

Understanding goat behaviour and handling

The key to handling goats is understanding goat behaviour. A good understanding of goat behaviour allows handling techniques to be applied which optimise the welfare of both the goat and the handler as well as the productivity and profitability of the enterprise.

This factsheet sheds light on the idiosyncrasies of goat behaviour and recommends handling techniques to optimise welfare and productivity.

Goat handling principles

All livestock have basic natural instincts such as herding and flight. Vision, point of balance and flight zone are all factors which influence animal behaviour. Understanding these behaviours will help ensure a stress free environment when handling goats.

Vision

Goats have a panoramic field of vision of 320°–340° with only a small blind spot behind them and a binocular vision of 20°–60°. This means they can detect movement behind them without moving their heads so if approached from behind they will turn to look at you.

Stay out of the blind spot directly behind the animal.

Point of balance

The point of balance in most livestock is at the shoulder.

The animal will move forward if the handler stands behind the point of balance and backward if the handler is ahead of the point of balance.

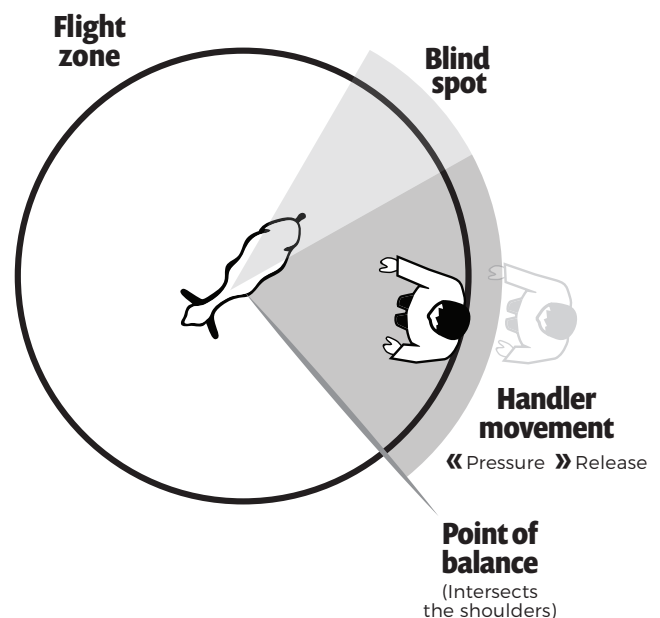
Flight zone

Goats, like all animals, have a 'flight zone'. This can be compared to the goat's personal space which, if entered, will cause the goat to move away. The flight zone for rangeland goats which are not used to humans will be different to that of farmed animals that have had more human contact. Understanding the impact of a handler entering (pressuring) or leaving (releasing) the flight zone will have on animal response will make handling goats less stressful.

If a handler stands outside the 'flight zone' the animal will not move. If the handler moves into the flight zone, the animal will move in a direction to avoid the handler.

Key points

- Goats are intelligent and must be handled accordingly to optimise production as well as animal and handler welfare.
- As with cattle and sheep, vision, point of balance and flight zone are important considerations when handling goats. However, goats do behave differently to cattle and sheep and should not be expected to respond as they would when being handled.
- Goats have a hierarchical or mob structure. Guiding the leaders in the mob will encourage the rest to follow.
- It is generally advisable not to rush goats but rather move them as fast as the slowest goat in the mob to allow them to become comfortable with the situation.
- Goats pack together very easily in small yards, working races or during trucking creating a high risk of smothering which can result in injury or death.



Goat behaviour

Fencing

Goats have developed a reputation for being difficult to contain behind fences; however, this is not necessarily the case.

Goats are intelligent animals and can be educated to either respect or disrespect fences.

Goats are habitual animals. If initially exposed to poor structural or electric fencing at a young age or when brought into confinement, they will tend to look to escape other fences in the future. If the first fences they discover have been well constructed to contain goats or sheep such as first-cross lambs or Dorpers, goats will have difficulty escaping and will learn to habitually respect fences.

Goats can learn to habitually respect fences



Goats are adept at climbing so a few techniques, such as placing stays on the outside of fences, can be useful. Goats are also more inclined to crawl under fences rather than jump them so it is important to ensure such behaviour is discouraged by repairing holes and through the strategic placement of electric wires.

Yards

Goats can be flighty, particularly rangeland goats which have had little human contact. This can create issues when the goats are yarded and forced into small yards as they tend to crowd and smother. Always be aware of this risk, particularly when working in races and loading goats onto trucks.

