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Caseous lymphadenitis (Cheesy Gland) of sheep

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CASEOUS LYMPHADENITIS (Cheesy Gland) OF SHEEP

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CASEOUS lymphadenitis is a common disease of sheep in Australia, and is a condition in which hard abscesses, filled with thick cheesy pus, form in the lymph glands in various parts of the body. The term "caseous" refers to the cheesy nature of the pus, and "lymphadenitis" means inflammation of the lymph glands.

The disease is caused by a micro-organism called *Cornyebacterium ovis* which multiplies in the tissues of affected sheep and can produce a toxin or poison.

In most cases, the disease does not affect the general health of the sheep to any serious extent, but it is of economic importance to the meat export trade, as affected glands have to be removed, and this may lead to rejection of the carcass.

METHOD OF INFECTION

The micro-organisms which cause the disease are found in the faeces (dung) of both infected and healthy sheep. They are usually present in large numbers in soil and sheep droppings around shearing sheds and yards, and will survive for long periods under moist conditions when not exposed to direct sunlight.

The micro-organisms usually gain entry to the tissues through skin wounds, such as shearing and mulesing cuts, but occasionally through lamb marking and castration wounds. When newly-shorn sheep lie down on infected soil, or when shearing cuts are exposed to contaminated dust, the risk of infection is greatly increased.

Occasionally the abscesses burst or the swollen glands are cut during shearing, causing the combs and cutters to become fouled with the discharges. Such contaminated hand-pieces readily infect other sheep.

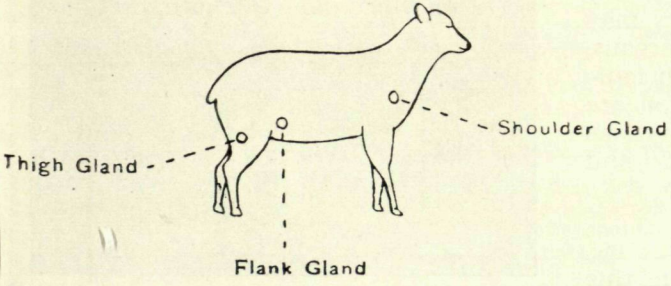

Fig. 1.—Sketch of sheep showing lymphatic glands commonly affected with caseous lymphadenitis

SYMPTOMS

When a cut becomes infected, the germs enter the tissues but are usually arrested by one or more of the lymph glands situated in various parts of the body.

The organisms multiply and an abcess of thick, slightly greenish pus is formed. Gradually, the lymph gland increases in size and the abscess may become enclosed in a tough fibrous capsule—which is the body's attempt to seal off the invading micro-organisms.

If any germs break out, they are carried to the next gland where they form another abscess. The pus changes from a "creamy" to a "cheesy" consistency as the abscess grows older, and may finally become gritty owing to deposits of lime.

When an abscess occurs in a lymph gland near the skin, it may "point" and eventually burst, soiling the surrounding wool with infective matter. Thereafter, the abscess fails to heal and continues to discharge at intervals.

Fig. 2.—Enlarged shoulder gland almost ready to burst. Note shedding of wool over abscess

In the majority of cases however, the pus remains enclosed, but the affected glands, being larger and firmer to the touch than the normal glands, can readily be detected when handling the sheep.

The glands most commonly affected are the prescapular (shoulder glands), precrural (flank glands) and the popliteal (thigh glands). The glands between the hind legs above the udder or cod are less often affected, but lymphatic glands in other parts of the body may become abscessed.

Caseous lymphadenitis may occur between or in the lungs, or on the pleura (the membrane lining the chest cavity). In such cases the disease may lead to septic pleurisy and the adherence of the lungs to the chest wall. Abscesses may occur in the kidneys, liver or other organs, but in many cases animals in which multiple and extensive abscess formation are discovered at post-mortem examinations have remained in good condition and shown no apparent ill-effects.

PREVALENCE

There is a definite age incidence in this disease and old sheep which have been frequently exposed to infection during shearing are naturally more often affected.

