

Current information and technology priorities of dairy farmers – a challenge for agricultural researchers

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Abstract

Farmers' conferences have been a key technology transfer mechanism for agricultural research over many years. However, farmer support for these events has been declining. As part of a review of the Ruakura Dairy Farmers' Conference, a study was conducted to determine the information needs of dairy farmers, and establish the best methods of communicating research findings to farmers at conferences. The four predominant information needs of dairy farmers pertained to increasing the efficiency of labour use, increasing farm profitability, reducing the impact of farm practice on the environment and animal welfare, and increasing business management skills. While many of these broad categories fall outside the traditional sphere of agricultural research, researchers must relate their findings to these information needs if they are to communicate research effectively. Conference organisers must provide farmer audiences with a programme which is directly related to their goals. To improve communication there should be a move away from lecture-based presentations to interactive workshop and seminar sessions. Not only does this better suit the learning style of many farmers, but it provides researchers with an opportunity to receive feedback on their ideas from those who will apply the knowledge. Agricultural scientists may need to change the emphasis of their research and assess their methods of technology transfer if they are to continue to make a major contribution to the grass roots level of the dairy industry.

Keywords: conference, dairy industry, information needs, technology transfer

Introduction

Since 1949 the Ruakura Farmers' Conference (RFC) has provided agricultural scientists with the opportunity to communicate the findings and results of their research work. By the mid 1960s, this extension effort had become so popular that the event had grown into a series of conferences and field-days frequently attracting over 6000 people.

However, by 1996 the RFC and dairy field-day, the only remaining events, were attended by only 800 people, attendance at some conference papers being as low as 200. While the number of herds being milked in the South Auckland Region has decreased markedly during this period, the extension events are now attracting only a small proportion of the dairy farmers in the greater Waikato area. The style and format of the conference had remained largely unchanged for decades. Recognising the apparent failure of the conference to generate farmer interest in current research prompted one of the organising bodies, the Dairying Research Corporation (DRC), to extensively review the RFC. Defining the information needs of dairy farmers was an essential part of the process.

This paper reports on a study carried out to understand and document the current research and extension priorities of dairy farmers. In addition, farmers' perceptions of communication and technology transfer methods which are most likely to result in adoption of research findings were identified, with particular emphasis on the conference medium. The information gathered is important not only to agricultural conference convenors, but also to applied scientists who view effective extension as a priority.

Method

Telephone survey

The MRL Research Group was commissioned in August 1996 to undertake a telephone survey of dairy farmers. The sample was a stratified random sample of 301 dairy farmers from throughout New Zealand. The objectives of this research were to:

- Determine the level of recognition of the different dairy farmer conferences.
- Determine the positive outcomes for RFC attendees or why farmers choose to attend.
- Describe the information needs of farmers, including those requirements that are not presently met but could be satisfied at the RFC.
- Determine the main reasons why farmers choose not attend the RFC.

Farmers were asked 6 closed and 10 open questions on these objectives. Responses were recorded on hard copy questionnaires, collated and summarised.

Focus groups

The MRL telephone survey provided quantitative information on the profile and attendance of the RFC, but little useful information on farmers' information needs was obtained. In order to gather qualitative information, four focus group meetings were conducted in December 1996. The objectives were to:

- Provide detail on the current information requirements of the dairy farming community.
- Determine the most effective learning environment for the presentation and discussion of recent research and technology developments.
- Establish preferences for conference format, timing, venue and location.

Four separate meetings were conducted with 6–8 participants at each group. The focus group meetings were stratified by occupational group. Separate meetings were conducted for sharemilkers, small-farm owners (<300 cows), large-farm owners (>300 cows) and representatives from the agribusiness sector. Dairy farmer participants were randomly selected from the New Zealand Dairy Company suppliers' list. Participants for the agribusiness focus group were selected from local veterinarian, farm advisory, banking and research companies. The focus group meetings, each of about 2 hours, were facilitated by a market research professional.

The authors observed, taped and analysed transcripts of each meeting.

Results

Telephone survey

Awareness of the RFC is high among dairy farmers (Figure 1). When asked if they were aware of any conferences held specifically for dairy farmers, 54% mentioned the RFC by name, and 92% recognised the conference when prompted. Other conferences mentioned were the Large Herds Conference and the Massey Dairyfarmers Conference. Region strongly influenced awareness of the different dairy farmer conferences, the RFC being widely recognised in the upper North Island, and the Massey Dairy Farmers Conference receiving strong recognition in the lower North Island.

