

Scoring sheep for fleece rot

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Flystrike is a major problem to the Australian wool industry, costing it from \$160 to \$200 million a year as a result of reduced production and increased chemical and labour costs.

Flystrike occurs mainly as breech strike and body strike.

While breech strike can be controlled through husbandry practices such as mulesing and crutching, managing body strike is not as easy. Chemicals are currently important in control programs, but the development of resistance has made them less effective in some areas, and pesticide residues in wool are of increasing concern to the industry. As a result, flock owners are being encouraged to minimise their use of chemicals to control flystrike.

One way of doing this is to breed sheep less prone to flystrike. This is where the condition called fleece rot becomes significant.

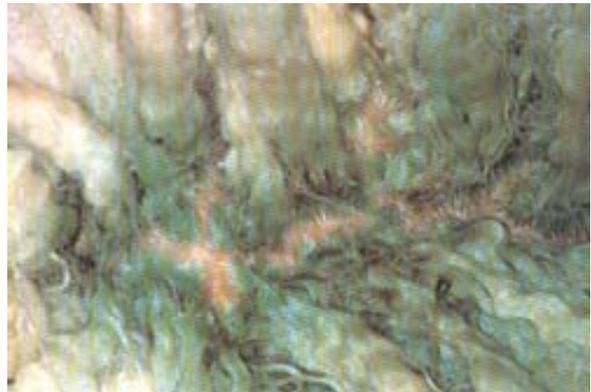
Research has established that fleece rot is a predisposing factor for body strike. This means that animals susceptible to fleece rot are also likely to be affected by body strike. Scoring sheep for fleece rot and culling those that show signs of the condition is an effective way of reducing the occurrence of flystrike in the flock.

Another predisposing factor to flystrike is lumpy wool or 'dermo'. Because fleece rot is by far the most important predisposing factor to body strike in eastern Australia, it is the focus of this Primefact.

What is fleece rot?

Fleece rot is a dermatitis that is caused by moisture and bacterial growth at skin level. The crusty exudate produced results in a matted band of wool fibres next to the skin. Bacterial activity often

causes the fleece to become discoloured with colours encountered including green, red orange, pink violet, blue, yellow, brown and grey.



It should be noted that bacterial discolouration in the absence of crusty exudates is **not** fleece rot but is a result of moisture and bacterial activity in the fleece and can lead to fleece rot.

While colours other than yellow are generally due to the bacterial activity that is associated with fleece rot, yellow colouring is not always due to fleece rot, which can cause some confusion.

One way of distinguishing between discolouration caused by fleece rot and that caused by some other condition is the size of the area affected. Bands of colour due to factors such as poor nutrition will generally be found over large areas of the fleece as these conditions affect the whole animal. Fleece rot bands, however, are very distinct and occur in a small area.

The crusty bands of fleece rot are often associated with brown, yellow or green discolouration. Damage resulting from fleece rot, as well as lumpy wool, is important in the development of body strike in the following ways:

- it attracts pregnant female blowflies and encourages them to lay eggs
- it provides moisture for eggs to hatch
- it provides protein for first instar larvae to feed on.



Fleece rot occurs after the fleece has been wet for a long time so it occurs much more in wet seasons than in dry. For this reason it affects some sheep in some years and not in others. This is important in determining how to use the results of fleece rot scoring and will be discussed later in this Primefact.

Distinguishing between fleece rot and dermo

To distinguish between fleece rot and dermo, examine the fleece of the animal. Dermo tends to form columns of hard lumps along staples whereas fleece rot forms in bands parallel to the skin. In mild cases dermo can be easily confused with fleece rot.

Scoring for fleece rot

Scoring sheep for fleece rot using the system described in this Primefact is a way of determining how severe the condition is as it provides a way of grading individual sheep on their relative susceptibility to fleece rot. This, in turn, will help you to decide whether or not animals should be culled.

How to score

To score animals for fleece rot, use the fleece rot scoring system described below.

To do this, open the fleece at four sites along the backline – the back of the neck, the wither, the loin and the rump – as shown in Figure 1 (see page 4) and look for evidence of staining and bands of crusting.

At each site open the fleece once along the backline and once on each side up to 10 cm from the midline and record the highest score from the four sites.

For information on how to score see the next section. Unfortunately, in mild cases it is difficult to distinguish between the two.

Scoring over the table at shearing is not as effective as scoring on the animal.

