

The Sheeplink activity — A strategy for managing blowflies and lice in dry tropical pastoral regions

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Summary

In 1998 a number of factors that were impeding Queensland producers from reducing their reliance on pesticides for managing blowflies and lice were identified. Many of these related to on-farm management, but producers also nominated conflicting and poorly targeted information as contributing to the problem. Based on this understanding of producers' needs a strategy was developed for the publication of a new product that would meet the criteria of relevant, reliable, concise, user-friendly information on key topics. The product would provide all of the core information that was most needed and regularly sought by producers and advisers. An innovative approach was taken to the generation and presentation of this information, and the result is a manual that has established a new standard in the provision of information to the Queensland wool industry.

Keywords

Information manual, integrated parasite management, producers' needs, pesticide residues, extension, sheep blowflies, sheep lice

Introduction

Producers who attended a series of 22 discussion days throughout Queensland's wool growing districts in March 1998 readily acknowledged that improvements in their management would contribute to solving problems related to parasite control and pesticide use. However they said that one of the factors preventing them from making these improvements was conflicting, poorly targeted information. They believed that more relevant, better-targeted information was a solution to the problem of residues on wool (McLeish *et al.*, 2001).

The days also revealed a misalignment between extension officers' and producers' perception of information being delivered to industry. On the one hand staff believed producers had received sufficient information, yet producers felt their needs had not been adequately or appropriately met. These findings were supported by market research conducted for the International Wool Secretariat by Monash University (O'Keefe and Gray, 1996) which showed that most producers did not have detailed knowledge of the on-farm practices that led to high pesticide residues on wool.

The shortcomings of previous publications were also revealed in qualitative market research conducted for the department (Anon, 1997; Olsen, 1998), which included the following recommendations for the improved presentation and distribution of information products:

- Producers wanted reliable, concise, user-friendly information on key issues; topical or seasonal information; and information that was pre-sorted;
- Producers sourced information 'when the problem arose', 'when the information was needed', 'when the circumstances dictated';
- Written information was judged on its newness and the quality of the data provided for the reader to make their own judgement;
- Producers responded best to simple, short bursts of information that clearly stated the point of the communication;
- Producers needed help to manage and integrate information in a way that would improve their own results; and,

- All communication should keep the focus on the adoption of information – ‘inform in a way that encourages adoption, not simply to inform’.

An information extension activity, known as Sheeplink, was developed that aimed to solve these problems and meet producers’ needs for information on managing blowflies and lice and minimising pesticide residues on wool. The key output was a comprehensive, user-friendly information manual that would provide a cognitive view of decision making and strategies. It also had to act as a reference manual to help staff give consistent, timely advice to producers. Finally, it had to effectively utilise available resources and complement the department’s integrated parasite management (IPM) activities.

Methods

A number of tools and techniques for information delivery were considered in the development of the Sheeplink activity and a print-based information manual was selected as best meeting the information needs of producers at the time. DPI’s Agrilink concept, which had evolved from research that showed existing information lacked completeness, quality, easy access and regular updating, was adopted as the model on which to base the publication. Agrilink is based on the principle that if information is to be effectively used it needs to be presented in the way farmers actually seek and use it (Vock, *pers. comm.*).

In late 1998 an interdisciplinary team was formed to develop and progress the Sheeplink activity. This consisted of an extension officer, who was also the team leader, an information specialist and a scientist. The team met and developed a set of principles for the activity and a framework for the content of the publication. The principles included:

- Focus on the core information that is most needed and regularly sought by clients;
- Present information in line with how it has been sought;
- Package information into sections that make access and information retrieval easy; and,
- Operate the activity under quality management to guarantee product quality and integrity.

The framework included:

- Industry situation;
- Common questions;
- Management program;
- Key issues;
- Problem solver;
- Contacts and references;
- Glossary; and,
- Index.

At its next meeting the team identified contributors, who were to be extension and research officers and producer members of the Wool Industry Chemical Residue Committee. They were asked to provide feedback on the proposed structure and supply their ‘three most commonly asked questions’. The officers were also required to contribute technical content appropriate to their areas of expertise and were provided with guidelines for authoring and presentation. They were given two months to complete this task and their contributions were collated into the first draft of the manual.

In March 1999, the activity team held a workshop over one and a half days that was attended by research and extension staff, two woolgrowers and a rural merchandiser. They were divided into three groups to review and critique technical sections of the first draft. In addition they generated new information for sections that had not been written. All of the data was recorded in bound print versions of the manual and transcribed later into Microsoft Word files.

