

Farmers' needs for management, research and extension, and policy - findings of a farmers' workshop and their implications

A.F. McRAE

Department of Agricultural and Horticultural Systems Management, Massey University

Abstract

Farmers' objectives, their circumstances and the constraints they face are central to any consideration of ways and means of improving farming systems. The management, research and extension, and policy needs of the farmers attending this workshop were diverse. This appeared to be linked with the (unexpected) degree of diversity in the business objectives and management structures on these farms. More formal research on these issues across the spectrum of farmers is required to ensure that research and technology transfer meet the industry's needs.

Keywords farming systems, research, technology transfer, objectives

Introduction

The increase in total production and gains in production efficiency on New Zealand farms over the first 80 years of this century have been well documented (see e.g. Philpott (1963). Ross (1987)).

Structural changes in the New Zealand economy and Government policy changes since 1984, combined with reduced terms of trade for New Zealand farmers, have led to reduced investment in agriculture and reduced production (Johnson 1991). It is generally agreed that New Zealand's farmers are considerably more exposed to risks associated with world trade than they were prior to 1984. **However, the farm sector in New Zealand is still** regarded as an important contributor to short and long term improvement in New Zealand's economic wellbeing.

Agricultural research designed to improve productivity or profitability only pays off if it generates knowledge or technology that can be, and is, used profitably by farmers in their farming systems. Adoption of changes only occurs if the outcome of adoption coincides with farmers' objectives, and if the changes can be accommodated within these systems. Thus, farmers' objectives, circumstances and the constraints faced by them are central to the consideration of ways and means of improving all farming systems. **However,** these dimen-

sions of farming systems are poorly documented and even less well understood.

A start was made in July 1991 to understand better this complex set of issues. A group of farmers attending a workshop convened for the purpose sought to establish what they believed to be their needs for management, research and extension, and policy. The outcomes of the workshop are briefly reported in this paper (see **McRae 1992** for a **full** report). Research being carried out at Massey University to improve the method of enquiry in this area is **also** reported.

Twenty-three "farmers" from throughout New Zealand, all of whom were directly involved in the operation of meat and wool farms carrying in excess of **15,000 stock units participated** in the **two day** workshop. After an introduction to the workshop goals three **half-day** workshop sessions were held. These addressed in **turn** the topics of management, research and extension, and policy needs of the meat and wool industry. A discussion leader briefly introduced each topic. Discussions were held in four groups, with each group being assisted by a facilitator who developed the issues raised in the introduction and others they considered applicable.

The outcome of each group's first round of discussion was then considered and discussed in plenary session. The discussion leader for the topic collated common issues and findings, and highlighted where divergent opinions had been reported. An agenda was prepared for participants to **(re)consider** in the second session of group discussions. The outcomes of these were reported back and considered by all participants in a second plenary session. Conclusions on the topic were drawn by the discussion leader.

Management needs of meat and wool farmers

The participants agreed that the fundamental management task was to ensure that the objective (purpose) of the farm business **was met**. However, there were marked differences in both the **purpose** of the businesses represented by the farmers present at this workshop and the management structures under which they were run.

All agreed that farms, like any other business, need

to have

- clear objectives
- easily understood strategy
- clear and appropriate lines of communication
- well defined responsibilities for all staff

However, only a few of the participants prepared these formally. The majority claimed to use them as operating principles.

All agreed that managers need to have a means of monitoring performance so that adjustments can be made in the quest to meet objectives. Again, in some cases, this was done quite formally (for both financial and technical aspects of the farm), while for others it was done informally.

The wide (and hitherto undefined) range of farmers' objectives and management structures appeared to explain much of the divergence in views being expressed at this workshop. Those who used a less formal approach to management claimed that they knew about, and understood, the more formal approach: it simply did not appear suitable or useful within their management structure, given their objectives.

Research and extension needs of meat and wool farmers

The participants agreed on the need for further processing and market research and that research in these areas seemed more likely to provide benefits to farmers than more production-oriented research. There was concern, however, that such research should concentrate on products for which the industry had a comparative advantage internationally and on subjects where gains in technical and economic efficiency might be relatively easily achieved. If researchers are to assist this then they must know about and understand what farmers are producing now, and what can, or will, be achieved "easily" on their farms.

Specific research topics **defined** included "problem" areas of animal health (e.g. tuberculosis in cattle, internal parasite resistance to drench) and soil fertility where clear technical solutions were sought. Reduced reliance on chemicals so as to develop "healthy", "sustainable" agricultural systems was also identified as an area requiring investigation. There was, however, no attempt to **define** the "health" or "sustainability" of current meat and wool farming systems. For the workshop participants these issues were more important than more knowledge on such matters as technically optimal levels of pasture cover or animal feeding strategies.

There was agreement that significant opportunities exist for technical change in agriculture. It **was also** accepted that little is known about why farmers, in the

main, are slow to adopt apparently proven technologies, especially when they are low cost and profitable and economic conditions are such that the risks associated with adoption are minimal. **The** diversity of opinion about the reasons for this perceived 'failure' of the research and extension system by this group of farmers, demonstrated the difficulty of defining and describing these issues. The group agreed that the issue cannot be resolved until more rigorous research has been done on ascertaining farmers' objectives, their circumstances and the constraints that they face which affect adoption.

Policy needs of the meat and wool farmers

Policy was **defined** as "the complex of rules that determine the setting within which farm businesses operate", and while a wide range of policy issues were considered, two became the subject of most of the discussion for **this** group of farmers:

- policy pertaining to processing and marketing arrangements and industry **organisation**
- environmental policy

The participants were disappointed with the performance of the current processing and market structure. The lack of information about price formation and the returns to various parts of the processing and market channel was seen as a key area to be changed. There was concern about the accountability of the industry's producer-elected Boards and others in those parts of the processing and marketing channel owned by farmers. While there was general acceptance that the industry structure should be reviewed, and it would probably be advantageous to change, the participants regretted that they were not in a position to **define** what changes were needed.

