

Fence pacing: costs and solutions

Causes and prevention

Fence pacing is a term used to describe when deer frequently walk up and down a fence line and seldom rest or graze. Deep ruts can form, especially on steep slopes and fragile soil types, leading to soil loss and silt contamination of waterways.

Except for breeding stags during the rut, fence pacing usually indicates that the animals are under some form of social, behavioural, nutritional or seasonal stress.

Most fence pacing is a result of overcrowding, poor siting of fences and/or responses to challenging weather events.

Some causes of stress – such as underfeeding, weaning, lack of space at fawning and the presence of other mobs in adjacent paddocks – can be reduced or eliminated through good herd management.

Sometimes stress is caused by factors that cannot be controlled (extreme weather events, disturbances on neighbouring farms). At these times, paddock and fence design and the planting of shelter belts to create visual barriers, can help reduce fence pacing.

KEY POINTS

- Fence pacing is often a reaction to some form of stress.
- Deer are most likely to fence pace during fawning, post weaning and the rut.
- Fence pacing can cause soil loss, degrade water quality and require repairs to fences and pasture. It can result in slower growth rates, weight loss and fawn loss.
- Fence pacing can be minimised or eliminated by providing enough feed, water and shelter. Stock placement, stocking rate and paddock design can also help.
- It is important to repair soil erosion and re-grass the affected area promptly and take steps to reduce the risk of future damage.



Deer farmer Shelley Trotter in a deep fence pacing trench. Fence pacing can have major production, environmental and infrastructure costs

The cost of fence pacing

Fence pacing impacts on farm returns through:

- Loss of new-born fawns
- Poor deer health, especially among newly weaned deer which may become more susceptible to yersiniosis and injury
- Weight loss or slow growth in deer
- Pasture damage and soil loss
- Extra fencing costs in repairs and remediation.

Expected production losses

Pregnant hinds look for a good birth site up to 24 hours before fawning begins. If competition for sites is intense because of a high stocking rate, or if there are social hierarchy problems – such as young hinds constantly picked on by older hinds – then fence pacing will result.

When fence pacing occurs after fawning has started it can lead to mis-mothering, dystocia (difficult birth) and fawn deaths.

Fence pacing can lead to weight loss or slow growth rates. It is difficult to put a dollar value on this, but a 50% slower growth rate (75 grams/day versus 150 g/day) in a weaner for 30 days is 2.25 kg of body weight.

Environmental costs

Continual hoof action can kill pasture plants. It compacts dry soils and creates deep ruts and water channels when it's wet.

Light and ash-based soils are at particularly high risk, especially when fences run straight up/down the hill on steep ground.

Exposed soil may then be washed away by rainfall, causing sediment build-up in waterways, reducing water quality. On deer farms the major nutrient lost is phosphate which adheres to soil particles.

The erosion risk is magnified when break feeding winter crops with electric fencing. To reduce this risk, ensure there is a 3 metre buffer zone of pasture and/or riparian plantings between your crop and any waterways.

Feed crops by starting at the top of the slope, moving breaks down the slope. This allows any run-off and sediment to be filtered and captured within the remaining crop.

It is important to address any stock management issue that results in pasture damage and soil loss, for both productive and environmental reasons. In addition, regional councils are mindful, when monitoring water quality, that soil erosion and stream contamination are potential issues on deer farms.

Infrastructure costs

Fencing: In extreme cases fence posts can be undermined, requiring the relocation of the fence or the replacement of posts.

Pasture: A fence pace track 100 m long x 1 m wide equates to a loss of 1000 kg of feed (dry matter) if the paddock grows 10 tonnes DM/ha/year.

How to reduce fence pacing

Subdivision, fencing and shelter

Long straight fence lines can encourage fence pacing. When sub-dividing paddocks or replacing fences, consider following the contours instead of the shortest way, straight up/down the hill. Where practical, subdivide paddocks so they are roughly square rather than long and narrow (rectangular).

There is no 'right size' for a paddock, but bigger is best when it comes to minimising fence-pacing. What you lose in pasture management you may gain in less stressed stock.

Shelter trees improve animal welfare and reduce pacing.

Some farmers have greatly reduced pacing by planting shelter belts along fence lines. This creates a visual barrier between adjacent mobs.

Some farmers report equally good results from planting clumps of trees in their deer paddocks and – as an alternative to shelter belts – triangle plantings of 3-5 trees every 100 metres along fence lines.

Hot wires: Electrified outriggers (60 cm above ground and 25 cm out from the fence) can prevent deer getting close to the fence and damaging the posts and wires. However a hot wire may simply mean deer pace further out from the fence.

Do not use outriggers when stags are in velvet or hard antler as their antlers can get entangled in the soft wires. Weaners are also prone to accidental entanglement.



Photo: Kerry Walker

Shelter trees improve animal welfare and reduce pacing



Photo: Jerry Brandford, EnviroWands

Regenerating pasture following installation of electric wands

Electric wands: Wands flex on contact and deliver a shock. They have been shown to reduce fence pacing and dilute the impact of the pacing, by training deer to keep away from fence posts.

They stick out from the fence post by 900 mm and are attached to a feeding wire running along the fence line itself. They are best positioned 750 to 800 mm from the ground but can be set to the contour (e.g. poking up or down depending on slope). They can be used to stop deer moving into an area e.g. a rut or ridge corner.

As no outrigger wires are run between the wands, they can be used when stags are carrying velvet or antler. They also eliminate the chance of weaners getting caught behind wires.

Stock management

Deer are herd animals with a seasonal breeding cycle that makes them want to engage/fight/mate with other deer, even if they are on the other side of a fence.

To prevent these interactions, avoid running deer in adjacent paddocks, especially on farms where stocking rates are high, or where mob stocking is practised.

