



Innovation and biosecurity contributions to global food security

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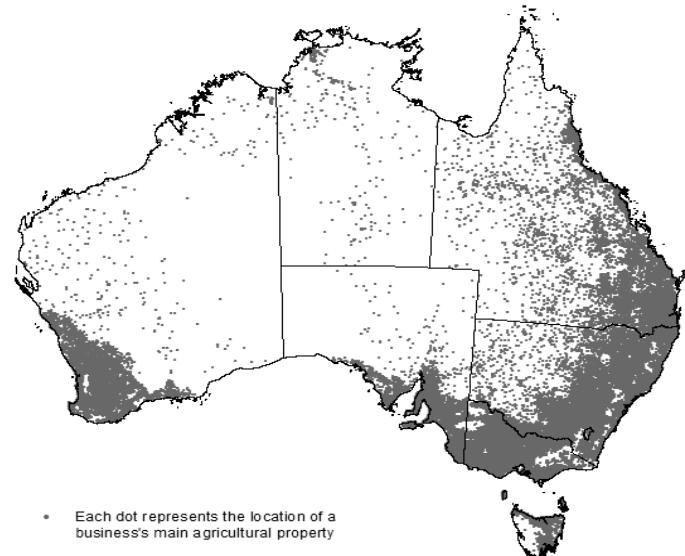
31 May 2016



Australian Agriculture Facts



- Australian population ~ 24 million people
- Australian farmers feed around 60 million people each day.



0 1,000
Kilometers

Source: ABS Business Register;
Geocoded National Address File
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Australian Agriculture Facts

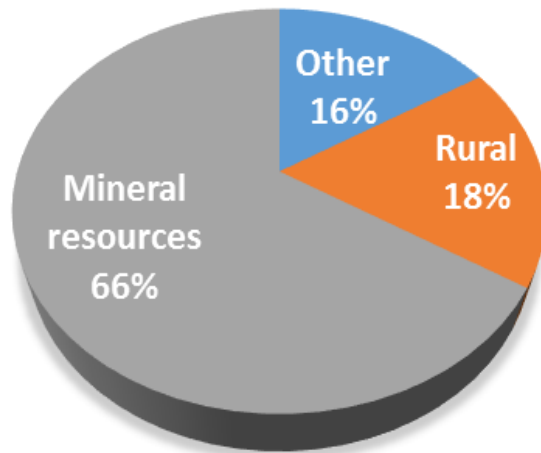
- Export earnings from farm exports was ~\$45 billion in 2014-15

(Australian Bureau of Agricultural Resource Economics and Sciences)

Top export commodities:

- | | |
|-----------|-----------------------------|
| 1. Beef | 10. Cheese |
| 2. Wheat | 11. Rock lobster |
| 3. Wool | 12. Skim milk powder |
| 4. Wine | 13. High-value horticulture |
| 5. Barley | |
| 6. Sugar | |
| 7. Lamb | |
| 8. Canola | |
| 9. Cotton | |

Proportion of merchandise exports 2014-15



Australian Innovation in Agriculture

- Australian producers have opportunities for growth with expanding world markets, but also face increased competition and lower productivity growth.
- For Australia, key steps towards continued agricultural innovation are:
 - adopting new technologies
 - identifying and reducing barriers to adoption of new technologies
 - exploring the role of government in overcoming barriers.

