



## ANIMAL HEALTH AND WELFARE

# Requirements for handling goats to maximise eating quality

## How goat handling can affect eating quality

An important element contributing to predictable eating quality is the management of goats on-farm prior to slaughter.

The eating quality of an animal is most likely to be affected in the two weeks prior to slaughter and the first few hours post slaughter. The best carcass can be reduced to a low quality product by inappropriate handling pre-slaughter.

The damage is caused by changes in muscle glycogen (blood sugar) levels. Glycogen is the energy reserve of the muscle. The glycogen level in muscle is increased by feeding (a process taking several days) and rapidly reduced by stress (which may only take minutes) or activity in the live animal. After stunning, the glycogen in muscle is converted to lactic acid that steadily decreases the pH of the muscle.

## Goatmeat eating quality critical control points

Research in the lamb industry identified where critical control points occur in the supply chain (see figure 1) and where they impact on eating quality outcomes. By minimising the impact in these areas, improvement in eating quality of goatmeat products is achieved.

Industry participants should assess their own processes against the critical control points to determine whether their current practices could improve to meet the eating quality needs of customers.

## Reduce stress pre-slaughter

Poor handling in the days and hours prior to slaughter can compromise the eating quality of even the best finished animals. Goats are susceptible to stress and this must be minimised between mustering and slaughter.

## Key points

- Unweaned kids are likely to be more susceptible to stress caused by handling than weaned kids.
- Minimise the time between mustering and slaughter.
- Allow a minimum of two weeks at consignment property before dispatch.
- Total time off feed should not be greater than 48 hours (for on-farm curfew, transport and lairage) until slaughter.
- Minimise stress during curfew, transport and lairage.
- Access to water should be available during on-farm curfew and lairage.

Some ways to consider reducing stress include:

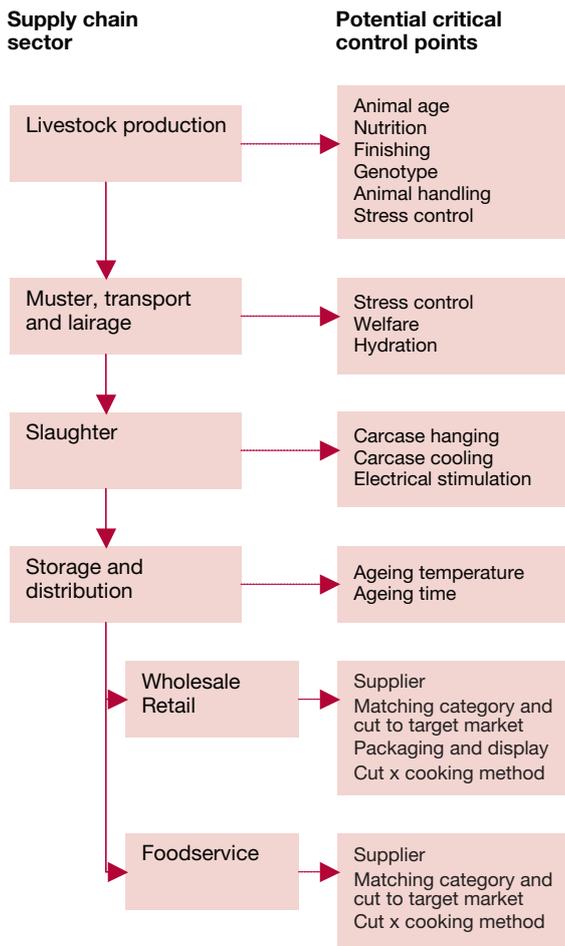
- Minimising the use of dogs during mustering prior to loading.
- Adjust trucking times to match favourable weather conditions. Dramatic changes in temperature during transport, such as a cold snap or heavy rain, will cause undue stress.
- For product consistency from saleyards, producers and processors should aim to reduce the time between muster and slaughter, where practical. Transport and lairage principles for meat quality focus on two factors – minimising stress and reducing the time until slaughter.

A compromise between minimising carcass weight loss in transport and processor requirements for clean stock should be made.

## Reduce dehydration pre-slaughter

Dehydration can reduce muscle. Therefore, to maintain quality and carcass weight, it is important to ensure stock have access to water during curfew, transport and lairage periods.

Figure 1: Potential critical control points for eating quality



## Maintain carcass weight

Once goats are taken off feed they have the potential to lose carcass weight and condition. Losses are not immediate because many hours pass before the digestive system is food free. However, the longer the period between mustering and slaughter, the greater the chance that losses in carcass weight will occur (figure 2).

## Agreed curfew for fasting animals

Processors typically require that goats be held off feed for a minimum of 12 hours before being presented for slaughter, as manure contains immense concentrations of microbes, which present contamination risks during trucking, lairage and the preliminary stages of slaughter.

To accommodate food safety concerns of processors and maintain high dressing percentages, animals are held for a minimum of 12 hours or up to a maximum of 48 hours without access to feed before slaughter. The minimum time will depend on feed type, weather, and processor food safety requirements.

Requirements from processors vary in each state. Producers, stock agents and transporters should contact processors prior to transport to understand their individual curfew requirements.

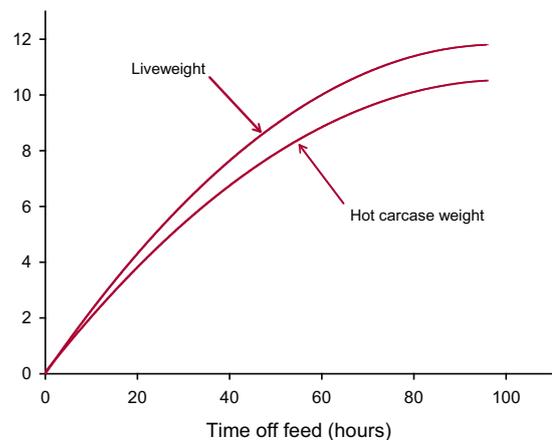
## Measure appropriate lairage times

It is recommended that slaughter take place between 4 and 24 hours after the start of lairage.

Lairage should be limited to 24 hours to minimise carcass weight loss and meat pH problems. In lairage, provided that stress is avoided, muscle glycogen will not decrease for several days. Eating quality will not be affected either.

The major problem with extended lairage is a decline in carcass weight (as seen in figure 2), which leads to lower carcass value.

Figure 2: Weight loss with time off feed



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## Further information

[www.mla.com.au](http://www.mla.com.au)

*Going into goats: Profitable producers' best practice guide*

*The effect of pH on goatmeat eating quality*

*The effect of finishing on goatmeat eating quality*



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