Queensland producers' needs in relation to blowfly and louse control

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Summary

Queensland wool producers' needs in relation to blowfly and louse control and minimising pesticide residues on wool were identified using a focus group approach at 22 discussion days throughout Queensland's wool-growing districts in March 1998. Awareness of the problems associated with pesticide residues on wool was high, however issues that were closer to home, such as occupational health and safety and low wool prices, were a higher priority. Producers readily acknowledged that improvements in their management would contribute to solving problems related to parasite control and pesticide use, however they said that, among other things, conflicting, poorly targeted information prevented this. Consequently, the production and delivery of more relevant, better-targeted information emerged as a priority in meeting producer's needs and achieving our long-term objective of assisting them to minimise pesticide residues on wool through practice change.

Keywords

Producers' needs, pesticide residues, extension, sheep blowflies, sheep lice

Introduction

In response to global, government and wool industry concerns regarding the effects on the environment and human health of pesticides and residues on wool (Russell, 1994; Pattinson, 1995; Shaw, 1997), the Queensland Government in consultation with the state peak industry body Agforce determined this to be a priority issue. In 1995 they formed the Wool Industry Chemical Residue Committee (WICRC) with the purpose of reducing pesticide residues on the Queensland wool clip. Significant resources were directed towards the development and delivery of extension activities that aimed to encourage and support producers in reducing pesticide use and residue levels on wool.

The Department of Primary Industries, Queensland had resolved to take an integrated pest management approach to its research, development and extension activities. While there had been many attempts at promoting non-chemical management and strategic chemical intervention practices in the past, these were *ad hoc* and lacked focus. Also, it was six or seven years since extension material had been generated and the pesticide residue issue had achieved prominence in the meantime.

Market research conducted for the International Wool Secretariat by Monash University (O'Keefe and Gray, 1996) showed that most producers did not have detailed knowledge of the on-farm practices that led to high pesticide residues on wool. Most producers wanted detailed solutions to the problem of pesticide treatments and residues on wool. They also agreed that they should be ready to meet international standards for pesticide residues when they were introduced and this should be highlighted in all communications. However, previously published information products were judged to be poorly targeted and irrelevant.

To ensure that Queensland extension products and programs were relevant and effective, the Department decided late in 1997 to conduct market research amongst Queensland producers to determine their awareness and knowledge of the residue issue and their needs in relation to blowfly and lice management. A series of what was termed 'discussion days' on maximising parasite control while minimising pesticide residues on wool was conducted throughout Queensland's wool growing districts in March 1998. Results of the discussion days are presented in this paper.

Methods

In addition to investigating producers' awareness, knowledge and needs, one of the aims of the discussion days was to transfer responsibility for the residue issue from government, faceless processors and European legislators to the producers themselves. With this in mind the format of the full day meetings revolved around the producers discussing a number of questions and, at the end, completing an evaluation sheet. This facilitatory, co-learning process was used to:

- canvass producers' current knowledge and determine gaps in their knowledge;
- accomplish the transfer of responsibility with many producers attending the days;
- develop strategies to address the issues based upon producer suggestions;
- impart knowledge where information was requested at the end of each day; and,
- facilitate further contact with these producers via the circulation of a summary report of the discussion days.

The 22 discussion days were held in centres that were selected so that all producers in Queensland's sheep districts could participate. The geographical dispersion of the centres determined that four teams of three extension officers would present the days and record producer responses. All officers had received training in facilitation. The facilitators asked the following questions:

- What are the issues of lice/fly/chemicals that cause concern/problems for you and/or the industry?
- What are the benefits of being free from lice and flies in sheep and chemical residues on wool?
- What causes/caused the problem?
- What are your solutions to the problem? and,
- What do you want more information on?

During the meetings, producers asked a number of questions of the departmental staff. These were written on a 'question sheet' for answering during the lunch break or at the end of the meeting.

The data collection method used was butcher's paper and the producers' responses were then transcribed to Microsoft Word files. These files were collated for categorisation, sorting and totalling in Microsoft Excel. A total of 20 major categories were identified and divided into 70 sub-categories. Data was reported by frequency of categories and sub-categories under question headings. Evaluation sheets were circulated at the end of each discussion day and the results collated. All of the collated data, including the evaluations, was analysed and documented.

The names and addresses of the attendants were recorded at each day to register attendance levels and to enable distribution of a four-page summary of the outcomes from all of the days. The summary report was also sent to all non-attending sheep and wool producers in Queensland (approximately 2300) so that they could share in the outcomes. A feedback form was included in the mail out to give recipients the opportunity to indicate their interest in participating in future activities.