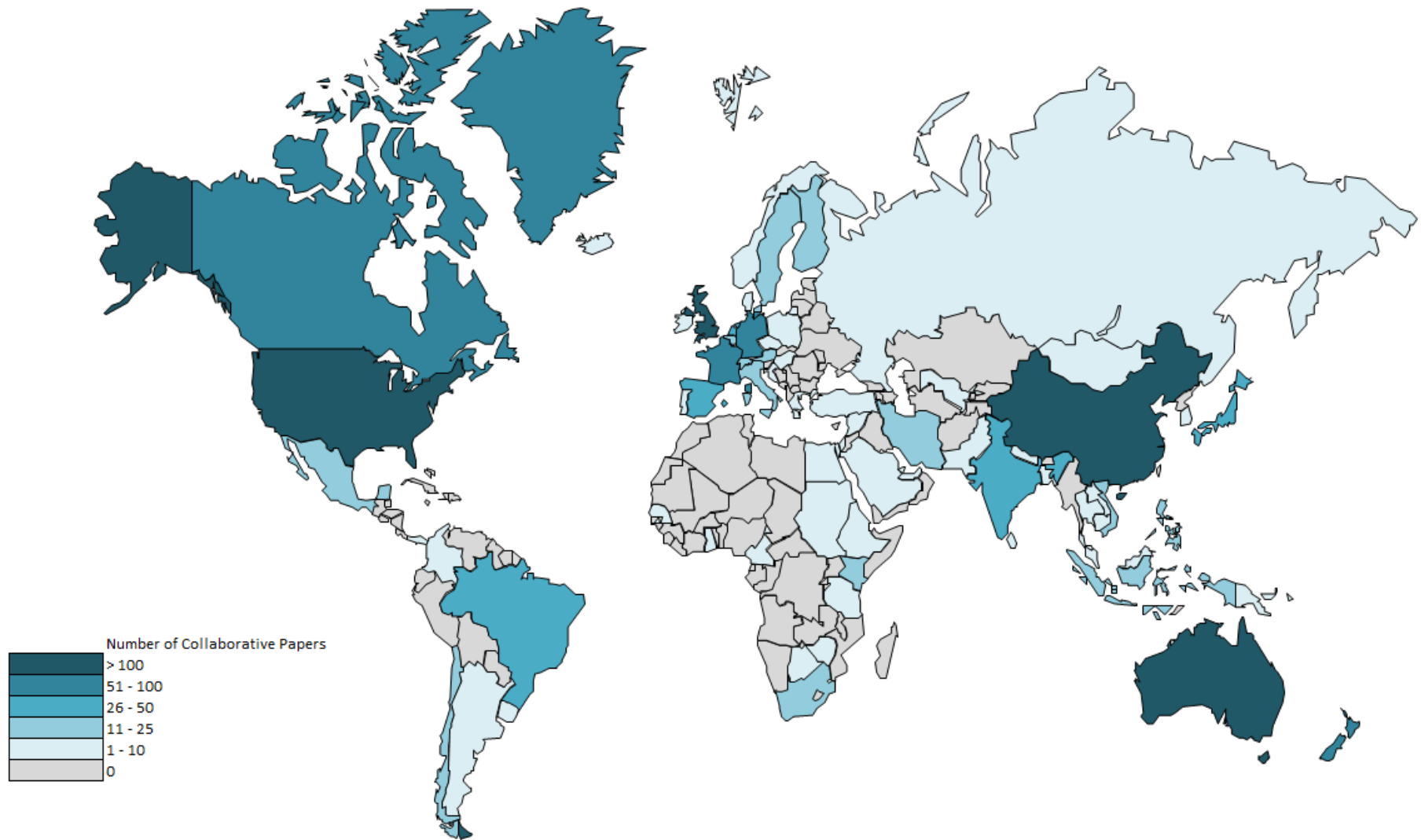
Australian Innovation in Agriculture

- New technologies include:
 - digital services
 - data collection and analysis
 - automation and robotics
 - new gene technologies for plant and animal breeding
 - climate change adaptation and mitigation tools
 - biosecurity technologies

Australian Innovation in Agriculture

- The role of government in overcoming barriers:
 - investment in telecommunications and other infrastructure
 - policy supporting agricultural training and extension
 - balanced and consistent regulation
 - publishing and sharing public data
 - investment in biosecurity science and technology

Australia's research standing - Collaboration



Data Source: Australia NCR Database (June 2015); Articles, Review & Proceedings Papers, 2010-2014