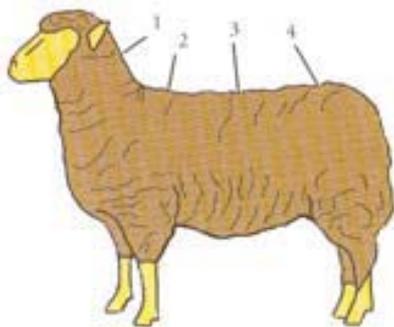


Figure 1. Sites to open when looking for fleece rot.

Note: Jetting sheep before scoring can be confusing with jetting fluid possibly causing some discolouration.

How the score works

The overall score given to each animal is simply the highest score given at any site, e.g. if an animal scores 0, 2, 4, 2 then its overall score is 4. The high score is given as this indicates whether or not flies will be attracted to the animal.

In this example, if we used the average score, the overall score would be 2. This represents bacterial colour but no exudate and so would indicate that the animal would not be attractive to flies. However, although only one and possibly a small site has a score of 4, this represents an attractive site and strike is possible. Therefore the high score gives the best indication of an animal's likelihood of becoming struck.

If there is more than one band in the fleece the score is obtained by **adding** the band widths together.

Which animals should I score?

Young sheep are the most susceptible to fleece rot, especially those carrying 4 to 10 months fleece. Young sheep with 4 to 12 months wool growth can be scored and a decision as to whether or not they are to be used for breeding can be made before selecting replacement breeders.

Applying results to commercial breeding programs

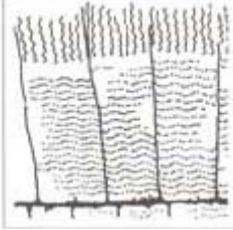
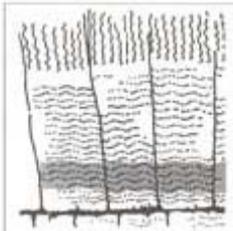
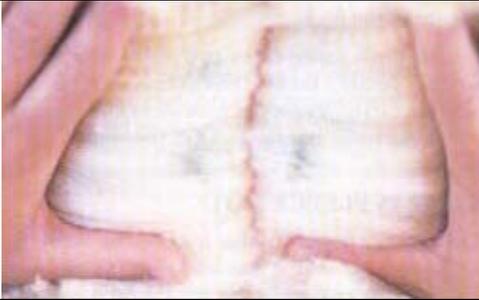
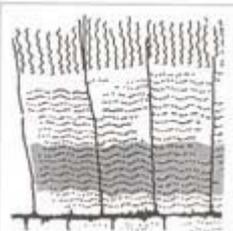
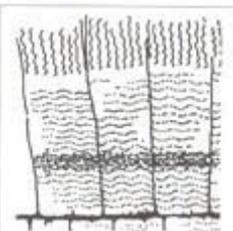
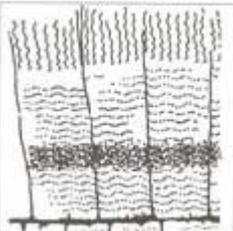
In determining the most appropriate way to use this information in your breeding program it is a good idea for you to discuss the results of fleece rot scoring with your classer, advisor or ram supplier, or all three.

The amount of selection pressure that can be applied on fleece rot will be determined largely by the prevalence of fleece rot in the flock. If there is a high level of fleece rot in the flock following a wet year, you may only be able to cull those animals with, say, score 4 or 5 and may need to keep all others to maintain numbers.

However, if there is little fleece rot in the flock you may be able to cull all animals with stain or fleece rot.

If you are concerned that your bloodline has an unacceptable level of fleece rot, discuss this with your ram source to determine what is being done at the stud level to overcome the problem. If you are evaluating alternative ram sources it is important to compare progeny from different rams under the same conditions.

Fleece rot scoring system

<p>Score 1: No bacterial colour or crusting.</p>		
<p>Score 2: Band of bacterial staining < 10 mm wide with no crusting.</p>		
<p>Score 3: Band of bacterial staining > 10 mm wide with no crusting.</p>		
<p>Score 4: Band of crusting < 5 mm wide with or without bacterial staining</p>		
<p>Score 5: Band of crusting > 5 mm wide with or without bacterial staining.</p>		

Remember that fleece rot is only one of several criteria which need to be considered when selecting sheep so it should be kept in perspective as far as your overall breeding program is concerned. It will, however, take on more importance in the future as our ability to use chemicals to manage blowfly strike becomes more limited.

Finally, it is important to remember that although improvements made as a result of breeding may take time and hard work, they should be relatively inexpensive and permanent.

For further information, contact your nearest Livestock Officer (Sheep and Wool).

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