

Beef Cattle Research Update

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Outlook for Cow-Calf Profitability Appears Positive

Prior to the year 2000, cow-calf profitability was very sporadic. From 1980 to 1999, most cow-calf producers were basically in a break-even business. Some years, they endured severe losses, while others were moderately profitable. Over the past seven years, there has been a dramatic difference! Cow-calf producer profitability during this period has been the highest in history, averaging more than \$111 over this time. This compares to an average profitability of only \$9.60 per head during the decade of the 90's and a \$12.73 per head loss during the decade of the 80's.

This reversal in profitability can be attributed to several factors, but one of the primary factors is the number of U.S. beef cows. The number of cows hasn't increased at the same rate as it normally does in times of cow-calf profitability, nor has the most recent cattle cycle followed the same pattern that history would suggest it should.

As noted above, losses were most severe during the decade of the 80's, when the average number of U.S. beef cows was 35.9 million head. With the economic losses producers were incurring, the beef cow herd was projected to decline, which it did from a high of 39.2 million in 1982 to a low of 32.5 million in 1989. Calf prices recovered rapidly during that liquidation phase and maintained themselves during the early 1990's, but declined thereafter. The largest number of beef cows during that decade occurred in 1996 with 35.3 million, the year of the most severe losses when calf prices dropped to an average of \$63 per cwt.

The average number of beef cows in this decade is only 33.1 million and for 2007 is 32.9 million. In spite of the economic signal (profitability) for expansion, it has not occurred. And

with beef cow slaughter up 11% and heifer slaughter up by 2% during the first eight months of 2007, it doesn't appear that the U.S. cow herd will increase next year either (SOURCE: Cattle-Fax® Update).

Effect of Estrus Synchronization Protocols Prior to Fixed-Time AI on Pregnancy Rates in Beef Heifers

The objective of this Univ. of Missouri experiment was to compare pregnancy rates resulting from fixed-time AI after administration of either one of two controlled internal release (CIDR)-based heat synchronization protocols (CIDR Select or CO-Synch + CIDR). Heifers assigned to CIDR Select received a CIDR insert (1.38 mg of progesterone) from day 0 to 14 followed by an intramuscular injection of GnRH (100 micrograms) 9 days after CIDR removal and PGF2 (PG, 25 mg i.m.) 7 days after GnRH (day 30). Heifers assigned to CO-Synch + CIDR were administered GnRH and received a CIDR insert on day 23 followed by PG and CIDR removal on day 30. Artificial insemination was performed at predetermined fixed times for heifers in both treatments at 72 or 54 hours after PG for the CIDR Select and CO-Synch + CIDR group, respectively. All heifers were injected with GnRH at the time of AI.

Estrous response during the synchronized period was significantly greater (87 vs. 69%, respectively), and the variance for interval to estrus after PG was significantly reduced among CIDR Select compared with CO-Synch + CIDR heifers. Furthermore, fixed-time AI pregnancy rates were significantly greater after the CIDR Select protocol compared with the CO-Synch + CIDR protocol (62 vs. 47%, respectively). The authors concluded that the CIDR Select protocol resulted in a greater and more synchronized estrous response and greater fixed-time AI pregnancy rates

compared with CO-Synch + CIDR (Busch et al. 2007. J. Anim. Sci. 85:1933).

Impact of Winter Stocker Growth Rate on Finishing Performance and Carcass Characteristics

In a collaborative study, West Virginia and Virginia Tech University scientists used a total of 216 Angus-cross steers (595 lb) over a 3-year period to evaluate the effects of winter stocker growth rate on finishing performance and carcass characteristics. During winter months (Dec. to Apr.), steers were allotted to three different stocker growth rates: 1) low (0.5 lb/day); 2) medium (1.0 lb/day); and 3) high (1.5 lb/day). After the winter phase, steers within each stocker treatment were randomly allotted to either a corn silage-concentrate or a pasture finishing system. All steers were finished to an equal-time endpoint and harvested at approximately 18 mos. Of age. Following is a summary of results.

- As expected, pasture-finished cattle were significantly lower in avg. daily gain, final wt., hot carcass wt., dressing percent, rib eye area, fat thickness, yield grade, and quality grade.
- Steers with low stocker gain had greater finishing avg. daily gain, but were not able to catch up with medium and high steers in final body wt. or carcass wt.
- Dressing percent was greater for high than low, and USDA quality grade was greater for high than low or medium.
- Carcass ribeye area, fat thickness, and USDA yield grade were not influenced by winter rate of gain.

The authors concluded that cattle performance during the winter stocker period clearly impacts finishing performance, carcass quality, and beef production in both pasture- and feedlot-finishing when fed to an equal-time endpoint (Neel et al. 2007. J. Anim. Sci. 85:2012). ■