Results

A total of 22 discussion days were attended by 257, or 10 per cent, of Queensland sheep and wool producers and demonstrated that producer interest in participating in discussion on this topic was high. In all, over 3000 responses were generated. The feedback form that was included with the mail-out to woolgrowers of the summary report generated 65 responses from the discussion day attendants and 87 responses from the non-attendants.

When wool producers were asked what issues were of major concern to them, those that received the most responses were:

- occupational health and safety (including difficulties wearing protective clothes; legal liability);
- emotional costs (strain and worry caused by this issue at a time of prolonged low wool prices and in the aftermath of drought);
- lack of useful information and information overload;

- chemical residues (in soil and on wool);
- concern about neighbour's sheep and neighbour's attitudes;
- concern about costs;
- management (including poor application of chemicals; husbandry practices); and,
- tightening environmental standards and ability to access markets.

Producers believed the benefits of getting rid of lice and fly and being free from chemical residues on wool would contribute to:

- more money or greater viability;
- more time for leisure, family and a better lifestyle;
- more markets and better access to markets;
- increased wool productivity from nil parasites;
- no stress or worries;
- improved health, safer working environment, risks reduced;
- more time and money to spend on improvements and infrastructure;
- better use of labour — own and others';
- no chemical residues on wool or in meat; and,
- less stress on stock, stock health improved.

When wool producers were asked what they believed the main causes of the problem were, the majority of comments pointed to:

- management quality (including poor application methods, poor musters, poor fences, misuse of chemicals);
- conflicting, poorly targeted information;
- attitudes (including apathy, ignorance, resistance to change);
- lack of communication and cooperation between neighbours;
- difficulty reading and interpreting labels;
- treating for lice in long wool;
- lack of labour resources and money to implement changes;
- lack of market feedback on residues, environmental affects and changes in environmental standards;
- studs not breeding fly resistant sheep;
- parasite resistance to chemicals; and,
- lack of appreciation of producers' problems by processor countries.

Producers identified the solutions to the problem of lice and fly control and chemical residues on wool as being:

- improved management practices (including treating off shears, avoiding split shearings, improving the time of crutching, fixing fences, applying chemicals correctly, ensuring clean musters);
- checking or testing for lice throughout the year, eradicating lice, non-treatment;
- forming groups and/or communicating/cooperating with neighbours;
- encouraging studs to breed sheep resistant to parasites;
- more relevant, better targeted information; and,
- increased use of fly traps and mulesing.

Other, lower order issues that emerged in the control of fly and lice were:

- improving farm safety, wearing appropriate clothing;
- more market feedback and information about Maximum Residue Levels (MRLs);
- link low residues to the market image of wool;
- alternatives to chemicals for parasite control;
- producer and staff training in parasite control; and,
- doing more first stage processing in Australia.

When asked what topics they wanted more information on from the department, producers responded with:

- chemical groups or families;
- biological controls;
- residues;
- missing a treatment;
- life cycles of lice and flies;
- diagnostic tests for lice; and,
- group formation.

As well as answering the questions posed to them by the facilitators, producers had many questions of their own. The majority of these revolved around pesticides and residues, biological control, diagnosing lice, fly trapping, markets, management and breeding for resistance. When asked what they could personally do on their properties to address the issues that had been raised, producers responded that they would source information from the department, stock and station agents and chemical companies as well as talk to industry organisations. Producers also intended to focus on management issues such as improving infrastructure, achieving clean musters, better husbandry practices, examining timing of practices, missing a lice treatment, and introducing fly trapping. Lice diagnosis and lice detection tests were considered a priority so as to build confidence not to treat.

Discussion

At the time of the discussion days wool producers were under considerable financial and emotional stress from prolonged low wool prices and drought conditions over the previous seven years. Coping with the legal, safety and emotional stresses surrounding the issue of pesticide residues on wool was demonstrated in the responses. It is worth noting, however, that while there was an awareness of the issues surrounding residues and market access they did not rate in the top three in the minds of producers.

Requests for better information surfaced time and again in discussions and evaluations. Statements from producers included: ‘conflicting information’, ‘poor information and audience targeting by extension bodies’, ‘producers not actively seeking information’. This perceived lack of relevant information did, however, conflict with their obvious frustration at an overload of information. Interestingly, it was the extension officers’ belief going into these days that producers had received sufficient information on the issue with the release of 23 publications, numerous radio talks and newspaper articles and as many as 50 different presentations and field days across the state. The message from producers was very clear and indicated the need for a major overhaul of the targeting, writing, production and marketing of our information products. Quality over quantity and back to basics, highly transparent approaches were the order of the day.

