KALRO
Kenya Agricultural & Livestock Research Organization

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DEHORNING/DISBUDDING AND HOOF TRIMMING FOR IMPROVED WELFARE AND PRODUCTIVITY

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What is dehorning/Disbudding?

Dehorning is a process that involves removal of the horns or prevent their growth in animals older than 8 weeks while disbudding is the process that involves removal of the horn producing cells in young animals preferably below two months of age.

Why dehorn/disbud?

Aesthetics drive some animal keepers who love polled animals relative to horned ones to dehorn and disbud. It is also done to enhance safety by preventing injuries to self, other people and animals as well.

Handling polled animals is easier and safer compared to horned animals. These animals also require less space in pens and during transportation. In addition, horned animals are costly to maintain since they have a tendency to destroy structures compared to the polled ones.

Considerations made before dehorning/disbudding

- ***Age*** – the younger the animal, the lesser the pain and stress.
- ***Restraint*** – ensure that you have good restraint facilities to minimize stress and risk of injury to both the animal and the operator.
- ***Pain management*** – it is ideal to have a pain management plan that will help in fasten the healing process and minimize pain and stress that can lead to infection.
- ***Method*** – the method of choice is very critical as it dictates the outcome as well as the amount of pain and stress as well as cost.
- ***Equipment*** – the equipment used have to be clean and sharp. This will significantly reduce the risk of infection, time and minimize pain and stress.
- ***Environment*** – avoid dehorning/disbudding animals during rainy season or during extremely dusty conditions. This increases the risk of infection that can lead to sinus infections.
- ***Post-operative management –*** it is important to monitor keenly the animals after dehorning/disbudding to prevent infections. Therefore, antibiotics, anti inflammatories and tetanus toxoids should be used where necessary.

Methods available for dehorning/disbudding

Dehorning iron is used on animals less than 8 weeks of age and involves:

1. Administration of anti inflammatories and local anaesthesia to reduce pain.
2. Properly restrain the head of the animal using a halter.
3. Test for effectiveness of the anaesthesia by pricking the base of the horn bud using a needle.
4. Using a rod with a slightly larger diameter than the horn bud, apply it on the horn bud maintaining minimal pressure while rocking back and forth until copper coloured ring appears (5-20 seconds).

5. The horn bud will slough off in approximately 3 weeks and full healing by 9 weeks.

Note; When cauterizing involves a centimetre of the skin surrounding the horn bud to minimize chance of regrowth.

Electric disbudding iron

Disbudding paste method requires less labour and restraint compared to dehorning iron. It involves;

1. Uses an anti-inflammatories and anaesthesia to manage pain.
2. Restrain the animal head using a halter or head restraint.
3. Clips the hair to expose each horn bud.
4. Involves application of petroleum jelly/ milking salve in a ring around the horn bud to keep the paste within the correct area.
5. Apply the paste on the circumscribed area with gloved hands.
6. Prevents smearing after application, by keeping calves separated for at least one hour and out of the rain for at least 6 hours.
7. Apply vinegar to neutralize effects of caustic paste incase its applied in excess.

Barnes dehorner: This is a double hinged set of closed sharp scoops which functions by placing it at the base of the horn bud and surrounding skin. Opening the handles forces the cutting edges together, slicing through the skin and under the horn bud. It comes in different sizes but this method is painful and causes significant bleeding.

Barnes dehorner

Dehorning wire – this method is used in older animals (more than 8 weeks). It involves use of embryotomy/obstetrical wire connected to two handles to rapidly saw through the horn base inclusive of about a centimetre of skin. Use of local anaesthesia and anti inflammatories is critical.

The disadvantage of this method is the risk of sinus exposure that can lead to cranial infections.

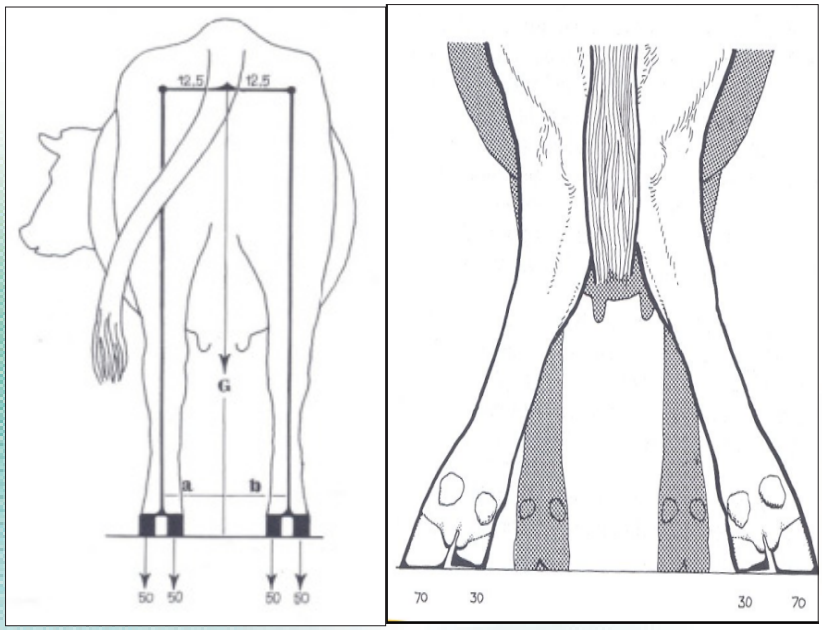
Dehorning wire and handles.

