Vet Call

►by **Bob Larson,** *professor of production medicine, Kansas State University*

Consider castration

Castration is one of the oldest and most common surgical procedures done on beef cattle. The reasons that bulls are castrated include controlling which males are allowed to breed females, to produce animals that are easier to manage due to decreased aggressive and sexual behavior, and to produce a carcass that is higher in quality.

As young as possible

A variety of simple surgical techniques can be used to castrate a bull. Young bull calves less than 250 pounds (lb.) are usually castrated lying down or in a calf cradle. Older and larger bull calves are generally castrated in the standing position in a squeeze chute. Regardless of the position, proper castration technique and good sanitation are important to minimize problems following castration.

For commercial producers, bull calves should be castrated as young as is practical for the farm or ranch. Purebred producers castrate a smaller percentage of bull calves than commercial producers and prefer to delay castration until the calves have an opportunity to express growth and other traits.

Weight gain of bulls castrated at a young age and treated with a growth-promoting implant will equal that of calves left as bulls until weaning — thus removing an economic incentive to delay castration.

One reason it is recommended that castration be done at a young age is that bulls castrated at weaning age (i.e., 6-8 months) will gain very poorly or will lose weight following the surgery and are at higher risk for post-castration infection or excessive bleeding than younger calves. In addition, castration is starting to receive more attention from an animal welfare standpoint.

Animal welfare

The reason producers need to consider the welfare aspects of castration is that all physical methods of castration cause pain. The extent and duration of pain probably differs between castration methods, and more work needs to be done to identify the least painful procedures.

Age at castration appears to affect the pain response in castrated bulls, with some research trials demonstrating fewer indications of pain in calves castrated at less than a week of age compared to calves castrated when they are older. Other trials show apparently less pain response in calves castrated at less than 21 days of age compared to calves castrated at 42 days of age.

World view

In England, regulations require that any bull greater than 2 months of age be given local anesthesia to deaden the ability to feel pain at the castration site, and the surgery must be done by a veterinarian. Anesthesia and pain medication are required for castration in several northern European countries. Anesthesia is also required for castration of bulls in Switzerland, and the use of rubber rings is prohibited.

Regulations in Ireland require use of anesthesia for castration of cattle older than 6 months of age. In the United States, few drugs are approved for use to control pain in cattle, and while research has indicated that some anesthesia and/or pain medications appear to decrease the pain response to castration, not all the pain control techniques that have been tried have proven to be successful.

The American Veterinary Medical Association (AVMA) has published a statement on castration and indicated that, "although castration is considered to be a model of pain in animals, it is also generally accepted that the procedure results in improved overall welfare for the animal and that its economic benefits outweigh its short-term welfare costs."

Castration of bulls at as young an age as practical has long been recommended to minimize stress associated with the procedure and to reduce the risk of infection and excessive bleeding that accompanies castration of older bulls. Now, as animal welfare concerns increase in importance, when making management decisions, the motivation to move castrations to as young an age as possible is also likely to increase.

E-MAIL: rlarson@vet.ksu.edu