



## agriculture & rural development

Department:  
agriculture  
& rural development  
**PROVINCE OF KWAZULU-NATAL**

### **Beef Production: The Basics**

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#### **Hides**

In the leather trade, the term hide refers to the skin of large animals like cattle, whereas the term skin denotes the skin of small-stock. Cattle hides on average weigh 7% of the live mass of an animal at slaughter. During 1995, when the mean carcass value was R1709.62, the relevant animal's hide was sold for R135. Considering that marketing costs were R182 per beast, the hide almost covered this expense.

Hides are damaged by:

- Injuries to the animal during its lifetime
- Horns
- Fences
- Ticks
- Whips, sticks and stones
- Poor skinning practices and care of the hide
- To a lesser extent, thorns in bushveld areas

To reduce financial losses caused by damage to hides, care is necessary from the day an animal is born. Dehorning not only prevents injuries caused by horns puncturing the skin, but reduces injuries caused by animals hurting themselves when avoiding the horns of other livestock. The use of whips, sticks and stones as well as incorrect herding of animals, causes direct injuries, as well as indirect injuries when animals become panic-stricken and charge about in flight. Frightened animals are known to run into protruding objects like fences, especially barbed wire fences, which can cause severe injuries and tearing of the hide. The final step to reduce losses is to ensure that hides are not cut unnecessarily at slaughter and preservation practices are properly implemented.

#### *Slaughtering*

When an animal is killed, undue stress contributes to toughness of the meat or poor bleeding. With informal slaughtering, stress and injury can be minimised by killing animals in a convenient paddock where they have been grazing for some days. Stunning large animals prevents injuries and the best way is to shoot the animal in the forehead. Once stunned, the jugular arteries are cut as soon as possible to allow the carcass to bleed out.

#### *Time of slaughtering*

The best time to slaughter an animal is in the early morning or late evening when it is cool. This is good from a meat hygiene point of view and assists in preventing putrefaction of the hide. Where shade is available, it is advisable not to slaughter in direct sunlight.

### *Cutting lines*

After an animal is killed, skinning must start as soon as possible. The recommended cutting lines are illustrated in Figure 17. The cutting lines must be opened with a sharp knife which can be of any shape. On the other hand, the flaying knife is sickle shaped, with the cutting edge on the outside of the curve and has a rounded point. Although a flaying knife must be sharp, in the hands of a skilled user a hide can be removed with the minimum of damage, while leaving little fat or meat adhering to the hide. The best method to remove a hide from a carcass is to force one hand, clenched or held with the knuckles forward, in between the hide and the carcass while pulling the hide away from the carcass with the other hand. A knife should only be used to detach the hide from the carcass in places where it adheres relatively tightly to the carcass.

The opening line around the neck is an extension of the cut used to slit the throat and cut the jugular arteries and veins. This line is extended around the neck to behind the crown. No facial skin is left adhering to a hide. The opening line marked A, called the ventral line, is taken from the throat along the centre of the body down to the anus and along the centre of the tail to just above the switch. The openings around the legs are cut just below the knees and joined to the ventral line along lines to the front of the front legs and at the back of the rear legs. The line along the rear legs joins the ventral line about halfway between the anus and the udder or scrotum.

### *Treatment*

Once a hide is removed, it must be cleaned before blood and meat adhering to it dries. Care at slaughter to prevent blood or gutfill spilling onto the hide, assists in keeping hides clean. Slaughtering on grassy areas, where available, or on hard surfaces such as stone or concrete, prevents soil contaminating hides. Blood is washed off and pieces of fat and meat removed with a sharp knife, taking care not to damage the inner surface with cut marks.

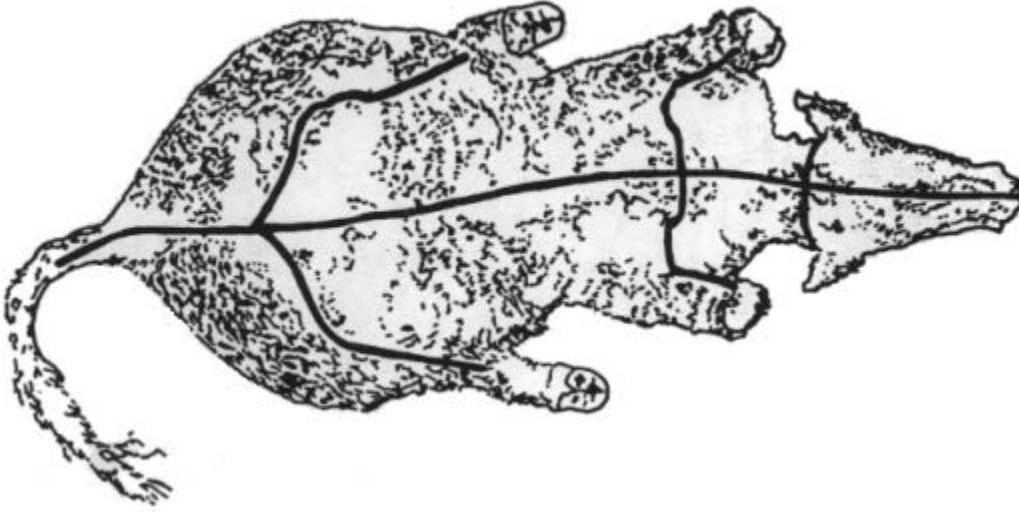
Although hides can be dried in frames or on racks in cool, shady places, it is best to preserve hides by salting. The hide is laid open on a dry, flat area with the hair side underneath. Coarse salt is liberally sprinkled over the meat side of the hide and rubbed in. The amount of salt must be at least 50% of the weight of the hide. If the weight of the hide is not known, 10 kg salt should suffice, unless the animal slaughtered was exceptionally large. Salt can be re-used as long as it is clean.

Salted hides are stored in a cool place for 48 hours, after which the salt is thrown off and the hide sent to leather merchants. If transport to a market is not regularly available, hides can be dried for storage. Cured (salted) hides usually dry very quickly and weigh about 50% of their wet weight when dry. Unsalted hides lose up to 67% of their wet mass during the drying process, which can take between 5 and 7 days. Hides must not be allowed to become too dry.

### *Storage*

Once cured and dried, hides can be stored for several weeks before transportation to a processing plant. Because leather cracks on fold lines, hides should preferably be stored flat. Where folding is necessary, the number of folds must be kept to a minimum or hides can be hung over thick poles, 75 to 150 mm in diameter, flesh side up. A common fold line is along the length of the back and when hides are hung over poles, the pole is positioned along the same line. When a hide is folded, it is folded with hair sides adjacent.

Hides should be stored in a well ventilated, cool place away from the sun. To prevent damage from insects and rodents, hides are stored on racks at least 10 cm off the ground, singly or in stacks. Spraying with insecticides or painting with dip will prevent insects chewing the hide, whereas rodents are usually not inhibited by insect poisons and must be caught with traps or killed with rat poison.



**Figure 17.** Correct opening lines for efficient hide preparation