Haskell County Animal Hospital

Animal Health Update

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Effects of Castration on Performance and Carcass Traits

The last pen you sent to the feedyard should do well considering you bought that pen back of the market quite a bit. Adding 25% of bulls to the load cheapened up the purchase price considerably and should help the bottom line. We anticipate that adding those bulls will be a benefit to the bottom line, but many times it does not. The literature is full of information relating to performance and carcass traits of bulls and steers. This information should help you make a more informed decision when buying bulls to send to the feedyard.

Producers often leave their bull calves intact because of the fear of reducing weaning weights if they castrate them. Bagley et al., showed in a 1989 study that bull calves that are castrated and given an estrogenic implant have similar weight gains when compared to intact bull calves. We also know that castration and implants decrease aggressive behavior and increase carcass quality (Seideman et al., 1982).

There are multiple studies that show earlier castration improves performance over late castration. Worrel et al., showed that bulls castrated at birth had greater weight gain than bulls castrated at 700 lbs. Studies show a decrease in ADG from 21-37% in bulls castrated on arrival as compared to steers. Conversions can be as much as 13% greater and morbidity and mortality also increase in bulls castrated on arrival at the feedyard.

Carcass quality is also impacted when comparing bulls and steers on arrival. A study by Worrel et al., in 1987 showed that late castration decreased carcass quality. In an earlier study (1985) by Vanderwent et al., carcass quality was also decreased in late castrates and this affect could not be overcome with estrogenic growth stimulants. Another trial showed that calves castrated at birth had higher marbling levels as compared to those castrated at six months of age. This trial confirmed an earlier study by Champange et al., 1969, that identifies that castration at 2 to 7 months of age provided fatter carcasses that were assigned higher marbling scores than carcasses from steers castrated at 9 months or non-castrates.

It is very apparent that steers will out perform bulls castrated on arrival at the yard. If bulls are shipped to the yard is there an advantage to delaying castration? According to a trial done at Kansas State University, delaying castration 21 days on highly stressed bull calves returned almost $40/head over stressed calves castrated on arrival. This study was based only on performance and health data and did not take into consideration carcass traits. The $40/head advantage came primarily from improved health in the delayed castrates as performance differences were minimal.

Finally, just where is the breakeven point for bulls? According to Brazle et al., in a study from 1994, a 550 lb. bull's worth is $5.73-$6.69/cwt less than a steer of similar weight. Earlier work by Brazle (1985) indicated that highly stressed, long hauled, 525 lb. bulls needed to be discounted $8.70/cwt below steers. Keep in mind that in both of these trials this difference is only calculated on health and performance values and does not take into consideration any carcass trait differentials. Knowing there are carcass differences the actual breakevens would be greater.

How much is the average bull priced back of a comparable steer? In a 1998 study done by OSU, of 31,000 head sold through Oklahoma auctions they found that bulls sold for a $3.56/cwt discount from comparable steers. A more recent survey in Arkansas suggests that bulls are discounted around $4.50/ cwt.

Purchasing bulls to place in the feedyard can be rewarding if you account for the performance and health costs incurred with bulls. Also, the carcass characteristics will differ and this must be considered and accounted for to ensure returns.

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