Partitions and dividing gates can help minimise the potential for smothering and care should be taken not to overcrowd pens. Move goats through the yards as quickly and calmly as possible.

Yards should be modified to prevent escape



Sheep yards can be used for handling goats but may require an extra rail for additional height in high pressure areas as goats are more inclined to jump and climb than sheep. As with fencing, stays and other elements should also be viewed as potential steps or ramps for goats to climb and should be modified to prevent escape (wherever possible, stays should be on the outside of the yards or high pressure areas). Cattle yards can also be used for some goat handling activities such as loading trucks although the addition of mesh or rails may be required to prevent escape.

Transport

Additional considerations apply when trucking goats. As well as making sure the goats do not smother through the provision of appropriate dividing fences and stocking densities in livestock crates, it is important to understand that goats typically have less insulating fat than sheep and cattle and can suffer cold stress in wet and cold conditions. For this reason, some producers and carriers choose not to load the top deck in bad weather as this is the most exposed area of a livestock crate.

Social behaviour

Goat herds have a hierarchical structure. Mixing mobs of goats during mustering or yarding will often result in animals seeking to restore their pecking order with aggression often resulting in stress, injury and potential carcass damage. In-season does will also attract the aggressive attention of bucks when confined.

Minimise dominance behaviour and stress by drafting goats into uniform groups. Bucks and does should be separated and consideration should be given to drafting based on other characteristics such as weight and dominance behaviour.

Maternal behaviour

When kidding time approaches, a doe will separate from the flock. Does hide ('plant') their newborn kids while they graze or drink, to prevent attack by predators. This behaviour is similar to cattle but very different to sheep where lambs will follow ewes. Kidding paddocks should contain scrub or cover so does can plant newborn kids and to help kid survival.

Kids are particularly vulnerable to predation and exposure shortly after birth. It is important that the doe be allowed to orient herself with newborns and move them away at her own pace. Once the kids are a few days old, does tend to share kids more than sheep share lambs making mothering up very difficult after the first few hours post birth.

Moving goats

Goats move as a mob when grazing in large paddocks containing trees and shrubs but will tend to disperse when mustered. This behaviour is very different to sheep which will tend to bunch together while being moved.

The hierarchical or mob structure also influences behaviour when moving goats. There is usually a large dominant male within a herd of goats which may initially lead the group. This leadership is generally shared with an older doe during grazing. Guiding the mob leaders will encourage the rest to follow.

In general, only move as fast as the slowest goats in the mob. Goats need to be guided and allowed to move at their own pace. Give goats time to assess a situation. For example, it is often better to wait a few minutes at a gate and allow the lead goat to find the opening and walk through, taking the others with it, rather than trying to force an unwilling mob. The use of laneways leading to yard facilities will allow goats to move freely rather than being forced.

Grazing behaviour

Goats are mixed feeders in that they graze and browse with browse making up a much higher proportion of a goat's diet than is the case for cattle and sheep. Two aspects define goat grazing behaviour:

- goats are selective and flexible feeders
- goats graze or browse.

Selectivity

Goats have a narrow mouth and muzzle which enables them to select the most digestible parts of a pasture or browse. When observed freely grazing in a paddock with a diverse selection of plants, goats will move from plant to plant, selectively sampling each as they move quite quickly through the area. Which plants they select will vary throughout the year and often depend on the growth stage of the plant. This behaviour should be considered when managing goats.

Goats are better adapted to graze diverse pastures such as those found in the rangelands, rather than high rainfall improved pastures which offer less diversity although goats will consume the highly digestible grasses in preference to clovers or shorter grasses. When running goats on improved pastures, it is advisable to also provide access to browse. This may be in the form of a treeline or shrubs; however, browse isn't limited to trees and shrubs. Even rank lucerne, for example, can make for useful browse.

At high grazing pressures goats will not typically perform as well as grazing sheep, while at low grazing pressures in larger paddocks, goats will often outperform sheep due to their ability to graze selectively. It is advisable to run goats in

paddocks with a selection of feed types, including browse, and at a stocking rate which allows the goats to demonstrate their natural selective grazing behaviour.

In rangeland grazing systems where there is a wider variety of species on offer, selectivity is high and goats have the capacity to select a more digestible diet than is immediately apparent. Goats will select browse and woody weeds in preference to grasses. Goats' selective feeding on preferred species in rangeland environments can result in overgrazing and a loss of biodiversity and feed resources if stocking rates and feed supply are not monitored regularly.