The group was concerned about the poor image the general population has of farmers' husbandry of their farms, resources and environment. They saw a need to develop a farmer-led **and** formulated action to inform the public about how farmers do care for, and are concerned about, their environment. However, the major environment policy concern related to the need to establish a policy to ensure that New Zealand's rather fragile and poorly defined "clean and green" image is more clearly established internationally. It was agreed that producers must be at the forefront of establishing this policy to ensure that the vested interests of other groups are considered and incorporated in a way that does not compromise producers' objectives. As developments in this area are likely to lead to sustainable marketing advantage in the future a clearly defined and agreed upon policy is needed now.

Developments in this area were seen to have a large public-good component, as sustainable growth in New Zealand's major export markets would lead to, and support, growth with the domestic economy. However, farmers at this workshop were concerned that they were in a weak position as regards their influence on the allocation of public-good research funds for long-term environment-oriented research for the meat and wool industry.

Implications of these findings

The workshop participants were all owners or managers of large scale sheep and beef farms. It had been anticipated that this relatively homogenous group would have similar objectives for their businesses and operate them under considerable management structures. This was not the case. A rich variety of objectives and management structures was reported. This, in turn, gave rise to a variety of views on and beliefs about constraints on change and technology needs.

Much greater diversity can be expected in the larger population of New Zealand's sheep and beef farmers, making critical the need for research to understand these matters so appropriate changes can be investigated and recommended.

Production technology development and transfer

Returns to investment in production technology generation and transfer must be assessed ultimately in terms of the impact of the technology when it is adopted. Establishing priorities for research and technology-transfer then will require information on factors affecting adoption and adaptation on farms. Further, impact studies are only possible if base-line data on those factors are available.

Gathering this information will require a formal research programme designed specifically for this task. The methodology used will need to take account of the diversity in business objectives, management structures, circumstances or constraints on farms. The workshop **findings** make it clear that to continue to rely solely on informal data in this area will result in research agendas **which may** be relevant to researchers' needs but are unlikely to meet farmers' needs across the spectrum of circumstances.

Processing and marketing research

The participants of the workshop generally held **the view** that there is considerable scope to improve farmers' returns by improvements in the processing and market-

ing channel. However, realising the opportunities in this area is likely to **be** associated with the need for changes in the way farmers present product for sale. Joyce (1992), for example, when commenting on the potential for improved returns from the meat industry states that ' **continuity** of supply and consistency of product specification are vital'.

The findings of this workshop imply that it would be glib and probably erroneous to assume that farmers, in general, will want to and be able to respond to these opportunities.

Those charged with identifying and researching processing and marketing opportunities must be aware of the constraints to change that apply on farms. At the extreme, devising processing and marketing opportunities which cannot be taken up by farmers would be a waste of research funds.

The outcome

Farmers' objectives and the constraints within which farm businesses are currently operated should not be seen as limiting the **scope** for either adopting improved technology on farms, or the development of processing/marketing opportunities. Indeed one of the primary goals of research on technology development and transfer must be to overcome such constraints. In this context, establishing the nature and impact of these constraints becomes an important and researchable topic.

Research has been initiated at Massey University specifically to address these issues. Information is being gathered **from** groups of collaborating meat and wool farmers chosen at random from different production environments.

The descriptive data gathered in the early stages of this research have two principal uses. Firstly it is used to establish the base-line against which future research can be assessed and evaluated. Secondly it will allow collaboration between the research team, other disciplinary researchers and farmers in the diagnosis of what farmers are trying to achieve, their circumstances and the constraints to change that they face. From this diagnosis it is expected that the opportunity will arise for further collaboration in the design and testing of innovations and strategies that will allow change to occur within the meat and wool industry.

The research, called Farmer-First Research (reported fully in **McRae** (1993)) is designed to **complete**, not to displace traditional research methodologies. It places farmers at the centre of the research process and allows a much greater degree of participation by farmers in the generation and delivery of technology relevant to their needs.

ACKNOWLEDGEMENTS

The workshop reported upon in this paper was sponsored by the National Bank of New Zealand **Ltd**, with some assistance from the C Alma Baker Trust. The **Farmer-First** research **programme** has **been** initiated with funding support from the Agricultural and Marketing Research and Development Trust (AGMARDT) and the C Alma Baker Trust. The support of these organisations is gratefully acknowledged.

The contribution of Professor Frank Anderson to this and earlier developments in this area is also acknowledged.

REFERENCES

- Johnson, R.M.W. 1991. Current changes in New Zealand agriculture : **a review**. *Review of marketing and agricultural economics* **59(2):130-148**.
- Joyce, W. 1992. Marketing opportunities for meat. *Proceedings of Central Districts sheep and beef cattle farmers' conference*. **1-6**.
- McRae, A.F. 1992. Repositioning the meat and wool industry in New Zealand. Massey University, Palmerston North.
- McRae, A.F. 1993. Applying "Fanner-First" research in New Zealand. *Proceedings of the XVII International Grasslands Congress (in press)*.
- Philpott, B.P. 1963. The determinants of agricultural production **in New** Zealand. Pp. 15-29. in : New Zealand farm production and marketing. M.J. Moriarty, ed. Oxford University Press, London.
- Ross, B. 1987. Development of the agricultural **industry**. Pp. 10/1-10/7 in : **Rural New Zealand - what next?** Wallace L.T. and Lattimore. R. (eds.) A.E.R.U.. Lincoln College, Canterbury.