

Best practice mating management

It pays to get it right

Reproductive success drives the profitability of deer breeding. Best practice mating management leads to higher conception rates and ultimately more viable fawns on the ground. It also has a major bearing on the spread of fawning dates.

Feeding non-pregnant hinds is wasteful both in terms of direct costs, as well as the loss of the potential you have invested in your breeding programme. Studies have shown that if the fawning rate on the average deer farm was increased by 10 per cent, net earnings per hind wintered would increase by more than \$30, or \$15,000 in a 500-hind herd.

The choice of sire is not covered in this *Deer Fact*. But when using yearling stags (and hinds) of known genetic merit to speed up the rate of genetic progress, it is critical to feed them well so they reach target weights and are in good body condition in the lead up to and during mating.

Pre-mating treatment of hinds

The biggest influence on the rate and date of conception is the Body Condition Score (BCS) of the hind. Improving BCS in lighter hinds by 0.5 BCS units can advance the conception date by 5 days.



Photo: Richard Hillson

Join stags with hinds by 10 March at the latest, then monitor their performance closely while keeping disturbance to a minimum

Stress on hinds before and during mating can delay conception by up to 10 days. This may be caused by mixing hind groups just before mating, repeated yarding or things like continual disturbance by people and dogs.

Pre-rut weaning should therefore be completed at least two weeks before mating to allow hinds time to settle after the removal of their fawns. Mixing of hind groups, particularly hinds bought in from another farm, should be done well before mating.

Mature hinds: Feed hinds well in later lactation, as the breeding season approaches. If green pasture is not available, feed them quality supplements.

Body condition score all hinds. Preferentially feed those with a BCS of <2.5.

In most situations, wean hinds in late February or in very

Key points

- Wean hinds in late February/early March and assess them for Body Condition Score (BCS). Preferentially feed hinds with a BCS below 2.5.
- Yearling red hinds should be at least 80 kg and wapiti hybrids at least 130 kg at mating.
- Join the stags with hinds by 10 March.
- Use stag:hind ratios of between 1:30 and 1:50 in most situations. Some stags can handle more than this, but non-pregnancy is a risk.
- Yearling hinds are often run with well-grown yearling stags at a ratio of about 1:8 – 1:10. These can be set up in mid- February.
- Look for signs of non-performance and exhaustion, such as the non-completion of mating. Replace such stags.
- Remove stags at the end of the breeding season (by 10 May at the latest) to prevent late births.

early March. In severe droughts, weaning as early as mid-February is justified to ensure the best mating outcomes.

Early weaning allows social order to be established in mating groups before the stag goes out.

Yearling hinds: Red hinds and wapiti cows on NZ deer farms normally attain puberty (first ovulation) at 16 months of age during their second autumn. Those that do are highly likely to produce fawns at about 24 months of age.

Weigh and BCS yearling hinds in January so there is time to take action before putting the stag out. To achieve a high conception rate, they should have a BCS of 2.5 – 4 and be at least 70-75% of the average weight of mature hinds in the breeding herd.

There is a wide variation in hind genetics in the industry, but the genotype of the 'average' hind in a typical commercial NZ deer herd is now 30-40% eastern, with an expected mature body weight of 125-130 kg. In such a herd, the minimum pre-mating liveweight should be 80 kg and the average pre-mating liveweight should be close to 95 kg. Yearlings that have some wapiti in them (say 50%) need to be at least 130 kg.

Pre-mating treatment of stags

Mature stags: Feed sire stags well in summer. If they have a good BCS during the rut they will focus on mating rather than feeding.

If you feed stags grain supplements, spread it out to prevent some of them gorging themselves.

In January run them through the yards before they become too aggressive and difficult to handle. Body Condition Score them and check for lameness and injuries.

Remove hard antler including re-growth from all stags (with the exception of trophy stags) before the rut and by no later than 1 March. This is a requirement of the Deer Code of Welfare.

Yearling stags: Feed stags used for breeding as yearlings

very well in summer. On typical ryegrass-based pastures, supplements such as grain will probably be needed.

