



BEEF CATTLE RESEARCH UPDATE

Britt Hicks, Ph.D.

Area Extension Livestock Specialist

Oklahoma Panhandle Research & Extension Center

December 2007

Survey of Feedlot Consulting Nutritionists

Texas Tech University researchers recently surveyed 42 consulting feedlot nutritionists and received completed surveys from 29 regarding their nutritional recommendations for feedlot cattle.¹ Their practices were located in the following states: Texas, Kansas, and Oklahoma (46.4%); Iowa, Nebraska, Colorado, and South Dakota (31.3%); Washington and Idaho (8.9%); Arizona and California (6.3%); and other states (7.1%). Some of the major findings from this survey include.

- Corn was the primary grain used by all the nutritionists. The secondary grain most used was wheat, followed by sorghum and barley.
- Steam flaking was the processing method most commonly used in the feedlots serviced by these consultants (65.5%).
- The NRC was the main source of energy values for 82.8% of the respondents.
- Two-thirds of the nutritionists formulated diets containing 70 to 85% grain.
- The average N_{Em} concentration recommended for finishing diets was 0.68 Mcal/lb.
- The average bulk density recommended for steam-flaked corn was 27 lb/bushel, whereas for sorghum, the average was 26 lb/bushel.
- About 83% of these nutritionist's clients use grain coproducts in finishing diet with an average inclusion rate 16.5% (range of 5 to 50%, dry matter basis). The primary grain coproducts used were wet distiller's grain, dry distiller's gain with solubles, wet corn gluten feed, and dry corn gluten feed.
- The average inclusion level for roughage was 8.3% during the summer and 9.0% during the winter. The primary roughage sources used were corn silage (41.4%) and alfalfa (31.0%).
- About 41% of the clients serviced by these nutritionists sort cattle into outcome groups. The most common time of sorting was arrival (37.2% of clients) followed by reimplant time (29.2% of clients).
- About 76% of the nutritionists recommend multiple step-up diets to adapt cattle to the finishing diet. Most recommend feeding two to three step-up diets (about 7 days per diet) before the finishing diet.
- About 45% of the clients use liquid supplements and about 39% use pelleted dry supplements.
- Added fat was used by 71% of the clients with the primary source being tallow followed by yellow grease. The average recommended level of added fat was about 3%.
- The average crude protein concentration recommended for finishing diets was 13.3%. The average urea inclusion rate was about 1%.
- Only 31% of the nutritionists formulate for degradable intake protein (DIP) with an average recommended DIP level of 8.5% of dry matter.
- The average calcium and phosphorus concentration recommended for finishing diets were 0.7 and 0.3%, respectively.
- Recommended concentrations of trace minerals are close to those of the Beef NRC.
- The average vitamin A and E concentrations recommended were 2365 and 11.7 IU/lb, respectively.

Enhancing Marketing of Feedlot Cattle by Measuring Front-End Body Weight

Management and marketing of feedlot cattle could be enhanced if individual animal performance could be measured in real time. University of Missouri researchers evaluated the ability to use front-end weighing platforms (only front two legs are weighed) at water troughs in a commercial setting to capture daily front-end body weight (BW).² Their objectives were to determine the relationship of front-end BW to total BW, and to determine the ability to forward-project total BW at a future point in time based on front-end BW data. A total of 166 crossbred heifers (1042 average initial weight) had front-end BW measured for 62 days at a commercial feedlot in Alberta, Canada. The GrowSafe Beef System (GrowSafe Systems, Ltd.) was used to collect front-end BW each time the animal visited the water trough. The system consisted of 6 individual weighing stalls (positions) mounted on either side of the watering trough (Figure 1). Body weights of the heifers were measured on days 1 and 62 of the study using conventional cattle chutes equipped with scales.

These researchers found that front-end BW was highly correlated ($r = 0.97$) with BW measured using conventional chute scales. Body weight on day 62 was predicted based upon 15, 30, and 45 days of front-end BW data. This analysis showed that 30 days of front-end BW data could be used to predict future BW. These researchers concluded that the potential to quantify and forward-project animal performance and BW could enhance cattle management and marketing.



Figure 1. The GrowSafe Beef in-pen weighing equipment (GrowSafe Systems, Ltd.).
Source: Kolath et al., 2007

¹ Vasconcelos, J. T. and M. L. Galyean. 2007. Nutritional recommendations of feedlot consulting nutritionists: The 2007 Texas Tech University survey. *J. Anim. Sci.* 85:2772-2781.

² Kolath, W. H., C. Huisma, and M. S. Kerley. 2007. Case study: An evaluation of the potential to measure real-time body weight of feedlot cattle. *Prof. Anim. Sci.* 23:295-299.

Oklahoma State University, U.S. Department of Agriculture, State and Local Governments Cooperating. The Oklahoma Cooperative Extension Service offers its programs to all eligible persons regardless of race, color, national origin, religion, sex, age, disability, or status as a veteran, and is an equal opportunity employer.