

Understanding dressing percentage when marketing goats

Goats are typically sold on a live weight (lwt) or carcase weight (cwt) basis. When selling on a carcase weight basis, it is critical that producers understand how to estimate the carcase weight of animals before they are consigned. Even if goats are usually sold on a live weight basis, it is important to be able to compare the price received for these goats to other marketing opportunities quoted on a carcase weight basis.

This factsheet explains the variables which influence the dressing percentage relationship between live weight and carcase weight.

Dressing percentage

Dressing percentage is a factor used to describe the carcase weight (meat and bone) based on live weight.

$$\text{Dressing percentage (DP)} = \frac{\text{Carcase weight (cwt)}}{\text{Live weight (lwt)}} \times 100$$

Dressing percentage varies throughout a goat's life and fluctuates depending upon the condition of the goat.

Once the dressing percentage and live weight are known or can be estimated with a reasonable degree of accuracy, the carcase weight can be determined:

$$\text{Carcase weight (cwt)} = \frac{\text{Live weight (lwt)} \times \text{Dressing percentage (DP)}}{100}$$

For example, a dressing percentage of 45 means that a goat weighing 30kg will dress to 13.5kg of meat and bone and 16.5kg of other products including the skin, feet, head and gut. 'Yield' is sometimes used to describe the relationship between carcase weight and the live weight. Yield is the relationship between carcase weight and the amount of retail product derived from the carcase.

Goat producers need to focus on dressing percentage, goatmeat processors focus on yield percentage.

On-farm weighing

Accurately weighing animals on-farm is an important part of identifying and drafting goats for marketing. Processors will often pay producers on a grid basis whereby different rates will be offered for goats within different weight ranges.

Goats weighing less than 9kg carcase weight will often be considered to have no commercial value (NCV) and the producer will not be paid for these animals.

Key points

- Understanding dressing percentage is important to meeting over-the-hooks specifications, maximising returns and avoiding costly penalties when marketing live goats to the carcase trade.
- Standardised weighing procedures are important to ensuring live weights and dressing percentages can be compared between consignments.
- Improves assessment accuracy and allows an impression of how the goats are performing over time in a particular environment to be formed.

Knowing that a 9kg carcase equates to a 24kg live weight goat, for example, means goats can be drafted on-farm and costly penalties avoided. Returns can be maximised further by ensuring goats consigned to market fall within the weight range offering the greatest financial return to the producer.

Live weighing scales are an important part of the marketing process



When selling based on carcase weight, weighing is best done by working back from the target carcase weights required by processors. This can be achieved by using a dressing percentage to establish a live weight range which will meet the market target.

For example, a 14-16kg carcass target with a 45 dressing percentage would need animals to weigh in the 32-35kg live weight range on-farm to meet the market target.

Predicting dressing percentage throughout the year for the different types of goats which may be sold is important. Dressing percentage will vary depending on the season as well as the maturity and physiological state of the goats. For example, pregnant does will have a lower dressing percentage than dry does due to the contribution the foetus and amniotic fluid make to live weight.

It is a good practice for producers to monitor and record condition score and grazing feed conditions for all consignments and calculate the dressing percentage from their slaughter feedback sheets so that a clear impression of livestock performance can be built over time. This will allow accurate predictions of dressing percentage to be made for consignment stock at various times of the year.

Factors influencing dressing percentage

Gut fill

Gut fill is the part of live weight made up of food, digesta and faeces. Live weight can vary significantly depending on the type of feed an animal is grazing and, more importantly, the length of time the animal has been off-feed.

Table 1: Typical live weight loss as a percentage of live weight due to time off-feed

Hours off feed	< 2	2	4	6	8	12	24	48	72
% lwt loss	0	2	2.5	3	4	5	7	10	12

Source: *Going into Goats: Profitable producers' best practice guide, Module 8 – Marketing, Tool 8.5: The relationship between live weight and carcass weight*

A 35kg live weight animal weighed with no time off-feed would produce a 15.7kg carcass at 45 dressing percentage. The same animal weighed after six hours off-feed will have lost three percent of live weight to weigh 34kg. Assuming the goats are well hydrated, carcass weight will remain relatively constant over the first six hours meaning the dressing percentage has increased from 45% to 46% due to the loss of gut fill.