Global connections: agricultural impact partnerships

Vestas

Lonza

Deltares
Enabling Delta Life



Australian Government



30+
countries



Limagrain
Céréales Ingrédients



nUSEED



Queensland Government

ORICA

SANOFI

CSIRO Agriculture

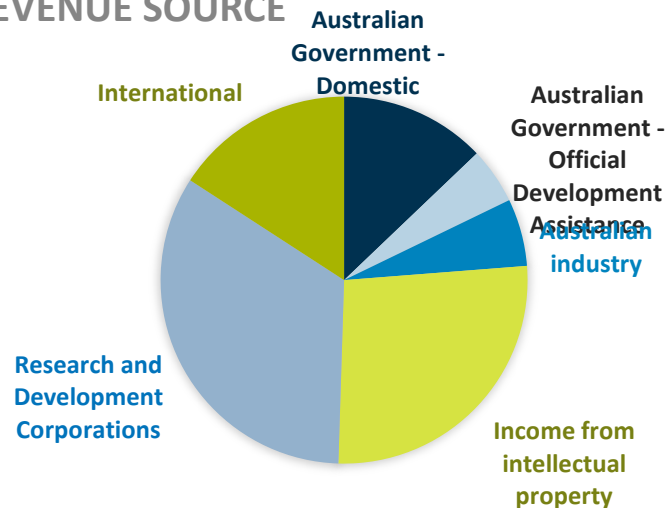
Science Standing

ISI Top 10 in Agricultural
Science Citations;
12th in Plant & Animal Sciences

People (FTEs) ~ 900

Budget External \$220m
\$105m

FY15 REVENUE SOURCE



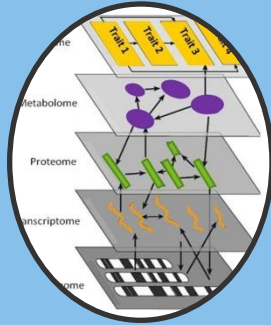
Transforming
yield



Closing yield
gaps



Transforming
value



Harnessing
digital
agriculture

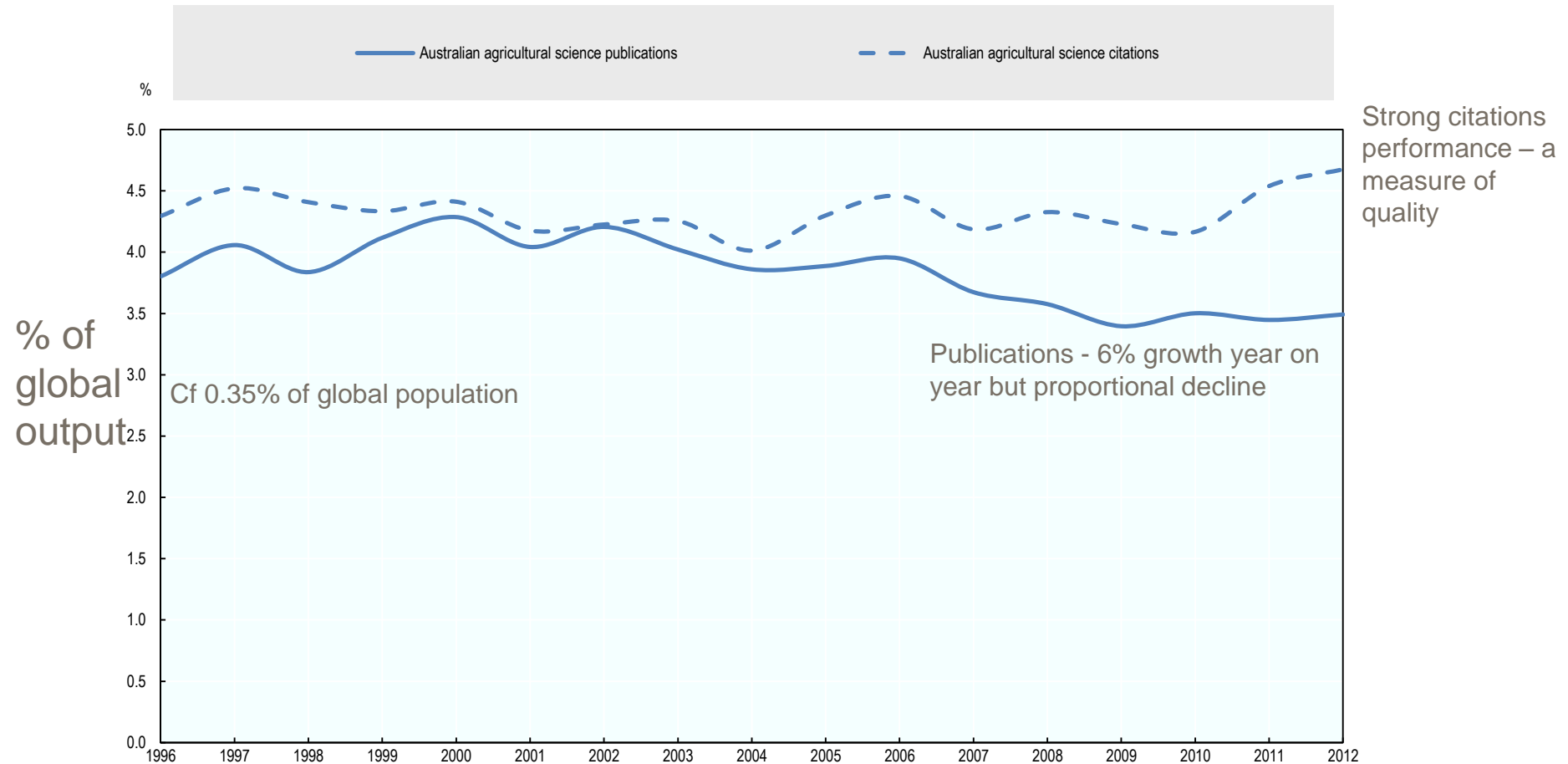


Sustaining
the base



Informing
policy and
practice

Australia's research standing - Publications



Data Source: SCImago. (2007). SJR — SCImago Journal & Country Rank. Retrieved March 13, 2014, from <http://www.scimagojr.com>

Biosecurity for food security

- The International Plant Protection Convention (IPPC) is an international plant health agreement, established in 1952, that aims to protect cultivated and wild plants by preventing the introduction and spread of pests.
- There are 182 countries that are signatories to the convention.



Biosecurity for food security

- The IPPC helps to:
 - Protect farmers from economically devastating pest outbreaks by preventing the entry and spread of new plants pest into a country (food availability).
 - Protect industries and consumers from the costs of pest control or eradication (food access).
 - Facilitate trade through standards that regulate the safe movements of plants and plant products (food access).
 - Protect food security and the environment (food availability and access).



IPPC contributing to food security

- Themes driving the implementation of the IPPC for the coming four years:
 - 2016: Plant Health Contributes to Food Security
 - *Recognising that uncontrolled pests have a direct effect on food security and are directly responsible for hunger and poverty*
 - 2017: Plant Health Contributes to Trade and Economic Development
 - 2018: Improving Plant Health Requires National Capacity Building
 - 2019: Improving Plant Health Contributes to Environmental Protection
- Leading to the **International Year of Plant Health 2020**

Questions

- How can MACS recognise and support biosecurity through the IPPC and the OIE?