

COW/CALF CORNER

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Feedlot Efficiency versus Beef Industry Efficiency

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Increased demand for corn has increased corn prices which causes changes in both supply and demand to restore corn market balance. On the one hand, high corn prices stimulate increased corn supply by bidding more resources into corn production. This leads to many impacts in other crop markets, such as higher prices for all major crops. At the same time, high corn prices reallocate corn among various users with higher prices moving some corn away from previous users and into the new demand. In short, high corn prices encourage corn users to reduce use and the beef industry is no exception.

It is often noted that beef is the least efficient user of grain among livestock industries. Indeed, cattle finishing requires five to six pounds of grain per pound of meat produced compared to less than three pounds for pork and less than two pounds for broiler production. However, this is only during the finishing phase and does not consider the amount of grain relative to the total weight of the animal. For example, a 600 pound feeder animal fed to 1350 pounds means that 56 percent of the total finished weight is completed in the feedlot with grain. Using a 5.5 pound feedlot conversion means that 4,125 pounds of grain are used to produce the animal, which is an overall grain use of 3.06 pounds of grain per pound of finished weight. Recognizing this alone means that beef is not nearly as inefficient compared to pork and poultry as the feedlot portion alone would suggest.

Moreover, the beef industry has the ability to adjust the industry production process while maintaining carcass quality and meat characteristics. For example, by increasing the placement weight to 850 pounds, the feedlot phase now represents 37 percent of the total final weight (1350 pounds) of the finished animal. The larger (and probably older) animal will have a higher feedlot conversion, perhaps 7 pounds of grain per pound of gain. In this example, the total amount of grain used to produce the finished animal is 3,500 pounds of grain, down 15 percent from the light weight placement above. Total grain use for the industry is now 2.59 pounds of grain per pound of finished animal despite the fact that feedlot conversion is higher when feeding an animal placed at a heavier weight.

The examples presented here are generalized and do not include all the details of animal production but do illustrate the basic concept and several important implications for the beef industry. The beef industry can respond to high grain prices by changing the industry production process so that a higher proportion of total animal weight is achieved with forage based production prior to feedlot finishing. It also means that the technical efficiency measure of feedlot conversion is not the appropriate measure of industry efficiency with respect to grain use. As feedlots feed animals placed at heavier weight, feed conversion on a per-pound of gain

basis will increase but overall industry use of grain will decrease. For many years, cheap grain meant that anything that enhanced grain use and feedlot measures of technical efficiency were consistent with industry efficiency. This is no longer true. Industry efficiency must be measured across the entire industry and not just in the feedlot sector.

Isn't It Time for a Serious Look at the Facts of Castration?

Dave Sparks, DVM, Oklahoma State University Area Extension Veterinarian

One of the statements I commonly hear from calf producers is that bulls bring just as much as steers, so why bother? While top quality light bull calves may bring as much as plainer quality steers, these producers are not comparing apples to apples, because there is a marked difference in similar quality steer and bull calves. According to Lindsey Grant of McAlester Union Stockyards there is currently about a \$5 to \$7/cwt price difference between bulls and steers of similar quality at weights between 425 and 550 pounds. On calves between 550 and 650 pounds the gap widens to about \$12/cwt, and for 800 pound yearlings the difference can easily be \$25/cwt. This translates to lost revenue of \$30.00, \$72.00, or \$200.00 respectively. With today's high input costs for fuel, feed, hay, labor, equipment, fertilizer, and pasture this can easily be the difference in a profit or a loss.

Why do stocker and feeder operators want the calves castrated before arrival at their new homes? There are several good reasons. No matter what procedure you use it involves pain and stress for the calf. This stress leads to increased chances of health problems such as shipping fever or pneumonia. When the calves are castrated at a young age and while still on their mothers this risk is negligible, but when added to the stresses of weaning, marketing, transporting and comingling at the feedlot or background yard it becomes a major factor. In short, the stress is much easier for the calf to handle if he can run back to "mama." Research has shown that calves arriving at feedlots as bulls are twice as likely to get sick as steers and death losses are significantly higher. Additionally, rates of gain are affected for weeks versus days when they are "ranch weaned and castrated." Steers also have less aggression and sexual activity which translates into better gains. Steers have a lower incidence of "dark cutters". Steers have higher and more consistent quality grades due to better marbling. Steer carcasses command higher prices on the market. Stocker and feeder operators know all of this. They operate in a very competitive world on tight margins and have to factor these things into the prices they are willing to pay for your calves. If they don't they won't be in business to be buyers for your calves for very long.