Merino sheep, and especially wrinkly Merinos which are more prone to shear cuts than the plain-bodied types, are more commonly affected than British breeds of sheep.

By contrast the disease is rare in unshorn lambs.

PREVENTION

The following recommendations have have been made to cover the main avenues of infection and, incidentally, are equally of value in the prevention of other diseases of wound origin such as tetanus and blood-poisoning:

1. **At Shearing.**—The shearing shed must be thoroughly cleansed so as to remove all dust and dirt. The sheds and boards should be scrubbed down with hot water and washing soda (1 lb. to 1 gallon of water) and then disinfected with some suitable preparation using a bucket spray pump for ease of coverage.

The chutes leading to the counting-out pens should be similarly attended to and any accumulation of sheep droppings, dust

Fig. 3.—Enlarged flank gland

and soil removed from the counting-out pens. Preferably these pens should be concreted, but if not, they may be given a top-dressing of clean soil. Whenever possible, the yards should be watered from time to time while working the sheep to prevent contaminated dust rising and blowing on to shearing cuts.

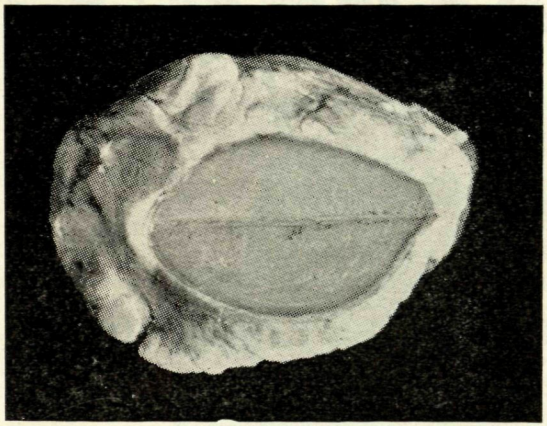

Fig. 4.—Lymphatic gland showing abscess. The gland is surrounded by fat and has been cut open to show the cheesy substance which completely fills the gland

Sheep should be kept in the pens and yards for as short a period as possible after shearing.

Lambs should be shorn first before the machines, hands and yards have the opportunity of becoming badly contaminated.

Sheep with discharging glands should be isolated and shorn separately. The shearing cutters and combs used on those affected sheep should be cleansed and disinfected with hot caustic soda solution, 1 oz. to 2½ pints of water. Lysol or Dettol at the same strength may be used if caustic soda is not available.

These sheep may later be segregated and used for killers, the meat being quite wholesome after the affected glands have been removed.

Every attempt should be made to keep the wounding of sheep down to a minimum and all severe wounds should be dressed with an antiseptic solution to lessen the risk of infection.

2. **At Marking.**—Lamb marking should always be carried out in temporary yards and lambs dropped straight onto a well-grassed paddock. Knives and marking instruments should be sterilised by boiling for ten minutes prior to use and dipped at intervals in a can of disinfectant kept at hand for that purpose.

3. **At Crutching.**—At crutching, and when the modified Mules operation is being performed, every attempt should be made to prevent infection by carrying out the measures described, especially the prevention of dust blowing on to fresh wounds.

VACCINATION

No satisfactory vaccine for use against caseous lymphadenitis has yet been evolved.

POWDERY MILDEW OF APPLES

New Fungicide Tested

This season, apple powdery mildew has been more serious than usual in many orchards, particularly in the Cleopatra and Jonathan varieties. Once the disease gets a hold it is difficult to check with standard sulphur compounds, which are generally employed for this purpose, and these materials are also prone to damage the fruit and leaves of some apple varieties.

Tests conducted this season by the Plant Pathology Branch of the Department of Agriculture in the Bridgetown, Manjimup and Pickering Brook areas have shown that the new fungicide Karathane is very promising for the control of this refractory disease and also that it appears to reduce mite infestation on the leaves.

It is probable that Karathane, which is now on the test range, will shortly be marketed in Western Australia and it is suggested that when it becomes available, it is worthy of trial by growers, not only against apple powdery mildew but also against related powdery mildew diseases which attack numerous other plants such as cucumbers, peas, and roses.