

Pointers for Overcoming Fertility Issues at Mating

It can take up to eight weeks for semen quality to recover from being undermined – a time frame that can wreak havoc at mating.

Removing the injured sire and replacing with a fresh one as soon as possible will reduce the potential for poor conception rates.

There are a number of reasons semen quality and reproductive performance can be negatively impacted. Common reasons are injury, stress, infection and scrotal fat, the latter being common in young bulls on high liveweight gain diets.

An increase in scrotal temperature, for any number of reasons, for longer than three days is likely to be detrimental to semen quality according to Manawatu based Totally Vets veterinarian Hamish Pike.

“The longer the temperature is up, the more likely semen will be affected. But if the temperature is up for a day it is unlikely to cause problems,” says Hamish.

As a general rule, the scrotal temperature should be about two degrees lower than the core body temperature.

Thermal influences and transporting stresses are the most common causes of reduced semen quality he says.

Robyn How of Tararua Breeding Centre, Woodville says bulls’ testicles are very susceptible to body temperature changes and can alter fertility. It only takes a 1°C rise to be a concern.

“For example, if a bull is lame today, treated tomorrow and is better in say a couple of days then the likelihood of his semen quality being affected for a prolonged period is less than if the bull is left without treatment for an extended period. The faster you can treat the bull the fewer problems you will have with fertility.”

She says semen production from beginning to ejaculation takes around 62 days. Therefore any problem that interferes with the commencement of semen production will still be evident in the semen two months later.

Hamish says most sires affected usually return to normal (or near normal) fertility over time. But the only way that recovery can be illustrated is through repeated semen examination.

Robyn reminds breeders, when a bull fails a fertility test, on a set day, it does not mean that he is infertile. It takes a second test 6-8 weeks later to see if the problem has been rectified, or to determine the extent of the problem if it is still persisting.

Therefore, it is very important that you do not disregard any slight changes in your bull. Fertility testing your bulls well in advance of mating ensures that if there are any problems, you are aware of them and can either rectify them or look for another bull.

Because of the period for semen to rejuvenate, when an injury or disease occurs, Hamish says prompt attention is vital for giving the bull every opportunity of returning to service. Any bull that breaks down during mating should be removed and replaced promptly.

Robyn says when looking at morphology of the semen, ie the appearance of individual sperm cells, it is possible to assess the likelihood of long or short term problems depending on the degree and variation of individual sperm.

“For example, if we see a high proportion of Protoplasmic droplets then this tells us that the epididymus has been affected (the area of sperm maturation). By talking to the owner of the bull it can be ascertained if there is an obvious reason for this morphological problem. If there has been no obvious problem with the bull then further investigation will be needed.”

* Talk to your veterinarian if you have bull fertility concerns.

See over page for quick guides to identifying semen quality issues.

Scrotum Soundness in Seedstock Sires

Bulls with a normally shaped scrotum with a distinct neck generally have the best testicular development. Testes are located in the scrotum because sperm can only be produced within a narrow temperature range - several degrees cooler than internal body temperature – normal scrotal anatomy allows this to occur.

Straight-sided scrotums often only have moderate testicle size and this anatomy is generally caused by fat deposits, which will probably impair temperature regulation – especially during summer. However as bulls mature and lose fat, they often develop a more normal shaped scrotum.

Wedge shaped scrotums are pointed towards the bottom and tend to hold the testes close to the body wall. Bulls with this shape often have undersized testes that seldom produce semen of adequate quality and should be avoided.

There are a number of factors that may affect a bull’s semen quality and his ability to get a cow in calf.

These include:-

- » Trauma to the testicles
- » Testicular tumours
- » Severe inadequate nutrition
- » Severely overfed bulls
- » Excessive scrotal fat
- » External heat stress
- » Scrotal frostbite or super cooling
- » Diseases eg, BVD
- » Epididymitis or other infections in the reproductive tract
- » Bulls lying down for prolonged periods
- » High oestrogen intake, e.g. some feeds such as sub clover
- » Inguinal hernias
- » Transport stress
- » Twinning with a female
- » Excessively small or large testicle.
- » Heritable problems – Hypoplasia
- » Cryptorchidism
- » Genetic defects
- » Bull age

Each of these can have either a short or long term effect on the bull’s ability to get his cows in calf and the recovery time for the semen quality varies as to the cause. Some of these factors can be treated to improve fertility; others can render the bull infertile.