Of those surveyed, 48% had attended the RFC at least once. However, 63% of those who had attended had done so only once, and a further 9% had been only twice. Only 7.5% of those surveyed in the Waikato had attended on more than 5 occasions. Most farmers gave general reasons for attending (Figure 2), only a few specific topics of interest being mentioned. While not offered as a reason for attending, discussing the topics presented with other farmers was cited as the most enjoyed aspect of the conference (Figure 3).

Figure 1 Awareness of conferences held for dairy farmers.

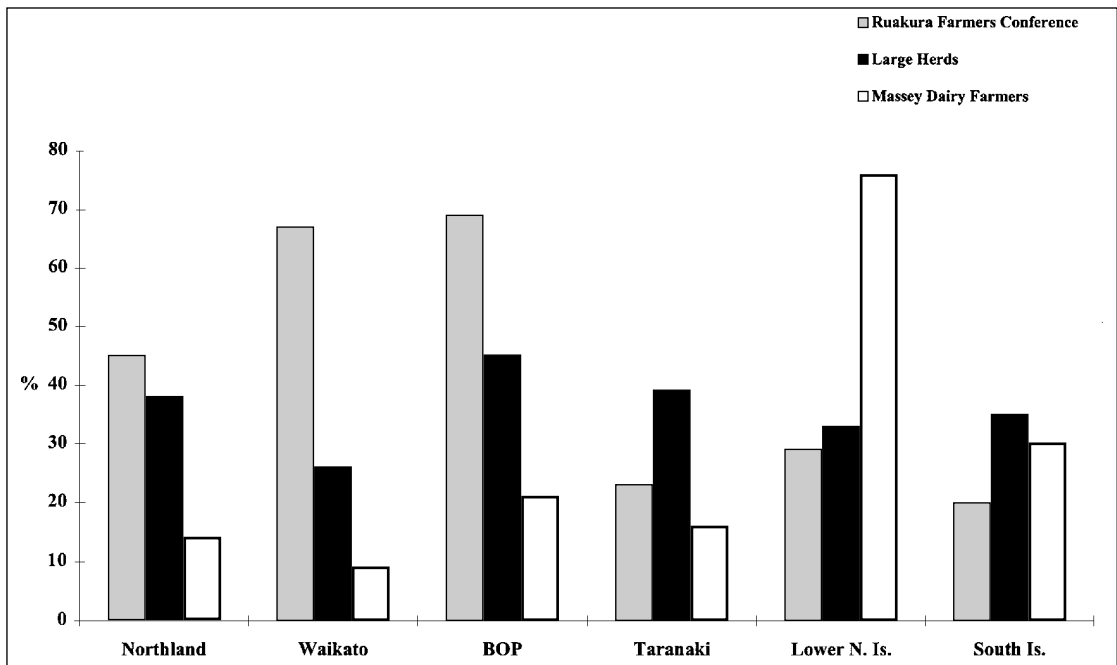


Figure 2 Some reasons given when farmers were asked why they choose to attend the Ruakura Farmers' Conference.