Boredom, especially in smaller flat paddocks, can lead to fence pacing. To distract them, provide deer with toys like dirt piles, tree stumps or used drench containers.

Some farmers believe that grazing cattle or sheep with deer can reduce fence pacing.

Feed and water

If deer aren't provided with enough feed and water, they are likely to become stressed and start fence pacing.

CASE STUDY

Shelley Trotter, Northland

Shelley Trotter has successfully repaired ruts caused by fence pacing on her Warkworth hill country farm.

She says most damage on their property occurs when storms cause deer to become anxious. Soil erosion is accelerated by fence pacing deer seeking shelter during heavy rainfall.

Trotter says the most effective fix involved stacking used tyres up to four-deep in the ruts. These were covered in topsoil and broadcast with grass seed. To prevent further erosion, water run-off was diverted away from the area. She says having some rubber exposed acts as a deterrent to deer to walk on the area.

Old concrete power poles have also been used on the farm to try and divert foot traffic so that grass would re-grow. They were not that successful, Trotter says, although some pasture re-growth did occur around them. She's trialling coconut fibre logs as an alternative deterrent.

In terms of deer management, Trotter says fence pacing by weaners has dramatically reduced on their farm since the weight of their weaners at weaning has increased.

"We wean in February and the fawns from the older hinds are 62 kg to 65 kg."



Used tyres buried up to four deep have proved to be an effective fence pacing repair and deterrent

Lactating hinds need around 4.2-4.4 kg dry matter/day and 5.5-7 litres of water/day on forage and 8-10 l/day on concentrates.

For the feed and water requirements of other classes of deer, refer to www.deernz.org

Hind management at fawning

Hinds are most likely to fence pace just before fawning, when they are looking for good sites to give birth.

The ideal fawning block is one with elevation (a hill paddock) with cover, such as tussocks, scrub or trees. On intensive farms, try leaving areas of long grass, preferably in the middle of the paddock.

Reduce stocking rates before fawning (<8 hinds/ha) so there is less competition for secluded fawning sites. If hinds have synchronised births due to artificial insemination lower the stocking rate to <6 hinds/ha.

Don't mix young hinds with older hinds. This is because the more dominant older hinds tend to pick on their younger herd mates, leading to increased fence pacing.

See *Deer Fact*, Best practice mating management, for more information.

Weaning management

Newly-weaned fawns are the most likely class of deer to fence pace.

Before weaning, familiarise fawns with the feed and grazing regime they will experience after they have been weaned. In the 36-48 hours before weaning graze the fawns and hinds in the paddock the fawns will be weaned into (the Aitken technique). When they return to this familiar paddock after weaning they are likely to settle rather than fence pace.

This paddock should be sheltered, have a good supply of clean water and ideally, covers of at least 2200 kg DM/ha (about 10 cm) of quality feed.

Behavioural disturbances will also be reduced if all pre-weaning treatments (tagging, drenching, vaccinations) have been completed some days earlier while fawns are still with their mothers.

During weaning itself, keep the fawns as calm as possible: avoid bad weather, excessive use of dogs, unfamiliar people and disturbances.

After weaning, weaners can fence pace if they have dirtied the pasture through tracking and mob movements during wet weather. The soiling may be slight and there may be plenty of grass cover, but they won't eat the grass or stop being restless. Indeed, the combination of the two just compounds the issue.

The answer: shift them somewhere fresh and return to the paddock when it has been cleaned by rain.

See *Deer Fact*, Best practice weaning management, for more information.

Stag management

Pacing by rutting stags is thought to result from the desire to roam and access hinds, to defend their harem, or to fight or flee from other stags. Older and dominant stags and ex-sires seem to pace the most.

To reduce pacing during the rut, graze velvetting and other non-breeding stags well away from mating mobs. Keep stag mobs small (25-30 animals) and stocking rates low (no more than 9/ha).

Young stags may get picked on by older dominant stags, leading to pacing. Avoid mixing them with mixed age stags. Consider grazing 2-yr, 3-yr and 4-yr old stags in age group mobs, especially over the rut.

Remove 'predators'

Having dogs housed too close to deer, unusual or noisy human activity and unfamiliar people on the farm can all cause stress, leading to fence pacing.

Be mindful of the need to minimise human activity and disruption at times when deer are most prone to stress such as fawning and weaning.

Repairing eroded fence lines

While prevention is much better than cure, some erosion along fence lines is likely, especially on intensive hill country farms. The sooner this is dealt with the better:

- Remove deer from the paddock.
- Divert rainwater from the erosion trench.
- Fill the trench with gravel, boulders or clay and finish it with top soil.
- Cultivate where possible and resow with grass seed at high rates, or cover the area with seedy meadow hay to allow natural reseeding.
- Prevent future erosion by placing safe obstructions along the fenceline, like large rocks and logs, and by planting groups of trees behind triangular barriers.

Former NZDFA chairman Bill Taylor recalls a farmer on flat land who filled fence pacing ruts using a concrete truck and chute to deliver gravel, with great results and little waste.

More >>

NZ Deer Farmers' Landcare Manual, Chapter 2, www.deernz.org/Landcare

Best Environmental Practice on Canterbury Deer Farms – 5 videos, NZ Landcare Trust, bit.ly/DEER_ENV_VIDEOS

Deer Fact: Growing weaners faster with better autumn feeding

Deer Fact: Best practice weaning management

Deer Fact: Best practice mating management



Deer Industry New Zealand

PO Box 10702, Wellington 6143 / Level 5, Wellington Chambers
154 Featherston Street / Wellington 6011 / New Zealand
Telephone: +64 4 473 4500 / Email: info@deernz.org



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