In the 12 months following the workshop the team regularly met face-to-face to rigorously review and edit the drafts and research and generate new information. An experienced editor was then contracted to conduct a style review of the manual to Australian Government Publishing Service

(AGPS) standards. This was completed both prior to, and post the technical review. Two scientists external to the department were contracted to conduct a technical review of the manual. One of the extension officers who had contributed to the first draft, reviewed the manual and a producer member of the WICRC was given the opportunity as well. A professional design firm was contracted to publish the manual, which was completed according to the department's quality assurance procedures.

Results

The Sheeplink activity has resulted in a high quality, user-friendly information manual titled *Blowflies and lice information manual: a practical approach to producing low residue wool*. It is an essential management tool for anyone in the business of producing and marketing wool or providing services to the Queensland wool industry. The manual takes the reader step-by-step through best practice management of blowflies and lice following an IPM approach to reducing pesticide use and pesticide residues on wool. Related animal welfare, environment, economic and occupational health and safety issues are included. The manual was printed in a spiral bound format with thumb tab dividers, designed to help the reader save time by finding the information they need quickly and easily.

Discussion

The Sheeplink activity was developed with the objective of ensuring producers had easy access to effective and beneficial information on ecto-parasite management to reduce pesticide residues on wool. The principles of continuous improvement were central to the writing and production of the manual, and have resulted in a decision tool that encourages the development of a long-term integrated parasite management plan. In the places where the manual does play a 'trouble-shooting' role in response to a problem it also takes a planning approach to integrating management strategies. The manual facilitates problem and opportunity identification and introduces strategies for acting on them according to IPM principles.

A high priority was placed on respecting and incorporating producers' views, knowledge and needs. This required that the authors write the manual in plain English, avoid jargon and avoid treating the information as a prescription or final solution. The manual acknowledges situational and seasonal variables and differences between regions with particular climatic and property features. It allows the reader to tailor the information to a particular property system, history, scale and management. Voluntary changes that can be made and sustained by producers are discussed; changes are not imposed under threat or duress. New approaches and ideas are supported by relevant basic information to ensure a sound understanding of the topic.

The Agrilink concept, that the capture of information is based on the premise that '80% of what is worth knowing is contained in 20% of the information' informed the inclusion and exclusion of much of the content. Technical facts and principles that apply anywhere anytime sit side-by-side with management scenarios and options for addressing them. This sort of information is needed to inform the total decision making process.

Producers and advisers are under high time pressure and they only have patience for products that can provide the information they are looking for quickly and easily. The manual is designed to be a self-help information system structured around eight sections that stand-alone, yet are complementary. Links are provided to other sections in the manual via information boxes in the page margins, which also serve to highlight important or note-worthy information. An index further assists the reader to access relevant information quickly.

Other features of the manual include a glossary, reference list and contacts list. A number of definitions in the glossary are specific to the context in which the term has been used in the manual. The reference list is not exhaustive, but consists of those that the authors recommend. The contact list is designed to be comprehensive, however the authors acknowledge that it will be out of date from

the time of publication. While this is unavoidable the list does provide a constructive overview of the stakeholders in this area.

The information is presented in a spiral bound format because it is a practical and cost effective way of including a thumb index, it allows the manual to lay flat when in use and it positions the manual with a slightly different image from a book. A pocket on the inside of the front cover holds *Handy Guide* inserts and allows users to store their own information. The two *Handy Guides* are practical tools that can be personalised to suit individual situations and utilised as wall charts.

The information gathering and review process in the development of the manual was extensive and delivered a number of valuable lessons along the way. For example, the first draft was very large and unwieldy and it wasn't until the third and fourth drafts that the content started making sense. Problems with the first two drafts included: duplication of information; conflicting styles; knowledge gaps; unsubstantiated statements; 'motherhood' statements; and misalignment with the principles of the activity. The authors operated under the premise that 'good writing is rewriting' and devoted themselves to rigorously reviewing and editing the material and researching and generating new information. Strict quality control was a priority for managing and processing the content and this included two technical reviews, a field officer review and two editorial reviews.

Early in the development process it became clear that there were significant differences between the planned format and writing style of the manual and the style that the technical authors were accustomed to. Old styles had to be set aside to allow the new style to emerge. This transition occurred gradually, and over an 18-month period up to six drafts were completed for each major section. While the format of the manual did not change, the content of the final draft bore little resemblance to the first draft. Whereas the first draft was essentially a compilation of technical papers, the final draft had integrated the information into simple, short bursts of text that clearly stated the point of the communication.