Hydration

Prolonged time off water does cause dehydration and reduces carcass weight. Carcass weight loss of typical slaughter goats is about 2-2.5% in the first 12 hours, 3-4% in the first 24 hours,

Table 2: Guidelines for time off-water when transporting goats

Class	Maximum time off-water (hours)	Minimum spell duration (hours)
Goats over six months old	48	36
Kid under six months old	28	12
Goats known to be more than 14 weeks pregnant, excluding the last two weeks	24	12

Source: *Australian Animal Welfare Standards and Guidelines, Land Transport of Livestock. Edition One, Version 1.1, 21 September 2012.*

- **Feed type** – high quality pastures move through the gut quickly and result in lower gut fill. Low quality, highly fibrous feeds take longer to digest and stay in the gut for longer. This means goats on lush feed (e.g. spring pastures) have a higher dressing percentage than goats grazing low quality feeds (e.g. summer/autumn pastures).
- **Time off-feed** – goats weighed directly off-feed will have a higher live weight than goats which are yarded and then weighed some time later. If there is a time lag between muster and weighing, it is necessary to adjust estimated dressing percentage for the time off-feed to account for weight loss. Initial changes in live weight during fasting result mainly from loss of gut fill.

Gut fill loss is greatest in the first 6-8 hours off-feed and can amount to 3-4% live weight loss for slaughter size goats. This rate of gut fill loss may be greater if animals are in poor condition and have been on a low quality diet for extended periods. Reports of up to 8-10% weight loss within the first 12 hours of harvest have been encountered by some depot operators.

Indicative weight loss during time off-feed due to reducing gut fill is set out in Table 1.

and 6-7% in the first 48 hours. An additional two percent loss may be recorded in extreme circumstances.

Goats are often transported long distances for slaughter so it is important to ensure animals are hydrated prior to transport and have access to water on delivery at the abattoir prior to slaughter to maintain welfare and reduce carcass weight loss.

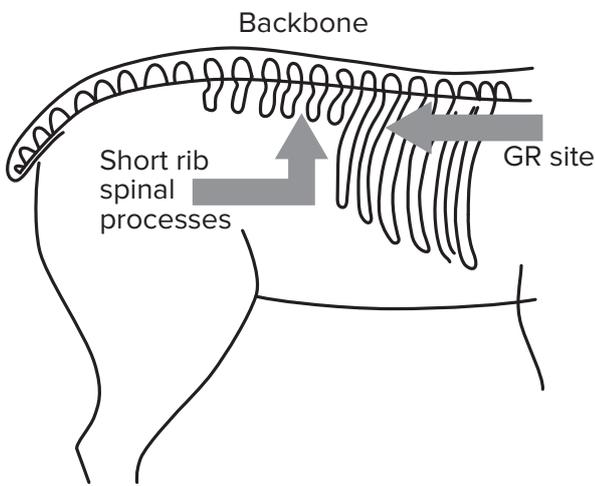
Guidelines for time off-water for transporting of goats are included in Table 2. The spell time is the minimum amount of time goats should be allowed to rest with free access to water after enduring the maximum time off-water.

Condition

In general, better conditioned (e.g. 3-4 condition score) goats have a higher dressing percentage than leaner (e.g. 1-2 condition score) goats. Live condition scoring of goats prior to sale will let you assess carcass muscle development and fat cover. It will also aid in making dressing percentage adjustments. This is particularly relevant for farmed meat goats such as Boer goats.

Condition scoring is done by feeling the muscle and fat cover over the backbone and short ribs immediately behind the last rib. A condition score of 1-5 is assigned based on the degree of roundness of cover at the end of the bones, the amount of tissue between the bones and the degree of muscle development.

Sites used during condition scoring of goats



Skin weight

Dressing percentages take into consideration hide weight as this is considered as part of the live weight. The actual contribution the hide makes to total live weight is usually about nine percent but this can range from 5-15% of live weight depending on hair length. This variation in hide weight can amount to an approximate variation in the dressing percentage of a 35kg goat of 42-48% with the dressing percentage of goats with longer hair generally be lower than for short-haired goats.

Consideration of the contribution the skin makes to live weight and dressing percentage is particularly relevant when comparing the rate offered for skin-on to carcass markets. Skin-on goats will have a dressing percentage 4-5% higher than skin-off goats as the skin is retained and considered as part of the carcass weight.

Breed and muscularity

At the same market live weight, Boer goats and their crosses dress from 2-5% heavier than other breeds due to a higher degree of muscularity. These carcasses may also have higher meat yield.

