



PHOTO BY EMILIE HOLT

and are placed on the ends of the horn and tightened with screws. A locking mechanism on the inside holds the weights firmly in place. Once the horn's growth is altered in the direction desired, the weights can be removed and the horns will resume normal growth.

Although horn weights are effective, there is a relatively new method many cattlemen are using to alter the horn's growth. The method, called sloping, is used to get the horns to grow down, and it also results in a smaller horn at maturity.

"About 15 years ago or so, we learned how to slope horns, and by doing so, we accomplish two things. We are able to train the horns easily and efficiently, and then we also reduce the size of the horns on our cattle," Gordon Jamison explains. Jamison raises horned Herefords near Quinter, Kan. Because of the sloping procedure, there are fewer problems with horned cattle maneuvering down an alleyway or going through a chute.

Jay Berry, Cheyenne, Wyo., also utilizes sloping to help manage his horned animals, and he and Largent say their customers appreciate it. The best time to perform this procedure is about 10-14 months of age. At this time the horns are big enough to indicate which direction they naturally want to grow but still small enough for the procedure to work effectively.

To put it simply, sloping is just cutting the tips of the horns. However, cattlemen must cut the tip at the exact correct angle for that individual horn so it grows down without curling into the face. These producers have it down to a science. In fact, Berry says he can do his entire bull calf crop in one day with the help of one other person.

The most important thing is to get that angle right so it doesn't

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# A Sloping Science

*Many cattle producers use a sloping method to manage the horns on their cattle.*

by Sara Gugelmeyer

**H**ereford cattle originated as a horned breed, but now centuries later, many producers have turned to polled genetics for a variety of reasons. Still, for producers who have stuck with tradition, or have an abundance of customers who have done so, leaving horns on is their way of life, and they've perfected ways of managing them.

Horns can be a problem for some, but others say they like horns on their cattle. And more importantly for some seedstock producers, their customers want horned bulls. Mark Largent, Kaycee, Wyo., says that preference is the primary reason he continues to raise horned bulls. "We have some customers that actually demand horns," he says.

Because some bull customers want horns on their cattle, there are ways to manage horns to avoid problems. The oldest method is to use horn weights to train the horns to curve downward. Weights vary depending on the size of the animal and the horn

# Getting to the point

## *What you need to know about dehorning.*

No matter whether you raise polled or horned cattle, there is one thing that can't be disputed. Horned cattle sold as feeders are going to be discounted anywhere from \$2-\$10 per calf, because once the calf is past 6 or 7 months of age, a once-simple procedure of dehorning will cause a performance setback that will last more than 100 days.

Joseph Stookey, professor of applied ethology at the University of Saskatchewan, explains that the loss of performance is still preferable to the alternative of leaving the horns until harvest, which results in a discount then as well.

"There's a study that shows that animals in the feedlot with horns increase the level of bruising by 50% compared to those without horns," Stookey says. That bruising must be trimmed at the packing plant, resulting in lost revenue.

Also, Jim Williams, Certified Hereford Beef LLC vice president of supply, says the bruises are typically in the loin area, which is the most expensive part of the carcass.

"Ideally we want to see all cattle clean-headed when they arrive at the feedlot," Williams says. Having clean-headed cattle will reduce the amount of bruises on penmates and the amount of bunkspace required.

### **When should dehorning be done?**

Because it is much easier on the calf and the pocketbook to dehorn at a young age, Stookey suggests dehorning the calf as young as possible to reduce animal welfare concerns. James Neel, animal science professor and beef Extension specialist at the University of Tennessee at Knoxville, agrees with Stookey.

"The younger they are, the easier on the calf and easier on the producer. The calf will heal up a lot quicker," Neel says.

Research supports their claim. Studies show if calves are dehorned at 6 months of age or older, there is a setback in performance of more than 100 days. Dehorning at 3 months also shows a negative performance response, although it is less than those dehorned at 6 months. This information means that at less than 3 months of age is the best time to dehorn, and studies show that in the first week of life the calves show no pain response in performance at all. Producers have to consider the animal's welfare and manage their valuable time.

### **Which method is best?**

Neel says one method is not necessarily better than others; the producer should determine which is best for his individual operation. Jay Berry, Cheyenne, Wyo., raises horned cattle but dehorn all of his heifer calves right after birth. He uses caustic paste and says it is inexpensive. "It costs about \$4.50 a year because it only takes one jar of paste," Berry says. When he works all of his calves at weaning he occasionally has to dehorn one whose mother licked the paste off.

Stookey says the caustic paste method is preferable if the producer chooses to dehorn instead of raising naturally polled cattle. "From the standpoint of the animal's response, there's good evidence that caustic paste is probably one of the least painful methods we have," he says. When applying the paste, it is important to trim the hair around the horn bud and apply a ring of petroleum jelly on the edge of the hairless area to prevent burns from the chemical.

Using paste may be the least painful method, but it is not without complications. It is a paste, after all, that can be rubbed off onto the cow, causing burns, or can be licked off as Berry explained. For these reasons it is best to keep the cow and calf separated until the paste becomes dry and hard. Weather conditions also have to be considered because rain may cause it to run down onto the calf's face.

Another option for young calves, with which no bleeding is involved, is using a hot iron. This method works best when the horn is less than one inch long. A branding iron can be used or there are irons specifically designed for dehorning. No matter what type you use, it's important to place the iron on the horn area for at least 20 seconds, according to Neel, then check the color of the area. The skin should be copper colored with a white ring next to the horn. If it is not, reapply the heat for at least 10 more seconds. If done properly, the horn should fall off in four to six weeks. This method is hard without good restraint because it is difficult to keep the calf still enough to keep the iron in the right area for 20 seconds.

