

Future funding for research and extension: industry research council issues

D. Blesing

Chairman, Wheat Research Council

Introduction

Recent Commonwealth initiatives have ensured that research funding, its strategic planning and public accountability will be on rural industries' agendas for the coming year or two. This fifth Conference of the Agronomy Society is a convenient opportunity to evaluate the changes that have occurred and to consider the options for future directions.

This paper will consider the present basis for rural industry research funding, its strategic planning and some of the issues that arise from the directions currently being pursued.

For wheat industry research, changes commenced with the passage of the Rural Industries Research Act of 1985. That Act continued in existence the "wheat model" structure that had its origins in the 1957 Act.

The "wheat" structure comprises a national council and individual state industry committees. The model has been adopted only by the barley industry research structure.

Membership of the Council and Committees includes research scientists and farming and marketing expertise, which achieves a strong industry focus and a balanced appraisal for setting industry research priorities. A Government statement "Research, Innovation and Competitiveness" of May 1989 by the Ministers for Primary Industries and Energy and for Resources favours the corporation as a vehicle for administering R & D activities. A Grains Research and Development Corporation is to be established.

Industry research funding

The Commonwealth is committed to match industry contributions raised by statutory levies up to a ceiling of 0.5% of Gross Value of Production (GVP). The position of the Grains Council of Australia (GCA) is that the Commonwealth should continue to be pressed to abide by its commitment to industry to match funding of research and development up to 0.5% of GVP. The GCA will also investigate the need for increased funding for wheat industry research. The wheat industry's levy is set at 65 cents, effective from 1 October 1988, and this level constitutes about 80% of the 0.5% GVP.

With the Commonwealth's commitment in place, rural industry statutory levies have increased by some 80% over four years, from \$31.5M in 1984-85 to \$56.5M in 1988-89. There are currently 19 research councils and corporations in operation. Fifteen councils and ten committees operate under the Rural Industries Research Act and four corporations/councils covering the meat, wool, fish and horticultural industries are established under separate legislation.

Expenditure on research and development through the research councils and corporations has also risen substantially from \$58.8M in 1984-85 to \$124M in 1988-89.

The total statutory levy income of \$56.5m in 1988-89 accounted for some 10% of total funding from all sources in that year.

The Australian Special Rural Research Fund receives its income directly from federal appropriations, rather than from industry levies. However, the legislation now allows the formation of sub-accounts to receive industry levies and matching Commonwealth contributions. Its budget has increased from almost \$1.0M in 1984-85 to \$4.3M in 1988-89.

The "Special" Council has determined priority areas for research funding as follows:

- production efficiency;
- production and marketing systems;
- adding value to products;
- communication and the integration of the above elements;
- new plant and animal industries or products.

The significance of industry funding and the matching Commonwealth commitments should be considered in the context of the constraints imposed on the Commonwealth's fiscal and monetary policy options, influenced by the chronic balance of payments position. Until the science funding decision of March 1989, CSIRO's appropriations had been reduced by 18.9% over the previous five years. The March 1989 decision provided four major Commonwealth research organizations (CSIRO, AIMS, ANSTO and DSTO) an extra \$8.4M in the 1988-89 financial year for capital funding.

A further decision of May 1989 has provided a five-year funding programme and a related package of measures for science and technology. The measures include the establishment of a Primary Industries and Energy Research Council, which would aim to improve consultation of research and development policies within the portfolio and establish better links between programmes and the efforts of research organizations.

Strategic planning

A major change in focus of the 1985 Act is the integration of the development or implementation function with the research activity. The achieving of this integration has been the essence of the management mechanisms developed by the Wheat Research Council.

The Council has developed processes for two-way communication with growers and researchers, and for two-way co-ordination with state wheat committees and other industry funding corporations and councils. These processes have been directed to having growers express their ideas about industry research priorities, and at the same time taking account of researchers' views.

Research priorities

Clear messages which were identified by Council in these processes, and which will have continuing effect on research programme priorities, include:

1. The need for wheat to be grown within sustainable rotations and production systems.
2. The imperative need for growers to produce grain with the quality characteristics required by the market.
3. Growers need varieties available to them that are selected specifically for each region, in relation to both yield and quality characteristics.
4. More integration of research and development to ensure that research results are rapidly incorporated into conventional farming systems, often requiring the development and promotion of "management" packages.

Adoption of results

Ideas have been updated about how to achieve speedy adoption of research results. Instances have been brought to Council's attention where most of the technical and agronomic problems for the growing

of legume crops had been resolved. A production management package however, had to be developed and promoted before conventional farm practices were changed and legume crops were incorporated into the cereal pasture rotation. A new dimension was thus added to the farming system.