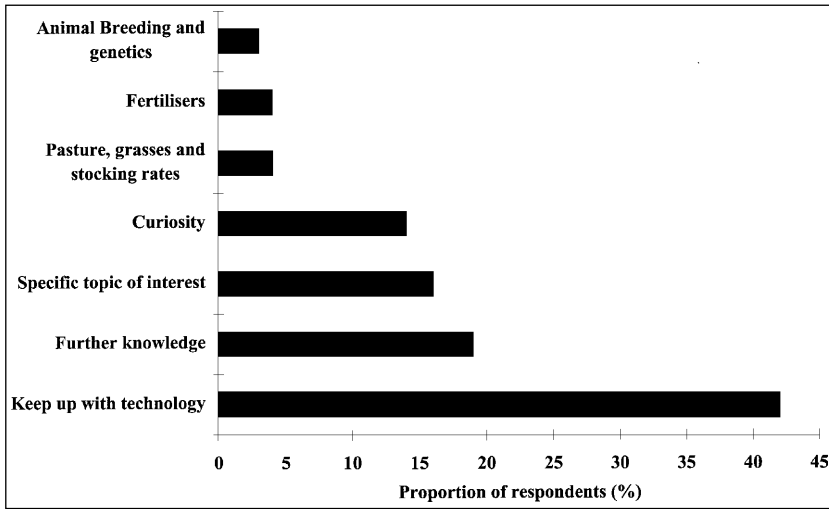
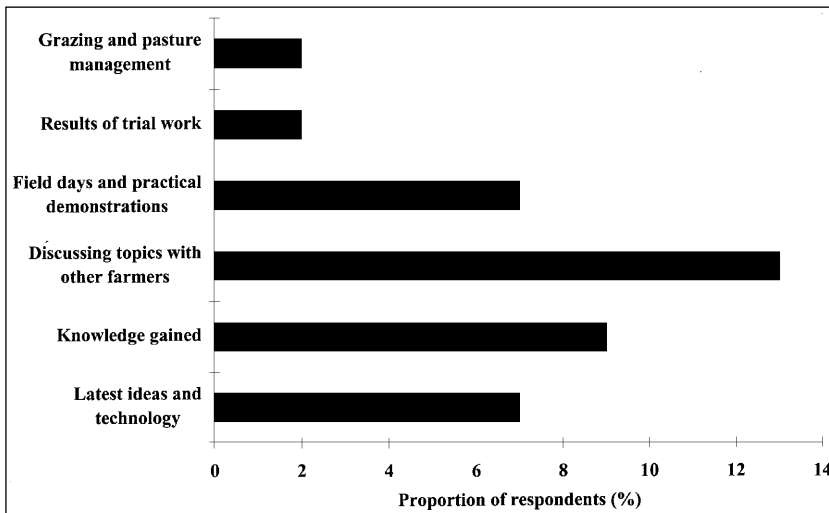


Figure 3 Some features specified when farmers were asked what they enjoyed the most at the last Ruakura Farmers' Conference they attended.



The main reasons given by farmers for not attending the RFC were: they were too busy and could not leave the farm (49%), or they were not interested in conferences (28%). Both answers suggest that many dairy farmers do not regard the RFC as high enough priority to attend regularly. Many suggested, however, that they would consider attending if they heard from others that they were missing a really good day. In marketing terms, the product has achieved a high level of market penetration, but has poor customer loyalty.

Nevertheless, the survey indicated that a large group of farmers remain interested in attending conferences if they perceive they would receive value for time and money invested. Of the dairy farmers in the Waikato, 30% had attended the RFC since 1990, 12% stated they were "very likely" to attend the next conference and a further 24% stated they were "likely" to attend. If a single representative from 30% of the farms in the Waikato attended in any one year the RFC would have to cater for 1500 people.

Focus groups

Information needs

Many of the major issues currently challenging the farming community fall outside the traditional areas of pastoral research. At each of the four focus group meetings, four predominant requirements for information and knowledge became obvious: labour management, farm profitability, environmental sustainability and business management skills.

Labour management

The availability, recruitment and retention of high quality farm staff was viewed by all groups surveyed as the largest single issue facing the dairy industry now and in the foreseeable future. While labour was usually discussed in relation to employed staff, one of the key underlying issues was the efficiency of labour use on dairy farms. Farmers required information on employing the right people and getting the best out of employed staff. Many viewed conferences as a forum where industry labour availability issues could be debated. This could include improving the profile of the industry, investigating the opportunities for young people within the industry, and attracting the right people to dairy farming as school leavers.

Farm profitability

Meeting the current financial needs of the farming family received little mention during the focus group meetings. In contrast, financial goals of asset accumulation, farm succession and retirement planning were often discussed. Profitability of the farm business was discussed as a requirement to meet these financial goals, and in that context farmers were concerned at the low and declining level of profitability of their farm businesses.

Farmers asked for information on the factors that contribute to profitability. Factors both within and outside farmer control are of interest. Farmers wanted to understand how macro-economic factors and the industry structure and efficiency influences milksolids payments.

The importance of farm production technologies was relative to the impact they may have on net farm income and was discussed only in relation to profitability. New technologies that could reduce costs were given higher priority than techniques developed solely to increase productivity.