There are several acceptable methods of castration and the best choice depends on your operation. Many producers today feel most comfortable with banding to interrupt the blood supply to the genitals of the calf. With all types of banders the calf is susceptible to tetanus and protection should be used. Newborns and very young calves can be castrated with the small sheep type bands. Because very young animals are not yet able to respond immunologically, they should be given tetanus antitoxin, which is a passive transfer of immune products which protects them. Older calves can be castrated with the Calicrate™ bands and bander. This procedure works well on larger calves and yearlings but is more expensive for both the application instrument and the bands. With this technique calves should be protected at the time of the procedure with tetanus antitoxin or three weeks before-hand with tetanus toxoid. The tetanus protection offered by products commonly known as 8-way blackleg is tetanus toxoid and thus offers no protection to very young calves or calves vaccinated at the time of banding. With all types of banding procedures it is very important to make sure that both testicles are well down in the scrotum and below the band. Failure to do so may result in a “stag” which is very undesirable on the market. After the band is correctly applied the scrotum and testicles gradually die and drop off after two or three weeks.

Surgical castration or “knife cut” requires more expertise but is less expensive and more reliable. Tetanus protection is not generally required if proper sanitation is observed and there is no cost for bands or banders. While initially painful, young animals quickly forget the procedure and return to normal feed and activities. It is important to remove enough of the scrotum to allow the wound to drain freely in order to avoid infection and possible septicemia (blood poisoning). Many ranchers fear excessive hemorrhage, but this is usually not a concern if the procedure is done early, and is almost never a factor if proper procedures are observed. In warm weather an aerosol can of insect repellent sprayed on the wound will keep the flies off of the surgical site. If you are not comfortable with surgical castration but want to incorporate it into your management have your local veterinarian help you and teach you the proper procedure. In some communities the high school agriculture teacher is willing to help you in order to teach his students the procedure.

Other techniques including restricting the testicles to a high position near the body or chemical castration are not generally accepted. Burdizzo™ emasculators, also referred to as bloodless castrators, can be effective when properly applied, but can result in unsuccessful results if absolute care is not taken to position them correctly. No matter what method of castration you choose, the main message is to do it early. Castration on newborns fits some ranchers best, while others prefer to wait until the calves are old enough to receive their vaccines at 3 or 4 months of age. In either case returning to their mothers and familiar surroundings greatly limits the stress and the after effects.

The beef industry requires that male calves be castrated in order to provide a high quality, cost effective product to the consumer. At the same time, increasing concern for animal welfare is calling for either early castration or application of pain control methods (anesthesia). As a beef producer you have an obligation to “do the right thing” voluntarily before legislation forces change on us, perhaps taking this procedure out of the hands of the rancher. Luckily, this is one time that “doing the right thing” will also boost the profitability of your operation.

Determining the Amount of Colostrum Needed for a Newborn Calf

Glenn Selk, Oklahoma State University Emeritus Extension Animal Scientist

Calves born after a difficult birth are at a high risk of failing to receive adequate colostrum by natural suckling because of greatly decreased colostrum intake. Calves that are born to a prolonged stage II of parturition (delivery through the pelvic canal) very often suffer from severe respiratory acidosis. Acidotic calves are less efficient at absorbing colostrum immunoglobulins even if artificially fed colostrum, therefore effort should be made to provide weak newborn calves with the best source of colostrum available via bottle suckling or tube feeding.

The amount of immunoglobulin ingested is also a major determinant of final serum immunoglobulin concentration. A practical "rule-of-thumb" is to feed 5 to 6% of the calf's body weight within the first 6 hours and repeat the feeding when the calf is about 12 hours old. For an 80 pound calf, this will equate to approximately 2 quarts of colostrum per feeding. Consequently, if the calf is quite large (about 100 pounds), then the amount of colostrum will need to be increased accordingly to 2 ½ quarts per feeding.

Happy New Year! We hope you have lots of green grass and full ponds for 2013!

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