HOOF/CLAW TRIMMING

What is hoof/claw trimming?

Hoof/claw trimming is a routine management practice for the management of lameness in livestock such as cattle, sheep and goats. It improves claw health and enhances even weight distribution between the claws. Ultimately, it improves animal behaviour and welfare that directly impact on production and profitability.

This routine practice is done regularly depending on the level of wear in a particular production system. For example, animals in intensive type of production system have minimal wear and therefore overgrown claws are a common finding in such animals. This therefore necessitates regular claw trimming.



The ideal posture of a cow with even claws (left) versus one with uneven claws (right)

What are the causes of overgrown claws/defects?

- ***Lack of constant wear-*** this is common in animals reared under intensive production systems with limited space for movement and earthen floors.
- ***Nutrition***- animals exposed to diets containing high proportions of concentrates tend to have higher incidences of claw defects.
- ***Congenital (Genetics)***- some claw defects such as scissor feet and corkscrew claws are hereditary and therefore, they can be passed from one generation to the next. Their management can be achieved through selection during breeding and or culling.
- ***Extremely rough stall floors***- animal stall floors should be rough to allow for wear and enhance grip to minimize fall accidents that can lead to fractures. However, extremely

rough floors can not only cause injuries to the sole of the claw but also have the potential to trigger faster claw growth to compensate for the excessive wear.

Important of hoof/claw trimming

- **Management of lameness**- overgrown claws result to uneven weight distribution between the claws and across the different feet of the animal leading to lameness. Trimming ensures that weight of the animal is evenly distributed.
- **Management of claw defects-** some animals have claw defects such as scissor feet, corkscrew claws and beak claws. Such defects make the animal lame and susceptible to injuries and therefore claw trimming is necessary to restore the normal shape. Ultimately, such defects can be corrected through selection during breeding and culling.

A picture of corkscrew claw in cattle

- **Management of sole infections**- often, animals develop foot infections such as sole and heel abscesses. To effectively manage this, claw trimming has to be done to appropriately expose the infected area for proper treatment.
- **Management of hoof/claw cracks (fissures)** - as the claws overgrow, some develop cracks that maybe horizontal or vertical. Such cracks may deepen and or extend beyond the claw into the coronary band exposing the animal to joint infections. Therefore, claw trimming can help minimize such incidences.

A Picture of a cattle claw with vertical crack (fissure) and horizontal crack

- **Aesthetics and welfare**- animals with overgrown claws are usually not appealing to see relative to animals with trimmed claws. Such animals often suffer lameness making movement and feeding a challenge and this therefore affects their welfare and productivity.

What are the methods for claw/hoof trimming?

There are two common methods of claw trimming:

- **Functional claw trimming-** done for overgrown claws to restore normal weight distribution between the claws and across the different feet of the animal.
- **Curative claw trimming**- done to expose pockets of infection such as sole and heel abscesses, removal of necrotic tissue and removal of foreign bodies such as nails that maybe lodged within the claw. It involves raising of the affected claw off the ground after trimming by fixing a wooden block on the normal to enhance healing of the affected one.

What are the equipment available for claw trimming?

- Hoof/claw trimmer
- Hoof/claw knife (left and right-handed)
- Hoof/claw File
- Quittor knife
- Hoof/claw tester

A picture showing from left to right the hoof file, hoof knives and hoof trimmer

Procedure for hoof trimming

1. Properly restrain the animal in a crush to ensure your safety and that of the animal.
2. Ensure that the animal is preferably in standing position but this can still be done in lateral position.
3. Clean the foot that you intend to trim using plenty of water and brush.
4. Using the appropriate equipment, start trimming while strictly following the anatomy of the claw.
5. In case of injury, apply an astringent such as 5% copper sulphate.
6. Care should be taken to avoid injury, bleeding and bloating.

A cow restrained in standing position for hoof trimming

Compiled by: Mutisya W.M.,*Njambi E.,Mariita R. and Wanyona S.*

Design and Layout by: Odipo.S.

For further information contact:

Dairy Research Institute, Naivasha,

P.O. Box 25-20117 Naivasha

Email: Director.dri@kalro.org

Telephone: 020 2020512

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