

Section 7

Dehorning/Disbudding, Castration

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Introduction

Beef cattle are disbudded/dehorned in order to reduce animal injuries and damage to hides, improve human safety, reduce damage to facilities and facilitate transport and handling.

Castration decreases the management problems associated with aggressive and sexual behaviour of bulls.

- ① What is the best age to disbud calves?
- ② What are the legislative requirements aimed at ensuring humane disbudding of calves?
- ③ What are the main methods used for disbudding of calves versus dehorning older animals?
- ④ What are the legal requirements when castrating animals?
- ⑤ What are the main methods used for castrating bulls?
- ⑥ Is there any advantage in delaying castration of cattle?

Dehorning/Disbudding, Castration

Where it is necessary to dehorn beef cattle, seek guidance from a veterinary practitioner as to the optimum method and timing for the type of cattle and production system.

① What is the best age to disbud calves?

Where practical, calves should be disbudded while horn development is still at the horn bud stage as the horn buds are not yet attached to the skull. Consequently, the procedure involves less tissue trauma and is less stressful. Disbudding is significantly less stressful than dehorning of older cattle.

- Use a cauterisation method (i.e. a heated disbudding iron) at one-two weeks to remove the horn buds.
- A custom-built calf dehorning crate will minimise stress to the calf and ensure optimum safety to the operator.

② What are the legislative requirements aimed at ensuring humane disbudding of calves?

Disbudding of calves is carried out to comply with Regulations under the Diseases of Animals Act, (1966) which prohibits the sale or export of horned animals. Disbudding procedures must be carried out in compliance with the Protection of Animals (Amendment) Act (1965).

Currently the legislation concerning dehorning of cattle requires that once calves are over two weeks of age disbudding may only be performed using with local anaesthesia. It is illegal to disbud a calf over two weeks old without using a local anaesthetic.

- Veterinary advice is that all calves should be treated with a local anaesthetic when disbudding.
- Local anaesthetic may be obtained on prescription from veterinary surgeons.
- Disbudding calves correctly is unlikely to produce regrowth/'stumps' preventing welfare problems and possible rejection at marts later in life.
- Cattle cannot be marketed with horns. Marts will be guided by the document "Dealing with horns on cattle best practice" when accepting or rejecting animals for sale. http://www.agriculture.gov.ie/media/migration/animalhealthwelfare/animalwelfare/horned_cattle_best_practice.pdf

③ What are the main methods used for disbudding of calves versus dehorning older animals?

Methods of disbudding at the horn bud stage include removal of the horn buds with a knife, or thermal cauterisation of the horn buds.

Ensure that:

- A cauterisation method (i.e. using a heated disbudding iron) is used at one to two weeks to remove the horn buds.
- A custom-built calf dehorning crate is used to minimise stress to the calf and for optimum safety to the operator.
- Chemical paste to cauterise the horn buds is not recommended.
- Once horn development has commenced horn cutting or sawing at the base of the horn close to the skull is needed.
- Producers should seek guidance from veterinarians on the availability and advisability of analgesia/anaesthesia for dehorning of cattle, particularly in older animals, where horns are more advanced.
- Operators performing either disbudding of calves or dehorning of older cattle should be trained and competent in the procedures used, and be able to recognise the signs of complications.



Castration

4 What are the legal requirements when castrating animals?

In Ireland, use of anaesthesia is required for surgical/ Burdizzo castration of cattle over six months of age (Protection of Animals [Amendment] Act 1965 [S.I. 10 of 1965]; Oireachtas, 1965). Rubber ring castration (or use of other devices for constricting the flow of blood to the scrotum) without use of anaesthesia can only be performed in calves less than seven days of age (Oireachtas (Ireland), 1965)]. Where anaesthesia is required for castration, the procedure must be performed by a veterinary practitioner.

5 What are the main methods used for castrating bulls?

Techniques used to castrate male cattle include the application of rubber rings or tightened latex bands, surgical removal of the testicles, and use of a Burdizzo instrument to crush the testicular cords.

Surgical castration

Knife cut

There are two principal surgical techniques for castrating male cattle that are performed by a veterinary practitioner. The first technique involves excision of the distal one-third of the scrotum with a scalpel or sharp castration knife, to expose the testicles by descent through the scrotal incision. In the second technique, the lateral scrotal walls are incised with a scalpel or a Newberry knife to expose the testicles in a vertical fashion. The advantage of the Newberry knife is that both the lateral walls and the median septum are simultaneously incised, thereby enhancing wound drainage. Proper surgical hygiene must be observed during the castration procedure to avoid any unnecessary cross-contamination, infections or sepsis. Concurrent clostridial immunisation is recommended.



Newberry knife

Emasculator

Burdizzo castration is based on the principle that crushing destroys the spermatic cord carrying blood to the testicles but that the skin of the scrotum remains intact. Each spermatic cord is crushed twice (second crush below the first) for 10 seconds each along the neck of the scrotum with the Burdizzo to ensure completeness of the castration procedure. The Burdizzo must be in good condition. The jaws must be parallel and close uniformly across their width so pressure will be even across the jaws. Leave the Burdizzo slightly open when not in use.

With the Burdizzo technique, the testicle is left to atrophy in the scrotum, and because of the lack of open wounds the potential for haemorrhage or infection is minimised. Infection or maggot infestation is rare.



Burdizzo and Bander Instruments

Banding castration involves the application of a specially designed elastic band with the aid of an applicator around the neck of the scrotum, proximal to the testicles. This will cause ischaemic necrosis of the testicles, eventually leading to testicular atrophy and sloughing of the scrotum. Small rubber rings are used for calves less than one month of age (rubber ring castration), and for older calves, a heavy wall latex band is used along with a grommet to securely fasten the tubing at the appropriate tension. Tetanus has been reported in banded calves; therefore animals should receive tetanus prophylaxis to minimise the risk.

Proper immunization controls tetanus risk and Tetanus toxoid (not anti-toxin) must be used. It is important to read and follow vaccine instructions carefully and to vaccinate animals at least one-month before carrying out the procedure and again administer a booster vaccine on the day of banding.

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⑥ Is there any advantage in delaying castration of cattle?

There is a general perception among producers that delaying castration could extend the production advantages of keeping animals as bulls beyond puberty or weaning. After puberty, bulls always grow faster than castrates, but the live-weight advantage is largely lost when the bulls are ultimately castrated.

A number of studies have shown no advantage in delaying castration up to 17 months of age in terms of slaughter weight or carcass weight at 22 months.

Key Point



Do not try to castrate animals until you have been taught and are guided by someone experienced in the proper techniques.