A mechanical option for dehorning young calves, about 2 months of age or less or with horns less than one and a half inch long, is using a tube dehorner. Tube dehorners work by placing the tube over the horn bud, pushing the tube into the head and twisting, cutting the skin surrounding the horn. Then the tube can be tilted to one side, cutting the horn off. The disadvantage to this method is you must have the appropriate size tube for each horn. In order to work properly, the tube should be about one quarter to one half inch larger than the base of the horn bud.

If the calf is larger, a Barnes dehorner is the best way to dehorn. This type of dehorner mechanically cuts off the horn and the surrounding skin. Just like the tube, the Barnes dehorner must be the right size to allow for the horn and the surrounding skin to be removed. After placing the instrument over the horn, quickly widen the handles completely, then twist for a good cut.

Jonathon Beckett, California Polytechnic State University animal science professor, explains that in his area most producers who dehorn calves do it at branding, which is usually at about 4-5 months of age. Because these are slightly older calves, most use a Barnes dehorner and use a hot iron to cauterize the area and stop the bleeding. Beckett says most cattlemen in his area are using a fall-calving season, so it's usually February when branding and dehorning are performed. Because it's early, there are no flies yet, which greatly reduces the risk of infection.

### **How is infection avoided?**

Choosing a time when there are fewer flies is another important consideration when determining when to dehorn. Unless you are utilizing the chemical dehorning method, a large fly population will increase the calves' chances of infection. For this reason, early spring or late fall is usually the best time.

More important than what tool you use, it is imperative that the dehorning instrument you are using is disinfected between calves. Another good way to help prevent complications with mechanical dehorning is to place blood coagulation powder and fly spray on the area once the bleeding has stopped.

If you choose not to raise polled cattle, dehorning does require an investment in labor and equipment, but the value it adds to feeder calves more than makes up for it. **HW**



PHOTO BY MICHAEL COLEY

These three bulls have had their horns sloped. The one on the right has had the procedure performed recently, and the one on the left's growth shows the result.

have to be fixed later. The easiest way to think of it is to start on the top of the horn about one third from the base of the horn, then cut at about a 45 to 60 degree angle, depending on how the horn is growing, so the cut ends about two thirds from the base of the horn on the bottom side.

It takes a trained eye to know what angle to cut each horn

because every one is different. Berry explains that even on one calf the horns will usually not be exactly the same. "You get some of them that are like radars; they are going straight up, and when you cut off the top, it will grow down and away from the scar," Berry says. It looks like you are doing the opposite thing you should. "If you have a calf with a real flat horn

coming straight out of his head, then you don't need to slope it very much."

If you happen to get one wrong, you can try to fix it about four months later, Berry says. If you've made a mistake, you need to try to correct it. But that takes extra time that most cattlemen don't have to spare, so it's important to get it right the first time. Within a year a very identifiable trend is visible in the horn's growth, and when the animal reaches 3 years of age, the horn is fully formed.

The tool used to perform sloping is usually some sort of saw. Despite the way it sounds, it's not as gory as one might imagine. Berry prefers to use an artery clamp so there is no blood involved with the procedure. The artery clamp is used to cut off the blood flow to the horns, which allows the procedure to be performed, and then, afterward, he sears the tip with an iron to cauterize the blood vessels.

Jamison also uses a saw to slope the horns and an iron to stop any bleeding. Besides the brief moment of pain, there's very little discomfort. "It's not something they react to afterward," Jamison says. "When we turn them loose, they immediately go back to eating."

It may seem as if extra time and effort go into caring for horned cattle, but horned Hereford producers don't mind. For one thing, it's tradition, and in the cattle business, few things are as sacred.

"It's always been that way and it's kind of our identification now. It's hard to let go of those things," Jamison says. "I've always said if it begins to cost me money, then I would take the horns off." But, right now, that is not the case. He, just like Largent and Berry and the many other horned Hereford producers, is content to continue to sell what his customers want and that's horned cattle. **HW**

## Pain prevention

### *Do we have a moral responsibility to use anesthetics?*

It's best for the calf's welfare to either raise polled cattle, leave the horns on, or dehorn at less than 3 months of age. But, if dehorning is done at an older age, there is a way to prevent the animal from feeling the pain. Although it may seem unorthodox, Joseph Stookey, professor of applied ethology at the University of Saskatchewan, suggests considering performing a corneal block before dehorning to eliminate the pain of the procedure. A corneal block is when liticane is injected to numb the area so the animal won't feel the procedure, just like when you go to the dentist.

Only a small amount of liticane is needed and, Stookey says, liticane is very cheap. The procedure is also easy to perform. You do not have to be a veterinarian to successfully administer the liticane, but a veterinarian can quickly show you how to do it. "Producers can learn where to place the needle to perform the block and then dehorn with anything, and the animal won't feel the procedure," Stookey says.

In Europe there are regulations on how old the animal can be before the producer is no longer allowed to perform painful procedures like castration and dehorning. After the animal reaches 1 month old, a veterinarian is required to assist, because he will use anesthetics like a corneal block to ensure the animal is treated humanely. Now, that's not to say any regulations like this will ever be enacted in the U.S. or Canada. "But that is an issue of concern," Stookey says.

Although it is hard to measure any performance advantage to using a corneal block, Stookey suggests it is more of a moral obligation. It comes down to what society expects of us as producers. "I know it sounds like people who aren't raising cattle are influencing how we do it, and what's it their business? But I think that is just a general reflection of the times, and the public wants to be assured that we are doing this in a humane way." **HW**