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## **Dehorning: Economically Important but Often Overlooked**

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### **Why**

Dehorning calves can have a tremendous impact on end-product quality and value of feeder/stocker cattle. It may seem like one of the simpler management processes but it still gets overlooked. According to the most recent National Animal Health Monitoring System (NAHMS) report, the percentage of calves marketed with horns, across all states evaluated, had decreased from 8.4% in 1992 to 6.3% in 2007. The authors speculated that a majority of this decrease was due to the use of polled genetics. However, another import finding was that fewer calves born with horns were dehorned on the operation.

The 2007-08 NAHMS report also evaluated dehorning practices by geographical region. It found that the South Central region (TX and OK) had the highest percentage of calves born in 2007 that had or were expected to have horns (22.8%). The East region (AL, AR, FL, GA, KY, LA, MS, TN and VA) had only 9.8% calves with horns but only dehorned 39.5% of those calves. The West and Central regions dehorned a much higher percentage of calves born with horns (70% combined).

The presence of horns has a consistently negative effect on the selling price of feeder calves. Reports from Eastern Oklahoma, evaluating the sale price of more than 9,000 head, have shown that horned steers bring \$3.23/cwt less than their polled or dehorned contemporaries. Reports from the southeastern states estimate that polled or dehorned calves sell for \$1.50 to \$2.00/cwt more than horned calves. Horned feeders sell for less because they require dehorning when they arrive to the feedlot and that negatively impacts their performance and health. If they are not dehorned, they decrease the value of the entire pen they feed with.

The 2005 National Beef Quality Audit reported that 22.3% of the cattle passing through 16 packing plants had horns. This represented a reduction from previous reports dating back to 1991 but still does not meet the industry goal of reducing horns on fed cattle to less than 5%. One of these previous reports estimated the loss due to horns on fed cattle to be \$1.00 for every finished animal marketed. The reduction in value comes from the increased incidence of bruising, especially on high-priced cuts, that has to be trimmed from the carcass.

Dehorning replacement females and bulls is also very important. Horned cows can cause damage to other cattle during transportation and are often difficult to work in a handling facility. Non-fed market animals (cull cows and bulls) also experience a significant amount of carcass trim from bruising when they are managed or hauled with horned cattle.

### **When**

The hard structure of the horn is actually produced by the surrounding skin, similar to the way a hoof grows from the coronet band. When the calf is young, the horn bud is free-floating and not attached to the skull. As the calf ages, the horn bud attaches to the skull and the horn begins to develop larger. Scientists from the University of Tennessee recommend dehorning calves at less than one month of age (before the horn bud attaches to the skull) to reduce set-backs in health and performance. Dehorning older calves can lead to more infections, longer periods of weight loss and (in few instances) death from blood loss.

The optimum time to dehorn might be when it can be combined with other management practices. This will consolidate time and labor costs and can keep the total cost of dehorning at or below \$5.00 per head. Season is another important factor in timing horn removal. Early spring and fall dehorning avoids fly season and associated infections.

### **How**

The easiest method for producing calves without horns is to use a homozygous polled bull. This means that the offspring from that bull does not have the genetic capability to grow horns. However, there are several ways to remove horns or horn buds from non-polled cattle. This should be done with the goal of preventing re-growth. To accomplish that, a 0.25 to 0.5 inch wide ring of skin should be removed at the base of the horn. As previously mentioned, that band of skin contains the cells that produce the horn material.

Dehorning methods include: chemical, knife, tube, hot iron, saws, Barns dehorner, wires and keystone dehorner. Chemical dehorning uses a caustic material that is applied to the horn bud and immediate surrounding skin. A few days after application, a scab forms and falls off to leave a bare area of skin. Some things to consider with chemical dehorning are that it is most effective on very young calves; care should be taken to let the chemical dry before the calf is put back with the cow and the calf should not be exposed to rain so that the chemical does not wash into the eyes.

A knife, tube or hot iron is most effective on calves less than two months of age and with horn buds less than an inch long. A knife can be used to surgically remove the skin around the base of the horn and move under the horn bud to cut it away from the base tissue. Proper restraint is necessary to prevent personal and calf injury in all dehorning methods but it is especially crucial when using an open blade. A tube is essentially a circular blade that is pushed into the skin around the horn bud and then tilted to cut under and remove the tissue. A hot iron cauterizes the horn bud and surrounding skin to prevent further growth.

A Barns dehorner is a hinged set of sharp scoops with long handles. With the handles closed, it is placed over the horn to the base and surrounding skin. When the handles are opened, the scoops cut through the skin and under the horn to remove it at the

base. Barns dehorners come in different sizes and work well for calves from two months to yearling.

Saws, obstetrical wire and keystone dehorners are used on older cattle with larger horns. Keystones come in several sizes and are operated with two handles that, when opened, move a blade downward against a stationary plate or blade similar to the action of a guillotine. These methods create the greatest amount of bleeding and require more care after the procedure. It is also important to remember that the skin at the base of the horn should be removed to prevent re-growth.

Tipping horns should also be mentioned even though it does not effectively reduce carcass bruising and blunt-force injury. Tipping removes the points of the horns and usually only includes the portion with fewer nerves and less blood supply. This method is most often used to prevent irritation from horns growing back toward the head or eye in older cattle.

During dehorning is important to have a good handling facility, sanitize the equipment between each calf and to make sure bleeding has stopped before turning the calf out. Use blood coagulation powder and fly spray. Low-stress animal handling practices are important and will help keep the calves blood pressure in check to reduce bleeding. Continue to monitor dehorned cattle for at least ten days and re-treat for flies and infection or contact a veterinarian as needed.

Removing horns is a low-cost way to increase the value of calves throughout the beef production chain. When done early and correctly, it is simple and will have a limited effect on performance. For more information on dehorning cattle, please feel free to contact your local office of the Mississippi State University Extension Service.