CASTRATION —

PHOTOS BY JOANN PIPKIN

BEST MANAGEMENT PRACTICES

Early castration is not only less stressful for the calf, but it can encourage better health throughout the calf's life.

By Joann Pipkin

MAKE NO BONES ABOUT IT — Gary Patton knows the value in early castration of beef calves. The former order buyer and now cow-calf producer has been on the other side of the fence.

Earlier this spring, Patton calved out 76 cows in 25 days. And at 18 to 36 hours old, calves were tagged and, if they were lucky enough to be a bull, banded at the same time.

"A steer calf is worth more than a bull calf," he says, simply.

Yet, the Arkansas cattleman's philosophy goes beyond that of having more money in his pocket.

"I think it's a whole lot easier on you and the calf," Patton explains.

Patton isn't alone in his thinking. According to Dr. Clyde Lane, 2014 National Cattlemen's Association Beef Quality Assurance (BQA) Educator of the Year and University of Tennessee professor emeritus, the sooner castration can be done, the better it is for the calf. "One of the big things we're interested in with the BQA program is trying to reduce the amount of stress on an animal," he says.

Less stress is what early castration is all about. "By doing the castration early, that alleviates added stress on the calf as it ages," Lane says. "The larger that animal gets, the more stressful it is and the more loss of weight the calf will encounter because he will never be able to make up that amount of time it takes to get over the stress of castration."

Early castration also means greater opportunity for a healthy calf later on.

"A stressed calf will not get the level of immunity that a calf will when not stressed by castration at weaning time," Lane says. "There's a health issue over and above that of castration."

UPDATED CASTRATION GUIDELINES

Castration of bull calves is an economically important management practice for the cow-calf producer, according to Lane. Feeder-cattle buyers prefer the quieter dispositions of steers and the ease with which those animals are handled while in the feedlot.

The American Association of Bovine Practitioners (AABP) updated its castration guidelines last fall. According to Dr. John Davidson, AABP president and senior professional services veterinarian, beef cattle, Boehringer Ingelheim Vetmedica, Inc., the guidelines are put in place to assist veterinarians with enhancing the welfare of cattle for their clients by providing information on how best to approach castration of calves on beef and dairy farms.

"Generally speaking, early castration using the proper technique for the chosen method and incorporating pain mitigation when available are encouraged," Davidson explains.

The AABP guidelines call for castration to be performed by 120 days of age. However, purebred operations may delay the procedure further to allow proper time for the selection of future bulls, in which case the appropriate recommended procedures and pain mitigation practices should be used.

Use of a rubber ring or surgical removal are the preferred methods of castration recommended by the AABP. Overall, AABP lists the most appropriate method of castration as the one being in the best interest of the health and well-being of the animal, as determined by a veterinarian, within the environment in which it's being raised.

"As with any herd health input, careful consideration must be given to the limitations unique to each ranching operation," Davidson says. "Our goal with these guidelines is to provide the information necessary to promote the benefits of proper technique and pain mitigation. As with any proposed health practice, adoption is often hampered by limitations in labor, facility and awareness of the benefits of such a change."

WHY AGE MATTERS

While castration is widely practiced throughout the beef industry, timing and method used vary considerably among producers. Generally, the beef industry advocates that calves be castrated as soon as possible after birth. The overall belief is that castration in young, sexually immature calves brings less of a stress response and reduces the risk of castration-associated blood loss and potential for infections.

The other side of the coin, however, finds producers concerned that castrating too early reduces growth rates in bull calves from birth to weaning.

A University of Florida study examined the issue of age at castration and its impacts on growth rate and weaning weight in nursing calves. The study also included a comparison between Angus and Brangus calves in the treatment groups to determine if there was a breed by castration effect.

Ninety-two intact Angus and Brangus bull calves born between Dec. 18, 2009, and March 28, 2010, were included in the study. Cow-calf pairs were divided by calf birth date, calf breed and dam age, and then randomly assigned to one of two treatment groups — early (n=51) and late (n=41) castration.

All bull calves in the study were surgically castrated using the Newberry Knife to incise the scrotum, and traction was used to remove the testes from the scrotum. Bull calves castrated early (n=23 Angus; n=28 Brangus) were a mean age of 36 days at castration on March 1, 2010, and April 23, 2010. Those late-castrated bulls (n=15 Angus; n=26 Brangus) had a mean age of 131 days at castration on June 16, 2010, and June 17, 2010. All calves were weighed once per month beginning in May until weaning in August. The study was conducted at the University of Florida Boston Farm-Santa Fe River Ranch Beef Research Unit.

Both early- and late-castration treatments were performed prior to weaning and the onset of puberty. The concept of delayed castration is to leave male calves intact long enough to capture the benefits of endogenously secreted androgens known to stimulate growth in animals. Still, in order to capture the full benefit, castration would likely need to be delayed until calves approach puberty.

As outlined in Table 1, no differences were observed in bodyweight change and average daily gain during the trial period. The bottom line is that calves castrated at or near birth overcame any potential growth delays related to castration by the time the bodyweight measurements were initiated. And, early castrates did not seem to experience any significant disadvantage in growth

TABLE 1. The effect of age at castration on calf growth performance

	Treatment*			
Item	Early	Late	SE**	P-value
Birthweight, lb.	80	81	2.40	0.83
Weaning weight, lb.	456	452	11.50	0.76
Weight per day of age, lb.	2	2	0.06	0.24
Adjusted 205-d weaning weight, lb.	512	504	8.90	0.51
Body weight change, lb.				
May to June	77	75	4.70	0.79
June to July	86	82	3.60	0.40
July to August	100	96	4.30	0.55
May to August	176	171	5.90	0.49
Average daily gain, lbs./day				
May to June	2.32	2.27	0.14	0.79
June to July	2.06	1.96	0.09	0.39
July to August	1.65	1.59	0.07	0.54
May to August	1.88	1.82	0.06	0.49
Birth to weaning	2.00	1.92	0.05	0.19

* Early castrated (average age at castration = 36 days)
*Late castrated (average age at castration = 131 days)
** Standard error (n=92)
Source: University of Florida Extension Service