Goats can control (left) regrowth after clearing (right)



It is important to monitor the grazing of indicator or 'trigger plants'. Some plants are the first to be grazed while others are not grazed until more palatable plants are depleted. Which plants to monitor at which time of the year requires local knowledge as the palatability of plants varies throughout the growth cycle but it is advisable to monitor both palatable and less palatable species to gain an understanding of the amount of feed on offer and how the country is coping with the prevailing stocking rate. Generally speaking, if palatable species begin to decline in the pasture or browse mix, or grazing pressure becomes evident on species known to be less palatable than other species in the same area, then the stocking rate has become unsustainable and should be reduced.

Graze or browse

When goats are left to graze freely in a natural environment, browse tends to make up about 60% of their dietary intake whereas for sheep, browse is typically 10%-15% of intake.

This capacity to browse allows goats to thrive in rangeland conditions where sheep and cattle may struggle to survive. Goats can also be used to graze and thereby help control weeds, particularly woody weeds.

Browsing behaviour makes goats less susceptible to internal parasites as they are not grazing low to the ground and some of the high tannin plants they consume have a natural anthelmintic effect meaning they reduce worm numbers.

Goats are, however, susceptible to worms, often more so than sheep, and circumstances where they are forced to graze in high densities close to the ground should be avoided.

While browse often contributes energy and minerals to the goat's diet, it plays a particularly important role in maintaining good rumen function through the provision of roughage. A lack of fibre in a goat's diet can cause health and production issues, particularly in high rainfall areas with abundant lush feed and particularly for pregnant or lactating does. One such multi-factorial health issue is 'winter stasis' which describes weight loss or reduced production during winter despite access to highly digestible feed. Controlling internal parasites and ensuring the provision of a mixed diet including fibre through browse or hay are important management strategies for minimising animal health and production issues such as winter stasis.

As a word of warning, goats can be very hard on browse, particularly if the stocking rate is too high, and will tend to break lower branches and ring bark trees and shrubs. Pasture condition should be monitored on an ongoing basis and goats moved if damage is observed. Stocking rates must be monitored closely, as numbers can quickly increase.

Goat camps

Goats will reject any plant or fodder contaminated with their own urine or faeces. Stocking rates and the provision of supplementary feed should be managed with this in mind, particularly in feedlots and depots.

During extended grazing periods such as may be common under set stocking, goats will establish two to three goat camps in a grazing area compared with one major stock camp for sheep. As such, issues associated with overgrazing near camps, transfer of soil nutrients through a concentrated deposition of faeces and urine and weed seed concentration are generally less pronounced with goats than with sheep. Despite this, it is advisable to monitor stocking rates and the impact of camps on the environment and pasture.

Watering points

Goats require a reliable supply of good quality water. Rangeland goats generally have low grazing activity further than 4km from a watering point while sheep and cattle will graze up to 5-6km from water. Use of water access is an important grazing tool in rangeland management. Planning the location and number of watering points will assist in control of overgrazing of rangeland forage species, optimising stocking rate and providing the opportunity for trapping of goats for muster.

Acknowledgements

Russell B, Letnic M and Fleming P (2011). *Managing feral goat impacts by manipulating their access to water in the rangelands*. The Rangeland Journal 33: 143-152.

Jolly S (2013). *Goat nutrition in Australia – Literature review*. Meat & Livestock Australia, April.

More information

- *Going into Goats: Profitable producers' best practice guide:*
 - Fence design and construction for goats: *Module 4 – Infrastructure*
 - Handling of goats: *Module 6 – Husbandry, Tool Kit 6.0*
 - Feed lotting of goats: *Module 7 – Nutrition, Tool 7.6: Feed lotting of goats*
 - Water requirements for goats: *Module 7 – Nutrition, Water supplies*
 - Depot management of goats: *Module 11 – Depot management*
 - Rangeland management of goats: *Module 12 – Rangeland management*
- For information on livestock handling, read *Handling livestock principles: Reducing stress and improving efficiency* from the Australian Meat Processing Corporation. This factsheet focuses on handling of cattle but the same principles apply to handling goats.
- *Is it fit to load? A national guide to selection of animals fit to transport*. Meat & Livestock Australia. Revised edition, 2012
- Read the case study on NSW goat producers Garry and Tracey Hannigan: *The role of indicator plants in determining stocking rate*. Access online: <https://www.mla.com.au/extension-training-and-tools/producer-case-studies/the-role-of-indicator-plants-in-determining-stocking-rate>
- For more information on forage plants with anthelmintic properties, read *Pasture and browse for worm control in goats*. Access online: <http://www.wormboss.com.au/tests-tools/management-tools/nutritional-management/pasture-and-browse-for-worm-control-in-goats.php>



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