

Improving wheat profitability through farmer initiated groups

M.J. Cahill and N.J. Douglas

Department of Primary Industries, PO Box 102, Toowoomba QLD 4350
Operation Quality Wheat (QLD), PO Box 102, Toowoomba QLD 4350

Summary. Each year significant tonnages of Australian wheat are sold into low protein, low premium wheat markets. Current average yield and protein figures are well below those possible if existing, relatively simple agronomic practices were adopted by wheat farmers. To improve the adoption of new technology in the future, Operation Quality Wheat (QLD) employed a Project Officer (January 1991) to co-ordinate the establishment of Most Efficient Yield (MEY) groups throughout the Queensland wheat region. To date ten groups have been established. By the completion of this project at least 30 groups are expected to be operating and the MEY, self-help concept, will be an established method of improving technology transfer in Australia.

Introduction

Throughout the 1980s and the early 1990s increasing concern was expressed about the future of the Australian Wheat Industry in the world wheat markets due to the continued decline in the yields and protein levels of our wheat. Each year more and more of our wheat is being sold into the lower protein, low premium wheat markets. No where is this of more concern than in the hard wheat region of Australia (Dubbo North) where increasing tonnages of wheat are being downgraded to Australian Standard White (AS W) due to low grain protein levels. This decline has continued despite indications that many individual farm yields could be increased by 0.5 to 1.5 t/haa by the adoption of existing, relatively simple technology.

In response to this decline in wheat profitability, Operation Quality Wheat (OQW) was established in Queensland and New South Wales, and Protein Plus was established in Victoria in 1987. Since then, these groups have initiated co-ordinated activities within each state and nationally to increase farmer awareness of management practices available to optimise the yield and protein levels in wheat, and therefore maximise profitability. These activities have concentrated on wheat as an integral part of the farming system rather than wheat production in isolation.

While continuing an awareness campaign, OQW (QLD) realised that awareness is not adoption, so looked for a sounder basis for improving the transfer of technology. At this time Dr Ed. Vasey, from the University of North Dakota and Mr Martin May, of NSW Agriculture, visited Queensland to discuss the application of the Most Efficient Yield (MEY) concept by the OQW group. As a outcome of these visits OQW (QLD) adopted the MEY group concept as a key project to improve the transfer of technology to Queensland wheat farmers.

In January 1991 one of the authors, Mr N. Douglas was employed as 'Project Officer' by OQW (QLD) to co-ordinate the establishment of MEY groups throughout the Queensland wheat belt. This paper reviews the establishment of these groups to date and the future role the MEY concept has in improving technology transfer.

Methods

The MEY groups being established are based on the concept of the 'Maximum Economic Yield Clubs' initiated in the US in the mid-sixties. Today in the US this self-help concept has evolved to a group extension program aimed at improving the profitability of cropping by systematically searching for the optimum combination of inputs which maximise net returns. The operation of MEY clubs in many areas of the US is formalised with 'Start-Up' booklets giving detailed guidelines for the establishment of groups (6).

In Queensland, to date, the establishment of groups has been less formalised, while retaining the following key elements of the MEY concept:

- Farmers in a region establish their own groups themselves, ensuring farmers in the group have similar interests and more importantly are keen to work together.
- Each group finds *its* own 'Technical Resource Officer' (TRO) who assists the group with technical support for group initiatives and assists the group with outside research and technical support. QDPI, commercial agribusiness agronomists and private consultants are providing this support. It is possible that many groups will function well without a TRO, particularly where group members have access to needed information on improved technologies.
- Individual group members identify factors which they feel are limiting the productivity of individual crops or paddocks. Demonstration strips are then established to identify the techniques that farmer feels will overcome these limitations on his property. These strips are then available to other group members for regular crop walks and group discussions.
- Achievements are measured objectively at the end of the season and the results shared with the other group members.

The Project Officer has a co-ordination/facilitating role in this project; not a technical support role. He has facilitated the establishment of groups, assisted them to find a TRO where an agronomist was not readily available and assisted the group establish links with resource personnel in research and extension. The project officer's previous role as District Adviser with QDPI for 35 years has been of great benefit to the establishment and operation of the project. The importance of an independent, experienced, project officer who is committed to the project full time, cannot be over-emphasised, particularly in these early stages of the project.

