

Economic Comparison of Weaning and Feeding Strategies for Beef Production

Situation:

Bio-fuel production is driving an unprecedented change in animal agriculture throughout the United States. The resulting increases in feed prices and lack of suitable alternative energy-dense feedstuffs present serious challenges for traditional livestock production systems. To offset higher feed costs, alternative production strategies are needed for producers to remain viable and competitive in the beef industry. One potential means of achieving this goal is to use more expensive feeds only during critical stages in the life cycle of beef cattle when a high plane of nutrition is necessary for optimal performance while utilizing less expensive feedstuffs during less critical periods. Furthermore, adapting a new production system to include grazing crop residues will act to not only decrease reliance on high priced feedstuffs, but it will also utilize inexpensive resources that may be available. The objective of this research is to analyze potential alternative production systems which could result in reduced feed costs without sacrificing animal performance.

Spring born calves were placed on four experimental treatments at the James C. Hageman Sustainable Agriculture Research and Extension Center (SAREC) near Lingle, WY. The treatments included early weaning (calves were weaned in July then fed a high-concentrate diet of corn and hay for 138 days) or normal weaning (calves were weaned in October then fed a high-concentrate diet of corn and hay for 43 days). Calves were then either fed a corn-based, high-concentrate diet until finish (traditional fed system) or allowed to graze cornstalks for approximately two months before being placed back into the feedlot to finish on the same corn-based, high-concentrate diet (short fed system). Economic analyses of these treatments, including simulation of input and output price variability was conducted. These results were then analyzed statistically for mean differences as well as risk due to variability.

Impact:

Cow-calf producers considering early or normal weaning can save over \$10,000 across a 200 head herd by not switching to an early wean system if they choose to sell at the calf stage. If, however, cow-calf producers choose to retain ownership, they achieve mean profitability of nearly \$8,500 beyond the calf stage if they early wean but use the cornstalk, short fed system. This amounts to \$42.50 on a per head basis. Cow-calf producers who retain ownership but use normal weaning and the traditional fed system experience a mean profit loss of -\$4,000 beyond the calf stage or nearly -\$20 per head. Overall, this suggests over a \$60 per head advantage for the feeding stage of retained ownership. As of September 2011, there were 2 million head in feedlots with 1000 head or greater capacity. Even if 25 percent of those cattle used the early wean, cornstalk, short fed system, the increase in profitability for the beef sector would total nearly \$30 million dollars.

Chris Bastian, Department of Agricultural and Applied Economics, bastian@uwyo.edu
John Ritten, Department of Agricultural and Applied Economics, jritten@uwyo.edu
Steven Paisley, Department of Animal Science, spaisley@uwyo.edu
Scott Lake, Department of Animal Science, scotlake@uwyo.edu