Environmental sustainability

Farmers recognised a need for a sound understanding of the overall concepts of sustainability to help develop appropriate farming practice. Specific information was asked for about effluent treatment and disposal, animal

welfare, and maintenance of soil structure and productive pastures. Information on the impact of current farming practice was required. In addition it was clear that new technologies with perceived negative environmental or animal welfare implications would not be readily adopted.

Business management skills

As having a competitive edge becomes vital to both financial and employment security, farmers expressed a need to develop better business management skills. Negotiating skills, stress management, and managing finance, investment and risk were identified as key areas of current weakness. Farmers also viewed conferences as an avenue to keep up with responsibility imposed by legislation such as the Health and Safety in Employment Act 1993.

Current perceptions of the RFC

There was a strong perception that the RFC had become old and outdated. While it was described as predictable, functional and consistent, it was no longer meeting farmers' needs and was inflexible. Many of those attending the RFC did so because they did not want to risk missing a good session. Older farmers attended because of the tradition of the event, and their past benefits. The outdated perception of the event arose from the state of the venue, the style of presentation, and the obvious lack of change in the programme and format.

The lecture-style of presentation received a lot of criticism from farmer participants. Lecture presentations were considered difficult to learn from, boring and ineffective. Often, poor quality presentations accentuated the problems of the lecture style. Conferences are perceived as something people come to watch, not become involved in. The lack of discussion of the topics presented was identified as a major constraint of the large conference format.

Farmers enjoyed the opportunity to meet with other farmers and researchers – a chance to meet the people they read about in the *New Zealand Dairy Exporter*. Some commented that seeing first hand that a researcher knows what they are talking about can go some way toward validating their work.

The ideal conference

There was a high level of commitment to the RFC, provided the conference was updated and was run to meet the current information needs of the farming community. While there was a desire for continual renewal of the conference, farmers wanted it to remain functional.

The primary reason given by farmers for attending the conference was to gain knowledge which could affect the efficiency of labour use, and the sustainability and profitability of their farming business. Therefore, the conference content must be chosen to address those information needs specifically. Each focus group clearly stated that papers that were used to promote new personnel, research programmes, or commercial enterprises were inappropriate. All agreed that one of the most important aspects of a good conference is challenging and motivational speakers and topics.

Farmers wanted an event they could become involved in. Opportunity to discuss the material presented was considered vital. Discussion sessions were seen as essential to effective communication. While farmers find lectures difficult to learn from, the discussion usually focuses on application, puts the ideas in context, and helps the audience to relate the information to their personal situation. A move from lecture-based presentations to workshop discussion sessions was strongly advocated.

The dairy farming community is a large diverse group of people with wide ranging levels of personal and business development. Therefore a variety of programme options would be required to meet the needs of different groups within the farming community. Farmers specifically asked for choice in the programme, allowing them to select the sessions they were interested in, and to not attend those that were not applicable to their personal situation or level of development.

Technology transfer

“It is better to have a good presenter talk about research someone else has done, than have to listen to poor presentations from good scientists!”

Each focus group clearly indicated that the traditional conference lecture was perceived as long, boring and often too theoretical. If lecture-style presentations are to be used they must be high quality. They should be short and punchy, putting across the main concepts and themes and not dwelling on detail. If the presentation and discussion caught the interest of the audience the written paper would then be used to study the detail.

The presenters had to be highly skilled, with the ability to present information with an entertaining and enjoyable style. The language used should be simple and free of jargon and unfamiliar scientific terms. Visual aids must be simple, clear and easy to read at a glance. Farmer speakers were perceived as easy to relate to and having a high level of credibility. Using a scientific presentation to provide information on a particular

technology, then having a farmer speaker who had applied aspects of the technology was suggested as an effective method of technology transfer.

Discussion

Dairy farmers are not technology shy. They want to keep abreast of research and development and apply new technologies that will benefit their business (Reid *et al.* 1996). However, dairy farmers adopt technology to increase production or efficiency only as a means to attaining their goals (Valentine *et al.* 1993). Few have goals that relate directly to increasing farm efficiency or production (McRae 1993). In a study of 32 dairy farmers in the Dannevirke area, Valentine *et al.* (1993) demonstrated that 44% held the primary goal of expanding the farm business, 28% wanted to increase the profitability of the existing farm business, and 28% wanted to decrease their involvement in the farm business. These goals relate closely to the four key information requirements identified during our focus group meetings.