In the six months prior to the discussion days a motion was passed by the WICRC that ‘this meeting request the Director of the Sheep and Wool Institute to implement a program (for graziers) to voluntarily eliminate lice in Queensland sheep flocks’ leading to a non-treatment strategy for lice. The committee viewed this as the most effective way to assist producers to reduce pesticide use. However, the discussion days revealed that delivering this message as if there was only a single issue and point of view to take into account was not appropriate. Most producers expressed genuine concern about moving to a non-treatment strategy and the potential costs and consequences of this; typical comments included ‘fear, what can the losses be’; ‘can’t afford the risk (not to use pesticides)’; ‘be sure rather than sorry’. In addition producers felt that there was no reliable pre-shearing test for diagnosing lice, which contributed to their mistrust of not treating.

These responses indicated that messages focussing on lice eradication and non-treatment were unrealistic for many producers at this time and would therefore be unsuccessful in achieving practice change. We resolved to change our approach and develop strategies to gradually build producer’s knowledge and confidence through simple but effective communication of practical, relevant

integrated management practices. It was important that producers could easily relate to these concepts and apply them on-farm with minimal cost and concern.

Another major stumbling block to effective communication emerged at the days and related to simple terminology. We found that while extension officers discussed pesticides using their family/group name and the active ingredient, producers related almost exclusively to product brand names. They requested that user-friendly information on pesticide products be developed. We responded with a publication titled *Quick guide to commonly used treatments for lice and blowflies*, a double-sided A4 sheet that was written from a producer's point of view. The publication was very well received and widely endorsed by producers. The concept has been extended to internal parasites and other livestock industries.

Some of the problems and concerns raised by producers were outside our direct sphere of influence, however they are important as they act as barriers to practice change. For example, the content of a pesticide product label needs to be read and understood by producers, however the nature and presentation of the information hinder this. Producers said that reading and interpreting labels was a problem and typical comments included 'ability to read', 'ambiguous directions', 'language not easily understood', 'durability of labels — some fade'. This indicates that there is a need to review labels to satisfy the requirements of producers for information while meeting legislative guidelines.

There was a discrepancy between the importance given to occupational health and safety issues by producers and the steps taken to address them. Many producers referred to difficulties wearing protective clothes and equipment: 'most don't wear it; can't wear it when jetting'. There were concerns about legal liability and the ability of employees to sue. Most were unaware of the existence of Material Safety Data Sheets (MSDS) or that they should source them. Chemcert training is widely available in Queensland and it is the responsibility of producers to access and implement it for themselves and their employees.

The days revealed a desire by producers to move forward, while recognising factors that were holding them back. They identified long-held beliefs that may have precluded change, including: 'do-it-yourself mentality — don't like outside advice'; 'neighbours blaming each other — not taking responsibility for ourselves'; 'stigma prevents graziers admitting there is a problem with lice'; 'apathy and laziness on the part of the grazing industry'; 'resistance to change'; and 'lack of communication and coordination between neighbours'. This type of discussion also highlighted a dilemma most often commented on by producers themselves, which is that 'the people who most need to be at these sort of days never attend them'.

The discussion day's process achieved our objectives of determining producers' awareness and knowledge of the residue issue and their needs in relation to blowfly and louse management. However not all attendants had their expectations met and some were uncomfortable with the facilitated approach that was taken. They were seeking new information and solutions to their individual problems in a familiar workshop format. We resolved that if we were going to the producers again on such a large scale that it would only be to increase awareness of an emerging issue, to introduce new technology or in response to producer demand.

Conclusion

The discussion days revealed that while producers had a relatively high awareness of the issue of pesticide residues on wool, they lacked detailed knowledge of the environmental affects of residues and were interested in receiving more market feedback and updates on changes in environmental standards. This awareness however did not translate into the issue being a high priority for producers. They were more concerned with occupational health and safety risks and the emotional costs of operating their enterprise in the prevailing economic and climatic environment. The benefits to be gained from fly and louse control and reducing residues on wool were also close to home with financial viability and lifestyle improvements rating higher than market access.

Producers readily acknowledged that there were things that they could do on-farm to improve management and therefore reduce pesticide use and residues on wool, however they were not confident about the practical application of the necessary changes and believed conflicting, poorly targeted information contributed to the problem. Poor producer attitudes, lack of communication between producers and difficulty reading and interpreting labels were also identified as problems that needed to be solved.

The discussion days approach to finding out producers' needs was also important as a learning experience for staff as it revealed shortcomings in our extension approach and opportunities for future activities. We were able to identify priority areas (such as information on chemical groups) and drop those that were not appropriate (such as the lice eradication message). As we had recorded the contact details of the producers who had attended the days we were able to build on the relationship through the establishment of a client database and regular mail outs. We were also able to develop a strategy for the publication of new products that met the criteria of relevant, reliable, concise, user-friendly information on key topics. An example is our comprehensive information manual on blowflies and lice published in 2001, which is presented in another paper at this conference (McLeish et al. 2001).

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