutiny over permitted uses
 - Price Discrimination
 - Market Trading
 - What else?
- Data Access Regimes The EU's 'Data Act'?
 - User and Third Party Right to Access Real Time Data
- Is this the future of farming?
 - Big Data <--> 'Big' Farming









Thank you

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