

## **A Case for Support For Agricultural, Land Management, and Forestry Extension by the Federal Government in Australia**

Rick Roush 20 January 2014

Abundant research by Australian economists Professors Phil Pardey and Julian Alston has demonstrated that the lag between research and broadscale adoption in agriculture is on the order of 10-15 years. In one of the most significant cases in Australia, reduced tillage agriculture, the lag was more on the order of 30 years. Adoption of research requires persistent effort by champions of the technology, often closely linked to researchers, to demonstrate benefits against years of entrenched experience. However, delays in adoption of practice is a huge lost opportunity cost to the efficiency and competitiveness of our agriculture.

In the United States, the Land Grant University model has provided a strong link between University research and teaching about research from all sources and extension and adoption. University skills and assets in teaching provide a strong and natural base for the continuing adult education that we often call extension. Academics often hold joint or partial appointments specifically in extension. Personal relationships are typically established by academics with future leaders while they are students that last for decades, enhancing the knowledge transfer process.

Historically, the US Department of Agriculture has provided cash support to US Land Grant Universities on the order of US\$1 billion annually (see second to last page of [http://www.csrees.usda.gov/about/offices/budget/08\\_budget\\_brochure.pdf](http://www.csrees.usda.gov/about/offices/budget/08_budget_brochure.pdf)). As discussed further below, most of this is in formula funds, i.e., a straight cash non-competitive grant. This does not include cash contributions by the states to their own state universities or informal contributions from state or federal ag department staff to teaching, both of which are substantial. Normalized for Australia's smaller population, the federal cash support alone is still on the order of AU\$70-75 million.

A key problem in Australia is that no such funding exists. Universities are funded primarily for teaching by student numbers, and grants are short term for specific projects. Budgets in agricultural faculties and schools are very tight, typically in deficit. In contrast to state agencies and CSIRO, there has never been a funding scheme to facilitate continued contact post grant funded research between academics and the primary producers whom they'd like to continue serving. No money for travel and accommodation, brochures, videos, websites, field demonstration sites, and so on.

As an example, the GRDC has awarded about 25% of its funding to academic researchers. The GRDC annually awards "Seed of Light" recognition to outstanding accomplishment in extension, more than 60 over the last 20 years. However, only two have been awarded to academics.

Australia desperately needs a scheme to fund more extensive contact between academic researchers and primary producers. A simple proposal is to modify the US model and divide funding (which ought to be at least \$20 million) among ag depts on the basis of full time academics (continuing appointments at Level B and above)

documented to the be engaged in ag research, with annual concise reporting on accomplishments.

### **USDA Funding Support for Ag Universities.**

About US\$53 million of the \$1 billion pa have historically been used specifically and explicitly for higher education (see third to last page of “08 USDA Uni budget”). However, in practice, because most of the full US\$1 billion goes directly to Universities, it should not be surprising that much of it gets used in varied ways for higher education, such as subsidizing office staff, development of written materials that can be used for teaching or knowledge transfer, and maintaining research resources that are also used for teaching.

Thus, much of the USDA funding is nominally directed toward research or “Cooperative Extension” (Federal and State staff working together in knowledge transfer), but clearly supports the kinds of activities undertaken by ag and land management Faculties across Australia, all working without the benefit of the US Land Grant model.

As examples, one source of federal funding is the Hatch Act. Hatch Act funds are provided for on an annual basis under the Hatch “Bill” of 1862, as amended by the National Agricultural Research, Extension, and Teaching Policy Act of 1977 and other bills. These funds are distributed according to a statutory formula. Although nominally for agricultural research, the funds are commonly used for University staffing and basic maintenance of research programs, often providing a base of support in University Departments and “Colleges” (Faculties) for operations and used for indirect support of teaching activities. The scope of the agricultural research which may be conducted under the Hatch Act is very broad. It includes research on all aspects of agriculture, including soil and water conservation and use; plant and animal production, protection, and health; processing, distribution, safety, marketing, and utilization of food and agricultural products; forestry, including range management and range products; multiple use of forest rangelands, and urban forestry; aquaculture; home economics and family life; human nutrition; rural and community development; sustainable agriculture; molecular biology; and biotechnology.

(<http://www.csrees.usda.gov/business/awards/formula/hatch.html>) These funds come to about US\$170 million per year, distributed across the states

([http://www.csrees.usda.gov/business/awards/formula/allocationltrs/06\\_hatch.pdf](http://www.csrees.usda.gov/business/awards/formula/allocationltrs/06_hatch.pdf))

The Smith-Lever Act of 1914 established the Cooperative Extension Service (Federal and State authorities working in knowledge transfer) and provides federal funds for cooperative extension activities

(<http://www.csrees.usda.gov/business/awards/formula/smithlever.html>) and allocates about US\$270 million per year across the states.

([http://www.csrees.usda.gov/business/awards/formula/allocationltrs/06\\_smithlever.pdf](http://www.csrees.usda.gov/business/awards/formula/allocationltrs/06_smithlever.pdf)), including even about US \$14 million per year to retirement (superannuation) funding for staff involved in knowledge transfer!

McIntire-Stennis formula funds support state designated institutions' cooperative forestry research programs.

[http://www.csrees.usda.gov/business/awards/formula/mcintire\\_stennis.html](http://www.csrees.usda.gov/business/awards/formula/mcintire_stennis.html)

for about US \$22 million per year

([http://www.csrees.usda.gov/business/awards/formula/06\\_mcintire\\_stennis.pdf](http://www.csrees.usda.gov/business/awards/formula/06_mcintire_stennis.pdf))

Evans-Allen formula funds support agricultural research at the 1890 land grant institutions (which began as mostly African American colleges).

(<http://www.csrees.usda.gov/business/awards/formula/evansallen.html>). These come to roughly US\$38 million per year.

([http://www.csrees.usda.gov/business/awards/formula/allocationltrs/06\\_evansallen.pdf](http://www.csrees.usda.gov/business/awards/formula/allocationltrs/06_evansallen.pdf))

In sum, there is a broad and long standing appreciation across the US and in both major political parties that agricultural higher education deserves support not only from the federal Department of Education, but also from the Department of Agriculture, whose portfolio the ag and life science colleges support. Further, the USDA has appreciated and helps pay for the critical and often basic research undertaken by universities (see the National Research Initiative Competitive Grants total on the third to last page in the attachment), as well as the knowledge transfer activities undertaken by University staff.