The 'Introduction' and 'Start-Up' MEY kits prepared are less formalised than in the US, but we believe they are relevant to the local farming situation. Farmer involvement in a group will only succeed if they see a positive benefit for their commitment to the group. The availability of TROs to date has not been a problem in most areas, although the Project Officer has been approached by some farmers in areas where a TRO is not readily available at present. This is a potential problem, however, particularly as the number of groups wishing to establish increases in areas currently not well serviced by agronomists. In these areas, groups may function well without a TRO, provided the group is given the resources which enable it to directly access research and development personnel when information is required.

Results and discussion

This project was established in January 1991 and to date has concentrated on the establishment of groups throughout the region. In many areas where these groups have been established, farmers are suffering one of the worst droughts ever experienced. Despite this the project is continuing to establish groups and identify priority constraints with group members so demonstration strips can be established for the crop.

This project is also creating interest with research and development personnel. Research and development staff are seeing the co-ordinated MEY groups system as a means of improving the interaction between these groups and farmers at all stages of project development. This should ensure that future information development more closely addresses the needs of farmers from the start of projects. Other groups, such as Agricultural Colleges offering on-farm vocational courses, have expressed interest in the MEY concept as a means of initiating a self-help, proactive approach to the adoption of new technology by their students.

MEY and technology transfer

The MEY concept acknowledges that linear models of technology transfer may not be as effective as previously thought (1,2,8). The image that an effective information system is one in which research produces information, extension passes it on and farmers use it is a questionable one in many applications (7). Information communicated by fact orientated experts is sometimes seen as irrelevant by farmers, with the exception perhaps of the innovators and the early adopters. This has resulted from our failure to address the needs of the end user. We first need to understand what makes farmers want to learn and second we need to provide an active learning environment that facilitates the adoption of technology.

The problem is not that farmers are not keen to learn. In fact the exact opposite can be true. Daniels (3) further suggests that farmers' need to learn can be increased if information on new technology is presented in a format which allows them to see how this information can benefit them on their own farm. Information not presented in this manner may be seen as irrelevant. Also, farmers, like the rest of us, place significant emphasis on recent experiences and new information is interpreted individually in light of this. Information is interpreted on an individual basis as farmers relate it to their own experiences and their own on-farm situation (3,4). In many cases therefore, when making decisions involving a change in management, a farmer will first seek the advice from neighbours, peers and consultants who regularly deal with the farmer on a one-to-one basis (4). Daniels (3) suggests this is because farmers see this information as more relevant to their individual situation and available in a format which allows them to individually assess the benefits of this advice. The need to learn therefore, can be stimulated by presenting information in a format which is credible, simple, clear and easily understood. Information must also be packaged in a format which allows farmers to see how this information can be of direct benefit to them on their own farms (2,3,5).

The TRO will therefore have a role of not only providing the current technical information required, but also facilitating the interpreting this information in a way that allows farmers in the group to see a benefit from adopting this technology on their own farms. It will be important that group members see the TRO as someone who can facilitate this information transfer effectively.

The MEY concept also recognises that adults, particularly those with considerable experience in a topic area, adopt technology by experimenting in the real world with learning occurring primarily by reflection and by interaction with colleagues (1). This is supported by Childs (2) who suggests that when participatory and collaborative groups were established with Queensland dairy farmers there was significant improvement in the adoption of technology. In MEY groups active learning is encouraged, not only by trying new technology on their own farms, but also by discussing their actions with peers in the group. They acquire ownership of the groups results not just their own. This participation and collaboration with peers is the key to the MEY concept of technology adoption.

Acknowledgments

This project is being funded by the Grain Research and Development Corporation, Incitec, Australian Wheat Board, Grain Co (QLD), Defiance Milling, Weston Milling, Goodman/ Fielder Milling and Wheat Committee for Queensland.

References

1. Bunning, C. 1991. QDPI System Study Files S4 No 1.
2. Childs, J. 1989. Proc. 5th Aust. Agron. Conf. pp. 369-375.
3. Daniels, J. 1989. QDPI Regional Services RQR 89008.
4. Fowler, C. and Gray J. 1991. QDPI Information Services Q191026, (Ed A.Hamilton) pp. 26-30.
5. Hamilton, A. 1991. QDPI Information Services Q191026.
6. Murphy, L. 1989. In: Potash and Phosphate Institute Publication. (Spring).
7. Roling, N. 1988. In: Extension Science: Information systems in Agricultural Development. (Cambridge University Press). pp. 144-178.
8. Rogers, E. 1986. In: Knowledge Generation, Exchange and Utilisation, (Eds. M. Beale, W. Dissanayake and S. Konoshima) pp. 37-60.

