



agriculture & rural development

Department:
agriculture
& rural development
PROVINCE OF KWAZULU-NATAL

Beef Production: The Basics

Trough Requirements for Cattle

Water troughs

The amount of trough space available when providing watering facilities or feeding livestock significantly influences the performance of livestock. Drinking troughs warrant special attention because an excessive amount of water is wasted when troughs are cleaned regularly, as is necessary for good management. Furthermore, poor design results in animals falling into troughs and drowning. It is not uncommon for cattle to fall onto their backs in a trough and dying if they cannot get up. Water trough design must take the following into consideration:

- Water troughs must be easy to clean
 - a straight trough is easier to clean than a round or circular trough because a broom can be pushed through it with ease
 - a drain plug which is tamper-proof is needed to allow easy drainage
 - the water inlet must include a tap so that the water supply can be turned off to drain the trough. Siting the tap well away from the trough prevents damage to the tap.

- An ideal width is about 20 cm. This allows animals to drink with ease and minimizes the danger of animals falling into the trough.
- Where the sides of the trough are broad, as with concrete troughs, the edge of the trough must slope towards the water. This discourages animals from placing their hooves into the trough.
- The height of the trough above the surrounding ground should be 20 to 40 cm, with the water level in the trough not more than 10 cm deep.
- The trough should be anchored to the ground to prevent animals knocking it over.
- Pipes to and from the water trough must be protected to prevent animals hurting themselves, as well as to prevent damage to the pipes.
- The water supply and delivery pipes to the drinking water should be large enough to ensure that animals do not drain the trough when they drink. Once a water trough is empty, animals start bumping it in their impatience to get water.

Feed and lick troughs

Feed and lick troughs can be made from almost any material. Inverted rubber tyres have become very popular because they do not rust and cannot cause injury to animals, are cheap and readily available.

Prior to the start of feeding, animals must be grouped according to size of animal and age group. By dividing livestock into production groups, feeding is simplified because each group can be fed a ration suited to its requirements. Separating animals into groups overcomes the problem of larger animals dominating at feed troughs and preventing smaller animals from obtaining their allocation of feed. Especially where feed is rationed, adequate trough space is essential to prevent smaller animals from losing mass and condition, while larger animals get overfat.

Where trough space is limited, cattle can cause damage to troughs or turn them over when they butt each other in an effort to reach the food. Damage to troughs and the loss of food is reduced if troughs are firmly anchored to the ground.

Table 15. Feed- and water trough space requirements for different classes of livestock.

Class of livestock	Trough space required per animal (mm/animal)	
	Feed	Water
CATTLE Horned mature cattle Dehorned mature animals Ad lib feeding Lick troughs	600 250 200 15 polled animals per lorry tyre	Rule of thumb: Provide space for 10% of a herd @ 400 mm per polled cow or 200 R drum with 25 mm pipe per 50 animals
SHEEP Intensive feeding	100	10 (this = 100 / 10% of ewes)
PIGS Mature Baconers Piglets	600 300 225	
POULTRY Layers Broilers & pullets Chicks - up to 2 weeks - over 2 weeks	50 25 10 15	