Improved muscularity will improve carcass meat yield



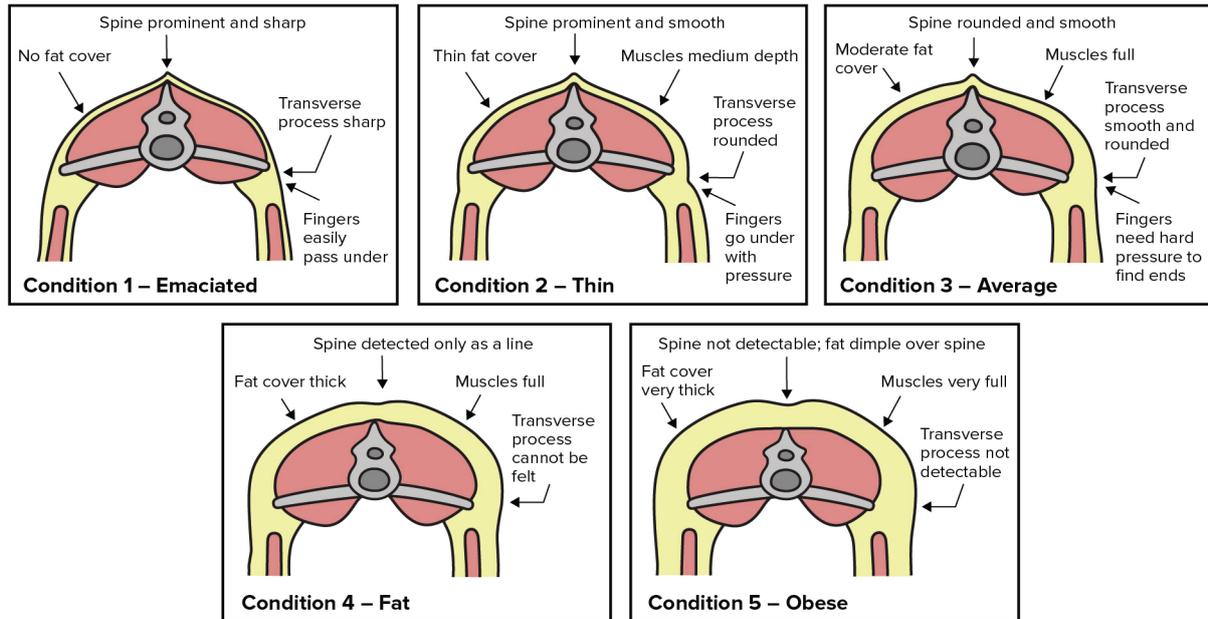
Carcass trim, dressing and weighing procedure

With 95% of Australia's goatmeat product being exported, the majority of carcasses are trimmed to the AUS-MEAT 'standard trim' (thick skirts, kidneys, kidney knob, channel, udder and cod fat removed) and weighed 'hot'. Carcasses not trimmed according to the AUS-MEAT trim may have a variable dressing percentage depending upon what is removed or left during the trimming process. Chilled carcass weights are around 2-3% less than 'hot' weights as a result of moisture loss during chilling.

Most carcasses are weighed and payments made based on hot standard carcass weight (HSCW). If comparing market price quotes, make sure carcass weights and dressing procedures are based on AUS-MEAT HSCW basis.

Table 3: Example calculating the lwt of goats condition score 3 to meet a 14-16kg cwt range

Market target range	14kg cwt	16kg cwt
Body condition score 3 at 44% dressing	32kg lwt	36kg lwt
Adjust for time off feed 8hrs at 4% loss	1.3kg lwt	1.5kg lwt
On-farm weight range	33.3kg lwt	37.5kg lwt



Adapted from 'Body Condition Scoring of Sheep' by JM Thompson and H Meyer (Oregon State University)

Summary

- Loss of gut fill is greatest in the first 4-8 hours off-feed, maximum 3-4% loss of live weight.
- Live weights should be adjusted to allow for time off-feed before calculating dressing percentage.
- Standardised weighing procedures (e.g. time off-feed before weighing) should be applied to ensure that live weights, dressing percentages and carcase weights can be compared between consignments.
- Higher condition score goats generally dress at a higher dressing percentage than lighter conditioned goats.
- Providing water to goats pre- and post-transport is important for animal welfare and to minimising loss of carcase weight.
- Understanding the contribution the hide makes to live weight is important in estimating dressing percentage, especially when comparing skin-on and skin-off market specifications and prices.
- Well muscled goats, typically from meat breeds such as Boer goats and their crosses, can have dressing percentages 2-5% higher than less muscled or non-meat specific goats.
- Carcase weights and dressing procedures should be based on AUS-MEAT HSCW when comparing market price quotes.
- Goats should be weighed prior to consignment and a conservative dressing percentage applied to avoid consigning goats with NCV. NCV carcasses are usually those below 9kg which translates to a live weight of about 24kg, although this can vary.
- Dressing percentages should be calculated and compared for each consignment to build a picture of how goats in a particular environment perform throughout the year.

More information

- *Going into Goats: Profitable producers' best practice guide:*
 - Marketing goats: *Module 8: Marketing, Tool 8.3 – Preparing goats for market*
 - Dressing percentages: *Module 8: Marketing, Tool 8.5 – The relationship between live weight and carcase weight*
 - Condition scoring of goats: *Module 6: Husbandry, Tool 6.8 – Live body condition scoring – an assessment of fat reserves*
- *Goat meat Language.* AUS-MEAT Limited
- *Is it fit to load? A national guide to selection of animals fit to transport.* Meat & Livestock Australia. Revised edition, 2012
- *Assessment skills for goat meat marketing.* Agriculture Victoria, January 2007, ISSN 1329-8062