

# Machinery gets short shrift in R&D funding

By Peter Walsh, Research and Development Manager, Kondinin Group

**A**gricultural machinery represents about 40 per cent of the cost of farming, but few resources are dedicated to providing information on machinery for farmers.

The Kondinin Group has been focusing on providing independent, expert information on farm machinery for over 40 years, but most government agencies and research providers are reducing what little specialist information they provide on this very important component of the farm enterprise.

Extensive information is available to farmers through agriculture departments, chemical and fertiliser resellers and private agronomists. But this information all but ignores machinery.

The Kondinin Group's annual National Agricultural Surveys (NAS) identifies what

## SEAg Chairman's comment

As part of the Society for Engineering in Agriculture National Committee's drive to give our profession a higher profile, this 'lead' article slot is being donated to the 'cause'. In my role as Chairman I am asking various members to write something about where we are going, what's good or bad about agricultural engineering, new visions, scope for projects where we might collaborate nationally and fly the flag. If you have ideas and would like to write an article, please contact me, at [mike.collins@wantfa.com.au](mailto:mike.collins@wantfa.com.au), phone 08 9622 3395.

This time, Peter Walsh from the Kondinin Group has some ideas on why our profession has visibly shrunk in recent years.

Mike Collins, Chairman

type of research Kondinin Group's 17,000 members are requesting. Analysis of the results has shown clearly that farmers are requesting around 40 per cent of research carried out by Kondinin Group should be related to agricultural equipment.

An historical perspective may be used to review the potential benefits of investing in equipment research and extension. Wheat yields in Victoria have increased 50 per cent in the past 50 years. Of this increase there is evidence that 50 per cent of this benefit is

due to pasture rotation, 25 per cent to improved cultivars and 25 per cent to timeliness and other effects of mechanisation.

It is easy to demonstrate that machinery-related research and extension is not well funded. A survey of the Australian research community conducted in 1993 found that less than two per cent of public research funds for agriculture were directed toward engineering related research or extension.

A review of the Grains Research and Development Corporation (GRDC) Research Prospectus (2000–01) indicates that of a total investment of \$96 million for the 1999–00 financial year, less than one per cent was equipment related.

This problem is partially structural with most research and extension funders, such as the Departments of Agriculture and Rural Research and Development Corporations, structured around the non-machinery inputs to agriculture, such as crops, weeds, and pests.

The programs effectively ignore machinery. This has shaped the expectations of farmers, staff, researchers and the public as to what research and extension in agriculture does.

The mix of staff employed by the funding corporations, such as GRDC, naturally tends to reflect the programs with no machinery specialists employed by any corporation within Australia. The staff members facilitate inputs from farmers to priority areas.

It is not always easy for such facilitators to ensure adequate canvassing of issues outside their expertise. If issues do come forward there is then the ongoing problem of where to program them.

Moreover, the tendency to structure and restrict the activities of funding corporations has been occurring for a long time. Frequent failure to fund machinery proposals has resulted in a migration of machinery research expertise away from agricultural machinery toward other aspects of agriculture and indeed away from agriculture all together. Public funders of research and development such as state departments of agriculture have seen this as a signal to slash machinery research groups. The current shortage of good quality machinery related research activity is a natural consequence.

A related problem is that machinery

projects are being developed and carried out by researchers not trained in machinery. The result is that such projects are still seen as machinery projects and used as examples of the problems involved in funding corporation investment in machinery research.

Specialist machinery research is not just about developing and manufacturing new equipment. For example seed placement by the seeder can have a much bigger effect on yield than the variety, yet we spend more than \$20 million per year comparing varieties and next to nothing on researching or comparing seeding equipment.

I believe the solution lies in mounting a professional effort to inform government and funding corporations, as well as farmers, of the issues involved and to promote the application of engineering to agriculture.

Part of the strategy must involve a professional publicist and or lobbyist. The potential funding available to engineering in agriculture if the venture is successful is orders of magnitude higher than the current allocations.

## NCEA gains major role in irrigation CRC

By Gary Alcorn

Leading edge research, innovative extension programs and commercialisation techniques developed at the National Centre for Engineering in Agriculture in Toowoomba have been nationally recognised by its pivotal role within the the establishment of a new CRC for Irrigation Futures at the centre.

The NCEA played a key role in promoting the CRC concept and in developing its creation of the zonal structure and core research programs areas of the centre. Current NCEA director Matthew Durack will assume the role of zonal coordinator for the Summer Rainfall Research Region while Dr Steven Raine will head up the Irrigation Technologies Research Program.

“This CRC will face the core problem — incorporate an extensive program of cultural change and policy development necessary to improving the overall management of our scarce water resources.

“In addition there is a strong emphasis

on the development of new technology and the improvement of old technologies — to develop systems and processes to maximise water use productivity and minimise irrigation’s environmental footprint,” Matthew said.

Irrigation utilises less than five per cent of Australia’s arable farming land, yet it produces over 50 per cent of national agricultural profits. This new CRC will offer a unique opportunity for cooperation between all agencies involved in agricultural engineering including private and public sector organisations and those in research, development and extension.

“Many of the problems we face today could have been prevented by the application of sound engineering principals to irrigation practice. I would encourage all of you with ideas on how we can do things better in future to contact NCEA as soon as possible,” he said.

For further information contact Matthew Durack ph 07 4631 1873.