The Sheeplink activity took three and a half years from the initial idea to publication of the manual. In that time it survived three structural changes to the organisation. However, one of the constants has been government policy and its commitment to enabling industry to be nationally and internationally competitive through achieving responsible pesticide use and residue control. The other important constant in the life of the activity was the activity team itself. The team was successful because of its interdisciplinary nature, the interpersonal skills of the members and the experience and expertise each member brought to the topic.

An interesting outcome of the Sheeplink activity and the strategic approach taken to its development was the impact that it had on all of the information activities undertaken as part of the IPM project. An *ad hoc* approach to information production was no longer appropriate or endorsed. Along with the results of the discussion days, the activity created a new context in which to examine producers' information needs and the best methods to address them. Ultimately the manual provided a safe harbour for scientific findings, management strategies and producer experiences to come together and coexist.

Conclusion

Pesticide residues on wool have been recognised throughout the Australian wool industry as a priority issue since the early 1990s. Since then resources totalling hundreds of thousands of dollars have been directed towards providing producers and their advisers with information on reducing residues. In Queensland in 1998, extension of integrated parasite management was at a turning point. Producers had told us that they needed more relevant, better-targeted information on parasite management, pesticide use and residues on wool. Market research confirmed these findings and provided additional pointers for the improved presentation of information products. The Sheeplink activity was developed in response to these forces.

To be successful however, the Sheeplink activity needed to overcome the authoritative, prescriptive approach of previous publications and present information in a way that producers would respond

positively to. The Sheeplink manual, which is based on the department's Agrilink concept, introduces strategies for solving problems and identifying opportunities according to IPM principles. The principles of continuous improvement (plan, act, observe, reflect) were applied to the development of the activity and the writing of the manual, resulting in a publication that satisfies the objectives of the activity team and the needs of its clients.

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PDF | On Feb 12, 2015, R. Chazdon published Restoring Tropical Forests: A Practical Guide | Find, read and cite all the research you need on ResearchGate. Successes that they have had in the seasonally dry region of northern New Zealand. In this regard, it would be useful to. More research is needed in the subtropics and tropics where conservation strategies rarely consider dead wood, although the few existing studies suggest that dead wood is an important factor for biodiversity in these regions. Read more. Chapter. Key strategies include accessing and managing natural resources, mainly grazing land and water sources, and maintaining high levels of mobility across large tracts of land to make the most effective use of scarce resources and in response to environmental conditions [4]. Unlike their long history of environmental adaptation and endured survival, the Ethiopian pastoralists in general are facing acute food shortage. The average number of income generating activities or sources per household for the whole sample was found to be 1.86. As a result, dry-season grazing reserves have been lost, pastoral mobility has been curtailed, and land degradation has increased. Start studying Blowflies Parasitology. Learn vocabulary, terms and more with flashcards, games and other study tools. a. Blowflies are attracted to contaminated wool (warm, wet, and smelly) --> b. lay eggs that hatch into larvae c. larvae at first feed on scales and exudate --> d. larvae secrete proteolytic enzymes which digest and liquefy the host tissue AND enlarge wound area --> e. other fly species are attracted in to lay their eggs. (secondary fly strike) --> f. secondary bacterial infection may occur --> g. toxins released from damaged tissue and ammonia secreted by the maggots are absorbed--> h. sheep stop eating, loose condition, die. Treatment for cutaneous myiasis in sheep: clip and clean apply cuom Pastoral farming (also known in some regions ranching, livestock farming or grazing) is aimed at producing livestock, rather than growing crops. Examples include dairy farming, raising beef cattle, and raising sheep for wool. In contrast, arable farming concentrates on crops rather than livestock. Finally, Mixed farming incorporates livestock and crops on a single farm. Some mixed farmers grow crops purely as fodder for their livestock; some crop farmers grow fodder and sell it. Semiochemicals and sensory manipulation strategies for behavioural management of *Heliothis* spp. Ochseneimer (Lepidoptera: Noctuidae). pp. 27-45 in Zalucki, M. P. & Twine, P. H. (Eds). Proceedings of the *Heliothis* Ecology Workshop, University of Queensland, Brisbane, Australia, 18-19 July, 1985. pp. 159. ASHWORTH, JEREMY R. and WALL, RICHARD 1994. Responses of the sheep blowflies *Lucilia sericata* and *Lucyprina* to odour and the development of semiochemical baits. Medical and Veterinary Entomology, Vol. 8, Issue. 4, p. 303.