The financial goals of dairy farmers discussed during the focus groups, and those identified by Valentine *et al.* (1993), are primarily concerned with increasing profit to attain broader business goals such as wealth accumulation, expansion, farm succession and retirement. This is in contrast to the financial goals of the farmers in agricultural sectors currently generating lower financial returns. The financial goals of North Island hill country farmers were generally concerned with the well-being and financial security of the farming family (McRae 1993).

Dairy farmers accept that a portion of the information required to improve the efficiency of labour utilisation, farm profitability, sustainability and business management must be technical. The challenge for scientists is to demonstrate how their research findings can help farmers attain their goals. Research must be presented in an easily understood format, using applicable language and giving a clear quantitative explanation of the implications of their work on dairying systems. In order for applied agricultural researchers to maintain credibility and achieve acceptance of the results from new projects, dairy farmers will demand that they analyse their research at least in terms of the likely impact on their key information requirements.

The number of farmers who attend the RFC, and the telephone survey, indicate that many farmers still view conferences as a valuable source of information. Therefore, researchers must continue to view conferences as a potentially valuable forum for technology transfer to farmers, as a venue for the promotion of new and innovative research and development, and as a vehicle

to promote their findings. However, they should also view them as an opportunity to develop ideas, gain the input of farmers and to learn from those who apply technologies developed by researchers.

Although some of the key issues facing the dairy community today are outside the traditional sphere of pastoral research, there is ample scope for scientists to extrapolate and expand their results to incorporate issues related to improving profitability, sustainability and the efficiency of labour utilisation. Nevertheless, research should be transferred to the most appropriate group and farmers are not always the appropriate end users for all levels of agricultural research. Researchers need to critically evaluate their involvement in technology transfer. Those involved in conference and field-day communications may need further training in order to deliver informative and effective presentations.

The format of farmer conferences may require change to accommodate the different learning styles of farmers. While this study identified the lecture-style presentation as a poor method of technology transfer, Paine (1993) demonstrated that the learning styles of farmers was closer to that of researchers than was often assumed. Many farmers were able to learn effectively by sorting information from a wide range of sources into logical packages. Nevertheless, they were generally more reliant on learning by thinking through problems from several different perspectives, putting theory into practice and through experience, than would be a group of researchers (Paine 1993). Perhaps the real problem of lectured presentations is the inability of the presenters to relate their research to issues of importance to the audience.

There is no doubt farmers want to discuss the information, both with each other, and with the presenters. Formal presentations are a poor vehicle for transferring large amounts of detailed information. Farmer conference papers should become short powerful summaries of research which emphasise the key concepts and clearly explain the implications of the work for the issues of importance to the audience. Their main purpose should be to stimulate active discussion of the topic. If this is achieved, the written papers will be used to attain the necessary detail as required.

To ensure the programme and format of conferences continues to meet the information requirements of farmers, farmers must be involved in the organisational process. Rather than using local farmers and extension workers simply to organise the logistics of conferences, they should be given ownership of the conference content. Farmers should be heavily involved in establishing appropriate themes, developing the

programme, and selecting the papers and presenters. Researchers, and research organisations, will inevitably be influenced by political and organisational agendas. While this may meet some short-term objectives, the long-term well-being of agricultural research depends on research and extension providing innovation and technology that meets the needs of the farmers and industries we serve.

Conclusions

The objectives and priorities of those involved in both research and extension must be reviewed regularly to ensure they are meeting the ever changing requirements of farmers. These evaluations should include effective feedback from farmers to applied researchers. It is no longer, and never has been, appropriate to assume or prescribe a set of needs and goals for farmers.

To achieve long-term benefits from investment in agricultural research, scientists must be committed to ensuring that their research meets the needs that are identified. Applied research and technology transfer must clearly focus on providing the new technology required to enable farmers to achieve their socio-economic goals. Farmers conferences should present only information that will help farmers achieve these goals.

Only scientists who continue to respond to the changing needs of farmers, assessing the content, relevance and delivery of their research information and if necessary adjusting their research emphasis, will continue to make a major contribution to the dairy industry.

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