Brucellosis in Rams

Brucellosis in rams is currently the subject of much discussion and is being blamed for low lamb marking percentages. For some sheep producers, this may be the case. For most, brucellosis will not be solely responsible for the low percentages. Why? The reasons lie in the nature of the disease and the fact that brucellosis has been around in sheep flocks in Queensland for a long time. In some ram flocks, it has been evident at very high rates.

Finding brucellosis in your ram flock does not mean it’s the cause of low lambing. Pregnancy testing is important to validate any suspicions of a joining-related problem.

Over the last thirty years, as a veterinarian working in the sheep industry in western Queensland, I have seen two or three similar peaks of concern with brucellosis. Removing brucellosis from your ram flock is good management but **people can spend a lot of time and effort and still not be addressing the issues that have caused their low lambing problem.**

Brucellosis is a disease of rams of all breeds and has two main costs:

- **Infertility** – the fertility of infected rams is reduced. In individual rams this can range from partial to total infertility. Where the incidence of brucellosis in a flock is low, the ram joining percentage is high and the length of joining is prolonged (2 to 3% and 8 to 12 weeks), the overall pregnancy rate will not be affected. Where producers are using lower ram percentages (1 to 1.5%) and a joining period of 5 to 6 weeks, brucellosis can be a problem with reduced conception rates.

- **Premature culling** – annual ram replacement costs can increase if brucellosis-infected rams have to be culled and replaced prematurely. The Brucellosis Accreditation (BA) scheme has been in place for many years. All replacement rams should be accredited free. If not, you should get a new ram supplier.

When brucellosis is contracted by a ram, the bacteria can localise in the epididymis and cause an infection and tissue reaction that blocks the tubules (epididymitis). The epididymis then swells and hardens. Swellings are most common in the tail of the epididymis but can occur anywhere along its length. The period from initial infection to the appearance of detectable lesions can be 8 to 12 weeks. However, not all infected rams will develop palpable lesions.

In the early stages, semen can be abnormal having a high proportion of dead and dying sperm. The development of a total blockage takes some time and until this happens, viable sperm can be shed. When the blockage becomes total, sperm cannot be passed. In the majority of rams only one testicle is affected with the other being able to function. The longer that brucellosis-affected rams remain in the flock, the more rams will be affected and more will have lesions in both testicles.

Brucellosis is not the only cause of epididymitis but is the primary cause. Epididymitis can also result from injury and infection by a range of other bacteria.

Brucellosis in ewes is rarely a significant problem but can establish in the placenta and cause abortion or the birth of small weak lambs. Ewes carrying the infection will throw it off after lambing.

**Brucellosis can spread in rams:**
• At joining. Ewes are commonly served by more than one ram at each cycle. If an infected ram serves a ewe, then rams that subsequently join with that ewe can become infected. Ewes will not normally carry the organism through to the next cycle.
• With homosexual and dominance related activities in rams.
• At shearing or whenever rams come into contact with infected semen.

When palpat ing rams it is very common to see groups of rams that run together, all with the disease.

Manual palpation is an effective and practical way of identifying rams with testicular disorders. Both testicles should be the same size, firm and without any swellings or hard lumps. When examining rams both testicles are palpated feeling for differences.

Figure 1 illustrates the anatomy of a ram’s testicle. The head of the epididymis curves around the top of the testis. The body runs down the inside finishing at the tail which forms a distinct knob at the bottom of the testicle (tail).

When palpat ing, start as high up the cords as possible. As you come down to the top of the testis, feel for hard swellings. Next, gently squeeze the testicles feeling for size and testicular tone (firm, not hard). At the same time, with your thumb, feel along the body of the epididymis for lumps and swellings. The tail of the epididymis should be firm, not hard and the same size on each side.

Annual (preferably bi-annual) palpation and culling, before ordering replacements and before joining, will reduce the incidence of brucellosis and other ram faults to manageable levels and let you plan your ram replacements.

To eliminate brucellosis from your ram flock:

• Blood testing by your veterinarian normally requires a number of rounds of testing and palpation due to false negatives and on-going spread.
• All newly purchased rams should be accredited brucellosis-free and palpated before purchase or at delivery. All non-accredited rams should be quarantined and tested at delivery.
• Stags (with one testicle retained) can carry and spread brucellosis and should be identified at marking and removed from the flock.
• Rams should never be run with the killers, black sheep or a few ewes to keep them happy.

After the ram flock is free then on-going monitoring with at least annual palpation of all rams is required. This helps prevent re-infection or at least alert you to a problem if there is a breakdown, such as rams getting in from neighbours. Good fences around the ram paddock and with neighbours...
can help reduce this possibility. Most Merino studs are now Brucellosis-Accredited free. Some of the newer prime lamb breeds do not offer the same level of assurance. If your ram supplier cannot guarantee their rams, get a new supplier or quarantine and test all rams at delivery.

**Want to find out more?**

The following options can help you improve your lambing percentages. Reply to this email to register your interest in:

1. Listening to and asking questions on the [“Are your rams ready??” webinar](#) on Tuesday 6th August.


3. Joining a [Lifetime Ewe Management](#) group.

4. Reading more about other causes of low lambing rates (besides Brucellosis), collated from my experiences with sheep reproduction investigations across Queensland.

**Dr. N O’Dempsey BVSc (Hons)***