



## **Farming systems**



## **Farmer attitudes and beliefs on ectoparasiticides - A Focus Group Study in WA**

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### **Summary**

*This study was a preliminary investigation as part of a proposed larger study on high and low pesticide use farm management practices. Specifically, the aim of this study was to investigate the influence of farmer attitudes and beliefs on ectoparasiticide usage.*

*This study raised two issues for further research. These were the need to:*

- i) Identify groupings of farmers who are likely to be similar in their context and beliefs.*
- ii) Identify the important factors influencing the decisions about chemical use for each of these groups of farmers.*

### **Keywords**

Attitudes, beliefs, ectoparasiticides, farmers

### **Introduction**

Increasing concern about the impact of pesticides on the environment and on worker's health is leading to tighter controls on residues from wool scouring plants and tighter controls on the use of pesticides. Countries that import Australian wool, in particular the European Union, are increasing restrictions on residues in effluent from wool processing plants (IWS 1998). Australia is a world leader in producing low residue wool but it needs to continue improvements in this area to maintain this lead and to enable wool to compete with alternative fibres. At present approximately 40% of the Australian wool clip would satisfy the European requirement for nil or low residue wool based on results from a national residue monitoring survey conducted by Australian Wool Innovations (formerly The Woolmark Company). There is little information on what proportion of the low or zero residue clips represent no pesticide treatment on a flock or mob basis.

IWS (1995) estimated the potential industry threat from pesticide residues to be \$197 million per year. In the future this cost will be much higher. The other future incentive will be an increasing consumer preference for 'clean and green' produce derived from environmentally friendly production systems.

Currently, many sheep farmers use chemicals on a preventative basis as part of their sheep management calendar. Some of this represents an unnecessary usage such as off-shears lice treatment when the flock is free of lice. However, some producers have a selective approach to pesticide usage. This study was part of a proposed larger investigation aiming to determine factors that differentiated high and low chemical usage sheep enterprises. The specific aim of this study was to provide preliminary information on the effect of farmer attitudes and beliefs on ectoparasiticide usage.

### **Issues investigated**

The issues investigated with farmers from three areas of the Western Australian Agricultural region included:

- farmers own experiences with flystrike and lice;
- factors that farmers considered contributed to lice and flystrike problems;
- the advantages and disadvantages of the various methods of ectoparasite control; and

- what would need to happen in the wool industry for individuals to consider making changes to their farming system, particularly those associated with chemicals.

## **Methodology**

A focus group method was chosen because this was an initial exploratory study.

### ***i) Farmer Selection***

Three groups of 10 - 15 farmers were chosen from three diverse regions within Western Australia, the Northern Agricultural, Great Southern and South Coast regions. These regions were chosen to represent different levels of flystrike and to a lesser extent lice problems as reported by Agriculture Western Australia (AgWA) personnel. Focus groups were conducted in the towns of Dandaragan, Kojonup, and Jerramungup. In two cases farmers were selected and invited to attend the meeting by personnel from AgWA and in the other case, an invitation was given by a 'respected' farmer in the area. Selection of farmers aimed to include as wide a range of farmers as possible to be representative of farmers in their area. The aim was to include farmers who managed different sized properties, different enterprises (self-replacing and trading), a range of farmer ages and if possible to include as many members of the farm family as possible.

### ***ii) Interview management***

The focus group interviews were conducted at a 'local' meeting place in the community by two researchers familiar with focus group interviews and qualitative interview techniques. The interviews were semi-structured with a set of guidelines being used to 'lead' the group from one topic to another. In one instance, after the opening question, apart from a small number of 'probing questions', the focus group 'directed' itself and discussed all the issues on the check list. During the interview one researcher 'managed' the interview process while the other took extensive notes as a backup to the tape recording of the interview.

The tape was transcribed and checked before being analysed using recognised qualitative techniques and NUDIST 4 software. Prior to analysis a hierarchy of codes and classifications was developed to help guide the analysis process. The resultant taxonomy of categories was then summarised to reveal the major issues identified by the farmers.

## **Issues**

While there were some regional differences in the three focus groups interviewed, the main issues that were uncovered related to;

- constraints associated with managing flocks to control or prevent fly strike and lice;
- strategic and tactical management of the flocks; and,
- the attitudes or beliefs of farmers towards flies, lice and chemical use.

The findings are summarised under each of these headings.

### ***i) Constraints***

The constraints discussed by the farmers related to chemical use associated with withholding periods; lack of knowledge about the effects of chemicals, toxicity and residues; the economic downturn in the sheep industry; research into alternative control methods and general management constraints such as insufficient manpower etc.

### ***ii) Management***

#### ***Strategic***

The major focus of strategic management relates to shearing and crutching times. This aspect represented the most noticeable 'regional' differences. However, there were many different strategies associated with shearing within regions as well. The most common time of shearing was winter/spring although others shored in summer and summer/autumn. This point probably needs further investigation to evaluate the 'trade-off' between increased staple strength for autumn shearing and factors such as better blowfly control favouring spring shearing. Farmers involved in trading sheep had no set shearing pattern.

Chemical use also varied and farmers had their own ways of coping with fly and lice problems. Some farmers used an 'insurance policy' approach with annual routine treatments. Others only used chemicals when they were required. Those trading in sheep or buying in replacement stock generally had a policy of treating these animals as they came onto the farm.

