A Comparative Overview of US and Australian Agricultural Innovation Systems

Rick Roush
(rroush@unimelb.edu.au)
Melbourne School of Land and Environment
Preview

• US system built around USDA, state governments, Land Grant Universities and industry, closely linked, dependent on govt funds with little commodity funding

• Australia: CSIRO, state gov’ts, non-mission Universities, agchem industry more casually (?) linked, but RDC funding for commodities
US Land Grant Universities

Established from 1862 by Morrill Act
Created educational institutions by granting federally controlled land to states to develop or sell to establish and endow "land-grant" colleges.
Mission to focus on the teaching of practical agriculture, science, military science and engineering ("without excluding ... classical studies").
Land Grant Universities

Examples:
Iowa State University 1862
Kansas State University created 1864
Rutgers Univ (NJ) from 1766, grant 1864
Cornell University 1865, part private
Texas A&M (“Ag & Mechanical”) Univ.

Most have annual line item state gov’t funding for research
Good and timely grant overheads
Land Grant Universities & USDA

USDA est 1862 by Lincoln

Mission of the land-grant universities was expanded by Hatch Act (1887), which provided federal funds to states to establish ag experiment stations

Many of these became jointly occupied by USDA and state govt ag depts

State Unis, State Depts, and USDA linked by Regional Projects
Example:
Bt Cotton
Mississippi State Uni farm 1993,
USDA trial
US Land Grant Universities

Many academics have joint Cooperative Extension/Research/Teaching Appointments, even across USDA and state (and county) agencies.

$1 Billion from USDA to Unis for this work, which would be about $70M in Australia

Very successful; relationships established with students often continue for decades, linking Unis to the field adoption, supporting teaching and student numbers
Australian Universities

Some founded by 1860, but no mission status for extension or agricultural experiment station
Funding tied to student numbers
Little or no line item funding for ag research
Essentially all funding from grants
Little or no funding for extension
Very limited funding to equip new staff
Indirect costs of research under-funded and distributed 2 years after the grant
Government and Industry Comparisons

USDA focused on Agriculture with fed funds
CSIRO with broad mission, need industry $$
Agrichemical industry in US large, innovative, discovery-focused
Agrichemical industry in Australia locally adaptive of discoveries from EU and USA
Due to Research and Development Corporations (RDC), relatively many ag leaders are research-aware
CRCs in Australia link industry, CSIRO, state gov’ts, universities, but ag funding declining
Commodity Funding Focused on Industry Problems in Aus

- California and Australia in 2003: gross value of ag production, about $30B
- Australia with RDCs: $200 commodities matched by $200 Commonwealth

“Potential Cost-recovery Programs To Augment Funding For Cooperative Extension, *Univ of Calif Ag and Nat’l Resources* (J. Alston and D. Sumner)
Comparative Advantages

• US: Land Grant Universities, research grants systems, larger and more innovative agchem industry

• Australia: Cooperative Research Centres, Research and Development Corporations