With the help of a two-way communication process, Council's attention has been focussed on the large yield losses in grain production in Western Australia and on the eastern Darling Downs of Queensland, due to soil salinity and erosion. The formation of a natural network of farmers, extension personnel and researchers has been used to get management packages moving to combat the long term land degradation that had been taking place.

These instances illustrate that effective implementation of research results is critically dependent on there being a sense of joint-ownership of the research planning and priority setting process, provided there is an understanding of a funding commitment. If farmers and other industry decision makers have an input at the planning and priority setting stage, they are much more likely to be receptive to implementing the results.

Communication is a research priority of the "Special" Council and projects in this research category are being funded by the Wheat Research Council. Project proposals involving farmer networks will receive special consideration by Council.

Council and State Committee members themselves, growers and other industry decision makers have been directly involved in workshops, project reviews and steering committees, and other consultation and co-ordination meetings, convened to consider research priorities and future directions. In these processes, Council has been sensitive to the fact that the research is actually undertaken in specialized institutions which have their own ethos, structures and goals. Wheat research programmes, however, have had their focus sharpened by the direct influence of farmers who have been brought into the priority setting process.

Industry funding issues

The disparate sourcing of research funding imposes on the corporations, councils and committees a much greater need for effective co-ordination. There are eighteen industry trust funds and one special fund administered by 29 separate corporations, councils and committees.

At the same time there is a variety of rural oriented research institutions within the universities and other tertiary organizations, Federal and State departments, and commercial corporations. The organizational goals of those institutions do not necessarily parallel those of farmers.

It is of critical significance for farmers to recognize and identify the short and long term needs of their industry and to communicate effectively those needs in the form of research priorities to the appropriate research institutions.

From the standpoint of many research bodies, the top-up, three year project type of funding is not consistent with the need to build up a capital stock of qualified and experienced research scientists and of basic or fundamental research. This capital stock is drawn upon and used as an input to applied research that addresses short term industry problems that will arise in the years to come.

The immediate need is to identify gaps or deficiencies that will arise if appropriate funding is not provided to ensure the maintenance of this capital stock. The evaluation of these gaps or deficiencies will involve an effective co-ordinated effort across the rural industry corporations, councils and committees.

Research institutions have stressed their view that core funding for institutions is needed to provide a career structure and a secure employment base for the post-graduate training and development of research scientists in all the rural oriented disciplines. This applies equally to production and socially oriented disciplines, as demonstrated by the nature of the research priority areas identified by the

"Special" Rural Council. The progressing of research in these areas of benefit to the wheat industry will depend on an evaluation of the research capacity in these disciplines which will involve considerations beyond funding issues.

A further need is for co-operative effort to deal with issues that are common to many RIRFs from time to time, and at present are either being funded without full industry consideration, or are slipping through the gaps. Examples include research into soil compaction, soil ameliorants, herbicide persistence, weeds common to crops and pastures, genetic engineering technology and understanding the information transfer process.

An objective of CSIRO is to increase "industry" funding to 30% of total expenditure and no doubt universities will be exploring similar possibilities. Increased pressure will be applied to the RIRFs to meet more of the infrastructure costs and to lengthen their project time periods. The difference between core and marginal or top-up funding will become less clear cut.

Australian tertiary institutions will be encouraged by the recent education endowment established by the Australian Institute of Mining and Metallurgy. Its purpose is to ensure that the necessary number and quality of scientists are available to service mining industry development.

Summary

The industry research and development funding had its origins in Australia's rural industries. The funding system has been developed as the needs of industry and researchers have changed.

With a Commonwealth commitment to R & D funding in 1985, the levy income from rural producers has grown by 80% over four years.

The focus of integrating research and development provided in the 1985 legislation has provided a more balanced grower and scientist perception of industry's shorter term research priorities.

The process of focussing on the shorter term and more immediate industry research issues has caused corporations, councils and committees to address the mechanisms and procedures for enabling farmers and other industry decision makers to express their views about the setting of research priorities and the adoption of research results into conventional farming practices.

Inevitably these views have not addressed longer term industry needs such as rebuilding the capital stock of the necessary number and quality of scientists and the basic research results that will be needed to address the short term needs of industry in the coming years. An evaluation of this issue, along with the need to better manage broad cross-commodity research and development issues, is becoming a priority activity of Council. This will involve co-operation between RIRF's to develop methods that enable any gaps or deficiencies to be taken into account in forward planning for the grain industry.