Genetics were a major consideration for many farmers. These people had, for a number of years, been consciously selecting for sheep that were not prone to fly strike utilising component traits such as dagginess, fleece rot and dermatophilosis, as well as body shape.

Other strategic management issues raised included the use of flytraps and other strategies for decreasing the fly problem. Costs and marketing issues were also discussed and related to the need to use the appropriate chemical and the need to produce 'clean' wool for an appropriate premium. Alternative methods of control such as sheep coats and general animal health were mentioned, as was the issue associated with reducing blowfly-breeding sites.

The major strategic issues with lice were boundary fencing and neighbours plus buying in livestock. Stock-proof boundary fences were seen as critical and reduced dipping allowed funds to be diverted into this area. The majority of farmers stated that 'if you want to avoid lice don't buy and don't trade'.

#### *Tactical*

Most farmers use chemicals tactically to treat sheep, which are flystruck. Application methods during fly waves included jetting, fire hose and shower dips. Regular monitoring (more a strategy) was also considered vital if flies were to be controlled or managed. One of the key problems with the tactical use of chemicals (for flies) is they are often needed within 3 months of shearing thus increasing the risk of residues on wool. For lice, it was agreed that full musters were essential if treatment was to be carried out, otherwise it is pointless to treat the flock.

#### *Change*

Changes to management systems when change was 'forced' were mentioned as being too expensive to implement and the economics of the industry suggests that there may be a general exodus from wool production if the use of chemicals was forbidden. Many were concerned that new systems must be field tested before removing the old methods.

#### **Attitudes**

A range of opinions was obtained which reflect underlying beliefs and attitudes. They would be extremely useful when forming questions to elicit attitudes in any subsequent survey. These attitudes are summarised below.

#### *Industry*

The processing industry must be prepared to pay for the higher quality of residue free wool.

#### *Occupational Health and Safety*

A general concern exists over the use of chemicals but there was little that could be done about it if flies are present. Shearers are generally quite sensitive to chemicals although one farmer was quite cavalier about the use of chemicals before shearing – "give them a few beers and let them grumble". There was concern with the effect on occupational health and safety, and the need to be educated and prepared to use chemicals correctly, eg, to dress appropriately.

#### *Change*

A key concern was that any forced change that was not profitable would only lead to a reduction in wool production and sheep numbers under current prices. There was also a hint of resentment about this and a suggestion that farmers would be forced to find legal and illegal ways around it.

#### *Chemicals*

Many farmers use chemicals as an insurance policy for both lice and flies, while others use them only when their other management strategies are unsuccessful. Some believed there was more profit in using

chemicals regularly while others believed it was more economical when only using them in emergencies. Some had a definite reliance on chemicals.

### ***Alternatives***

Farmers were in favour of finding alternatives to chemicals and were concerned that not enough was being done because the solutions have been left up to the chemical companies. From a chemical company point of view it was not possible to capture the benefits of some of the non-chemical alternatives. Some of the existing alternatives were not considered possible solutions such as flytraps because they were perceived as relying on neighbours to do their bit as well.

### ***Residues***

Quite a few farmers were concerned with the effect of chemicals on their family's health and tried to avoid them as far as possible. In some cases this extended to concern about the impact on shearers and others, but as you might expect this concern appeared to decrease the further removed the people were from the farmer. Others were quite cavalier about their potential health impact. Few had knowledge about residue levels in their wool, but many were interested in knowing the level. In most cases the proviso was that if it did not cost too much then there was probably a benefit from producing low residue wool. There was also a view that it was up to the government or others to measure levels and impose a penalty if levels were exceeded.

### ***Industry control***

There was some feeling that those in charge of the industry had let them down by not finding alternatives for them and yet being willing to impose restraints on them.

### ***Flies***

Flies were seen as a greater concern than were lice because they were a continual problem.

### ***Lice***

There is still some negative feeling about the de-regulation of lice.

## **Farmer knowledge**

Farmers were concerned about their level of knowledge of lice and their inability to distinguish and detect it at times. Many were dependent on retailers for much of their information and felt they needed simple clear information about the various chemicals that were available (ingredients, method of working, withholding periods, residual effects). They had little understanding of when, where, how and why residue levels occurred in wool. However, any information has to be brief and simple.

## **Beliefs**

Some beliefs included:

- Australia can grow the cleanest wool in the world;
- No real problem with residues but being used as bargaining chip etc. against them;
- Things will only change if it suits others to force it;
- Inevitable that growers will be forced to change;
- Sheep prone to dermatitis more likely to be flystruck, some sheep not susceptible;
- Number of beliefs about characteristics of wool and sheep that reduce susceptibility to flies;
- Bush can increase impact of flies; and,
- Sheep in good condition are less susceptible to flystrike.

## **Implication for Future Research**

One issue raised by the study is the role played by key players directly involved in making and promoting change. These include the farmers, chemical suppliers, contractors, wool buyers and AgWA. While this study focused on farmers, much of the information about use of chemicals and wool residues is sourced

from a range of people who supply chemicals and associated services and buy/sell wool. Consideration needs to be given to their potential impact on any program to change chemical use.

It was apparent from the discussions that the context of the farmers (e.g. trader versus breeder) and their attitudes to flies, lice, chemicals etc. will influence the level of residue in their wool and their willingness to change their management strategies to reduce residue levels. This raises two issues for further research:

1. To identify groupings of farmers who are likely to be similar in their context and beliefs.
2. To identify the important factors influencing the decisions about chemical use for each of these groups of farmers.

## **References**

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