

Inquiry into food production in Australia – Submission from the Rural Industries Research and Development Corporation (RIRDC)

Factors affecting food production

Australian food producers face strong pressures which significantly affect their efficiency, competitiveness and viability. These pressures include:

- increasing low-cost commodity competition
- declining access to natural resources (land, water)
- increasing costs of energy and nutrient inputs
- changing climate
- distorted commodity markets
- increasing regulation and consumer focus on production processes.

Innovative, new rural industries, together with strong productivity growth driven by innovation in conventional rural industries, are needed for Australia to respond effectively to these challenges. Research and development (R&D) is a key driver for this diversification.

The need for new rural industries

Beyond traditional Australian agricultural industries, R&D identifies, develops and nurtures new industries which can become major contributors to Australia's agricultural economy. As climate change, water availability and competition reduce the viability of existing agricultural pursuits in a particular location, new rural industries can provide economically and environmentally viable alternatives. New industries, while starting at a lower base of production, hold significant opportunities for higher increases in production, higher economic returns, and an increased choice of high quality foods on Australia's supermarket shelves.

In the face of climate change, new industries may provide greater resilience for Australia's agricultural regions, through:

- greater diversity of agricultural options better suited to future climates
- greater water use efficiency
- better heat tolerance
- a lighter greenhouse footprint.

Through well-targeted R&D, new industries can also provide alternative crops and farming systems for irrigation areas in crisis; more drought resistant crops and animals for dryland situations; and more greenhouse efficient and heat tolerant crops and systems to enable us to make better use of our water-abundant tropical northern areas.

RIRDC's role

1. What has been, and can be, achieved:

At the moment, the Australian food industry enjoys a trickle of new agricultural industries that provide new products that are healthy and environmentally-sustainable and may also replace currently-imported products.

The number of producers taking up new rural industries or seeking involvement within them is growing rapidly, both in traditional rural regions and in peri-urban areas. Over 60% of farmers now have multiple enterprises, accounting for over 70% of the value of agricultural output. RIRDC experiences a continuing demand from farmers for new crop and livestock options to meet changing and increasing pressures.

RIRDC plays an important role in seeking out and overseeing the planning, development and support of new agricultural industries and expanding knowledge and opportunities in existing industries. New rural industries need fundamental information to proceed and succeed. The selection of varieties; choice of farming systems; methods of pest and disease identification and control; and analysis of economics, competition and viability – are all critical to the development of a new industry, and readily supplied by platform-science. A significant body of research has documented the tendency of new rural industries, which don't have ready access to this basic scientific and information support, to fail very early in their development. R&D is critical to their development and survival, and this is the critical role played by RIRDC.

The Research and Development Corporation (RDC) partnership model, which sees RIRDC working in close partnership with industry and acting as a conduit between industry and research providers, is the key to RIRDC's continued success in this area. RIRDC's initiation of R&D that led to the development of the canola industry provides a good example of what the extensive backing of well focused R&D can achieve for a new industry within a short time frame. In 1990, only 170,000 tonnes of canola was produced in Australia. It is now a leading driver of farm profitability. By 2004-5, production was over 1.5 million tones, valued at around \$500million.

Through R&D, the canola industry has seen:

- new varieties producing treble the yields of earlier varieties
- varieties resistant to major pests which restricted cultivation
- development of varieties with different maturing rates, enabling the spread of canola into new zones, including low rainfall areas
- improved quality and nutritional appeal of Canola varieties through the reduction of linolenic acid and saturated fatty acid content, and the enhancement of oleic acid levels
- a vast increase in the geographic distribution of the canola industry which has dramatically raised canola production, in turn feeding into a variety of value-added products and industries.

The olive industry provides a more recent example of R&D building the momentum of an industry, increasing the quality and availability of food produce in Australia. RIRDC is playing a significant role in supporting olive R&D vital to the development of the industry, for example in facilitating oil chemistry in relation to standards for extra Virgin Olive Oil, coordinating research into pest and disease control, and understanding how to optimize oil quality in relation to environmental conditions such as frost.

With RIRDC's assistance, the olive industry has seen phenomenal growth in the past decade or so and oil production has grown 2400 per cent since 2001. In addition to a significant increase in the variety and quality available within Australia, exports have grown 650 per cent. Sound research and development and a focus on what the market wants will facilitate the development of the olive industry well into the future.

At any one time, RIRDC is dealing with hundreds of projects that span Australia's agricultural industries. Any of these projects may provide the catalyst that launches a new industry towards the status being achieved by the canola or olive industries.

In addition to its activities at the coal-face of developing specific industries, RIRDC also plays a leading role in addressing key cross-sectoral issues affecting Australian agriculture. In June 2008, a cross-sectoral research project culminated in RIRDC's publishing a booklet entitled "High food Prices – Causes, implications and solutions". Copies of this booklet are attached for the Committee's information.

2. RIRDC's role in shaping the future of Australian food industries:

Whether developing new rural industries or taking an innovative approach to existing ones, well-informed R&D provides options for food producers to adapt to their changing, challenging environment by building innovative, new enterprises. This in turn increases the quality, availability, variety and security of Australian food produce on supermarket shelves.

RIRDC is providing extremely effective, value-for-money scientific and communications support for the development of new rural industries and the adaptation of existing ones to meet these challenges to our food industries. RIRDC sees a need to increase the momentum of this change by providing other avenues for Australian agriculture to successfully address the severe adjustment pressures it faces and to provide for food security into the future. While new rural industries can provide these solutions and options for diversification, they need to be underpinned by R&D to prove their suitability for Australian conditions and to develop sustainable supply chains.

To facilitate this, new initiatives that, with additional support, RIRDC would like to introduce include:

- interactive computer decision support systems underpinned by nationally coordinated trials at local and regional levels that can help put the right crops/livestock in the right places environmentally and economically
- regularly maintained and updated information on new crops/livestock as information on climate change improves

- a new comprehensive handbook on New Industries for Australia, and
- increased research, development and extension support to develop new industries in all food groups – grain, meat, vegetables, fruit, fish and nuts.

In April 2007, the Primary Industries Ministerial Council (PIMC) agreed to develop a *National Research, Development and Extension Framework* as a broad national plan to provide a more comprehensive and structured approach to R&D across Australia.

RIRDC is leading the development of the national R & D plan for new and emerging industries. These plans will identify requirements for research capacity and infrastructure to meet the needs of new and emerging industries. These plans, that could have a significant impact on the future development of food industries in Australia, will aim to:

- strengthen national research capability for new and emerging industries
- ensure that RD&E resources are used effectively, efficiently and collaboratively
- overcome fragmentation and duplication in the national R, D and E system.
- establish a strong culture of collaboration
- build human capacity for industry development and research.
- fill gaps in capacity and infrastructure

In conclusion

Demand from the food industry and consumers for alternative solutions from new rural industries is strong, and increasing, but the development of new rural industries and products has historically been, and continues to be, an area of underinvestment by government.

Research capacity for rural industries has declined in Australia over the last five years and there is concern that this is worsening. State agencies are rationalizing and concentrating their R&D interests, in some cases resulting in reduced co-investment in research. This will have a significant impact on the provision of pertinent R&D for food industries, and will have a considerable negative impact on the delivery and development of alternatives to current food industries that are becoming unsustainable.

The PIMC planning process is a significant step forward in the strategic coordination of new industry research and development in Australia, and RIRDC is proud to be playing a leading role. However, the realization of any desirable outcomes (from the PIMC, or any other planning processes) relating to the food industry, food availability, affordability, sustainability and security, can only be realized if sufficient investment is made to achieve, and maintain them.

- End of Submission –