



Fleece rot

Prolonged wetting of the fleece (usually 5 to 7 days) is required for the development of fleece rot. The suint (sweat) in a fleece is hygroscopic (water loving) and with water has an emulsifying effect on the wool wax layer, damaging this protective barrier. Wetting of unprotected skin leads to inflammatory skin lesions. These include maceration and micro abscess formation in the outer skin layer (the stratum corneum) and leakage of serous fluid, largely via follicular canals.

Further development of fleece rot involves bacterial proliferation within the serous exudate on the skin. *Pseudomonas aeruginosa* has traditionally been considered the main cause of fleece rot, but other bacteria such as *PR maltophilia*, *Proteus*, *Staphylococcus* and *Bacillus* are also found in fleece rot lesions. The green pigmentation often seen in fleece rot affected wool is generally associated with *PP aeruginosa*.

In a New South Wales survey, *PR aeruginosa* was only detected in fleece washings from 14% of sheep affected with fleece rot. However, *PR aeruginosa* was associated with increased fleece rot severity and fly strike.

Immunity to fleece rot

Serological comparisons of sheep bred for resistance or susceptibility to fleece rot provides a valuable insight into the immune mechanisms involved. Following inoculation with *PP aeruginosa*, sheep classed as more fleece rot resistant generally have a higher serum antibody response. This suggests that vaccination may be a useful means of providing protection against fleece rot, especially if it is combined with selection for enhanced immune competence.

Fleece rot control

Currently, there is no fleece rot vaccine available in Australia. Nor is there an effective antibiotic treatment. However, wool producers can reduce the incidence and severity of fleece rot by managing the environmental risk factors that play an important part in the pathogenesis of fleece rot. Wetting to skin level and the subsequent time before drying are key risk factors. The incidence and severity of fleece rot can also be reduced by [genetic selection for fleece rot resistance \[Link to Page C4\]](#).

During the first few months of life, lambs wool has a relatively low wax content. Shearing lambs at less than five months of age can result in a higher incidence of fleece rot than if the first shearing is delayed until hogget age, approximately 12 to 15 months of age.

Older sheep require at least three months after shearing for their fleece staple structure to form an effective barrier to rain. Shearing after March in the winter rainfall areas is frequently associated with an increased incidence of fleece rot.