Look for antler stripping or pearling of the spike button as an indicator of the onset of puberty and the ability to mate.

Remove any antler regrowth that may harden into sharp points and become a danger to hinds, other stags and their handlers.

Putting the stags out

Join stags with hinds by 10 March at the latest (preferably earlier). There appears to be no disadvantage in joining in late February.

If you put stags out a bit late, early cycling hinds will be missed and not mated until the second cycle about 18 days later.

Safe stag:hind ratios are 1:30 - 1:50. Some stags can handle more, but there is a risk of pregnancy failure.

Individual stags vary greatly in their mating ability. Two and three year old stags generally have a lower mating capability than older animals.

Single-sire mating: In stud situations where known paternity is important and on intensive farms with small paddocks, single-sire mating will be used.

Because you are relying on one sire to do the job in each mob, look out for hinds in oestrus hanging around the stag but not being adequately serviced. An exhausted stag may mount a hind in season but fail to complete the job. Change sires if one is not working well.

To minimise the risk of pregnancy failure, use chaser stags. This means leaving primary sires with the hinds for up to 2 cycles (about 40 days) and then replacing them with other stags. An option is to rotate sires from one mating group to another.

Multi-sire mating: On all farms where multi-sire mating is practised, provide enough paddock space for harem groups to form without overlap. This will prevent constant stag fighting and breeding group disruption.

Hill and high country properties are ideal for multi-sire mating because their large paddocks – often with groups of trees – allow harem breeding territories to be better established and maintained.

Never put antlered and de-antlered stags together.

Mating yearling hinds

With mature stags: The use of older sires has sometimes been blamed for low pregnancy rates in yearlings, but this is not proven.

Do not use crossbred elk or wapiti bulls with yearling red hinds because of mating difficulties and birthing risks.

Mating yearlings with yearlings: Separate yearling stags from hinds in spring and combine them into mating groups in mid-February to get good social contact.

Join them at a ratio of about one stag to 8-10 hinds. This will allow hinds that have a very short oestrus length to be detected and mated.

The advantages of this mating method are simplicity and a

spreading of the mating workload from late February.

Ultrasound scan and fetal age these young animals.

Those that are in-fawn can be separated into early and late fawning mobs. Dries can be sent for slaughter in spring, or given a second (and final) chance the next season.

Mating group management

To prevent fighting between stags in different mobs, avoid having mating mobs in adjacent paddocks. Stags that are not being used for mating should also be kept well away from mating mobs.

This is particularly important when using young elk/wapiti as terminal sires, as they can be intimidated by older sires or the more behaviourally aggressive red stags.

Having stags in adjacent paddocks also results in increased fence pacing, tracking damage and soil loss in wet weather. Fences and netting gates in particular are likely to be damaged.

Where possible, particularly in the first active cycle, avoid non-routine outside disturbances to the mating groups. Quiet observation of mating behaviour from a distance works well.

Non-performance of stags

Monitor stag performance closely while keeping disturbance to a minimum. Look for stags that are exhausted or unable to mate.

Don't take any notice of roaring or the lack of it. Signs of exhaustion include severe weight loss and failure to complete the job when mounting oestrus hinds. Completion involves the stag making an 'ejaculatory thrust', normally with his back legs off the ground.

On rare occasions, particularly in single-sire mating groups, stags will not work. This may be due to a lack of interest, lameness, or damage or infection of the penis.

Whatever the reason, if a stag is not doing its job it should be removed as quietly as possible and replaced.

Removal of stags after the rut

Stags should be removed by 10 May (preferably earlier) in order to prevent fawning being prolonged into the summer.

Valuable sire stags should be very well fed after removal from the hinds in order to regain as much weight as possible before the onset of winter. This has been shown to be cost effective in promoting the next season's antler growth.

Stags can be put together in a group because there will be little fighting at the end of the breeding season.

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DINZ Deer Fact: Feeding hinds for maximum fawn growth

Body condition scoring chart: www.deernz.org/BCSchart



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