



Beef tips

January 2003

Department of Animal Sciences and Industry

<http://www.oznet.ksu.edu/ansi/nletter/beeftips.htm>

Upcoming Events

4-State Beef Conference

Jan. 15 – Clay Center, KS & St. Joseph, MO

Jan. 16 – Lewis, IA & Tecumseh, NE

David Lott
785-632-5335

Tri-State Cow/Calf Symposium

Feb. 1, Wray, CO
785-462-6281

See page 2

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Lingering Drought Effects

Larry Hollis, Beef Veterinarian

Summer is long gone, but residual effects may be about to show themselves in ways that may not have been anticipated. One way is vitamin A deficiency. The lack of anything green to eat last summer left many cattle going into winter either short on or deficient in vitamin A. If a vitamin A injection was not given at fall pregnancy check time, many cows will be deficient, especially those from western Kansas.

Such a deficiency may manifest itself in many ways, including weak calves at birth, increased susceptibility of calves to scours and pneumonia, calves born blind or developing blindness within the first few weeks or months after birth, retained placentas, increased incidence of cow pneumonia, and sometimes the development of central nervous signs in cows. Even if an injection of vitamin A was given at pregnancy check time, vitamin A levels may be depleted before grass greens up this spring and natural production of vitamin A starts again. Supplementation of winter feedstuffs with vitamin A is especially critical this year.

If standing corn stalks and sorghum stalks were high in nitrate last fall, they will probably still be high. The same goes for stalks or forage sorghums harvested as hay. Make sure that you know the nitrate levels in these forage sources before feeding them to cattle. This becomes especially critical as stalk fields become covered with snow.

Cattle probably have consumed most of the fallen grain and many of the leaves, and the stalks may be the only feed available to them. These stalks contain the highest levels of nitrate in the plant, and may prove to be toxic if they become the sole source of feed during periods of snow cover. Test forages now, and be prepared to provide a supplemental source of nutrition during periods of snow cover if nitrate levels are high.

Another problem that can occur in certain areas when pastures are grazed short during periods of drought is anthrax. In areas where anthrax has been a problem in the past, spores may lie dormant in the soil for many years. Extremely short pasture conditions cause cattle to eat more dirt with each bite as they graze, increasing the possibility that they will pick up any spores that may be lying on the soil surface. Feeding adequate supplemental forage will reduce the likelihood that cattle will be forced to graze short enough to pick up anthrax spores that might be present.

Change feeding areas frequently so that grass in feeding areas does not become noticeably shorter than the rest of the pasture. Should unanticipated deaths occur, contact your veterinarian and have a necropsy done as soon as possible. When renting or leasing pasture, protect yourself by asking the anthrax history of the area.

from page 1

Feeding Beef Cows during Winter Months

*Twig Marston, Beef Specialist,
Cow/Calf Management*

Cattlemen's Seedstock Showcase
Feb. 10, Phillipsburg
www.oznet.ksu.edu/
Phillips/

Production and Utilization of Forages in Livestock
March 3
Hiawatha, KS
Cameron, MO
Joel DeRouchey
785-532-2280

Cattlemen's Day
March 7
www.oznet.ksu.edu/
ansi/cattleday.htm

Know Cow Nutrient Requirements.

A few of the basic nutrient requirements are listed in Table 1. These values may be used as a baseline. Adjustments for variations in animal and environmental factors may be needed to calculate a specific animal's requirements.

Price Supplements and Feeds on a Nutrient Basis.

Supplements are used for several reasons, but the most important is to provide nutrients that limit animal performance and forage intake when lacking. The nutrient of interest is the nutrient that should get the most economic consideration. Nutrient cost should justify the purchase price of the supplement. Assume, for example, that you need to supplement the cowherd with crude protein. You must decide between feeding wheat midds (17 percent crude protein at a cost of \$90 per ton), whole soybeans (38.5 percent crude protein at \$5.50 per bushel), or a commercial crude protein supplement (20 percent crude protein at \$165 per ton). To determine the price of the nutrient

(crude protein) divide the price by the pounds of crude protein in the unit of measure (Table 2). In this case, whole soybeans are the cheapest source of crude protein, followed closely by wheat midds. Other nutrients can be priced using the same method.

Split into Cattle Management Groups.

Regardless of the way cattle diets are fed (free-choice, hand delivered, or limit-fed), cattle diets are formulated for the average of the group. Splitting cowherds into management groups allows producers to be more specific in feed delivery. For example: comparing a 950-pound replacement heifer and a 1,200-pound mature cow during last trimester, the replacement heifer needs 13.0 pounds of total digestible nutrients (TDN) daily while the 1,200-pound cow needs only 11.8 pounds of TDN. If the replacement heifer is in the same feeding group as the mature cow she is less likely to consume her proper share of energy because the older cow usually will force the young stock away from the feeder. The mature cow will be overconsuming or wasting energy needed by the replacement heifer.

Table 1. NRC Requirements: 1,200-Pound Beef Cow Producing 20 Pounds of Milk

Lactation Days	Nutritional Periods			
	Yes	Yes	No	No
Stage	post-calving	pregnant & lactating	mid-gestation	pre-calving
TDN (lb/day)	15.2	12.8	10.1	12.5
ME (Mcal/day)	24.9	21.0	16.6	20.4
Protein (lb/day)	2.7	2.1	1.4	1.7
Calcium (%)	.36	.27	.19	.26
Phosphorus (%)	.26	.22	.19	.21
Vitamin A (IU/day)	42,000	41,000	26,000	28,000

Nutrient Requirements of Beef Cows, NRC, 1984.

Table 2. Pricing Crude Protein Supplements on a Nutrient Basis

Supplements	Commodity Price (\$/unit)	Pounds of Crude Protein/Unit	Crude Protein Value (\$/lb)
Wheat midds	\$90/ton	.17 x 2000 = 340	\$.265/lb
Soybeans	\$5.50/bu	.385 x 60 = 23.1	\$.238/lb
Comm. 20	\$165/ton	.20 x 2000 = 400	\$.413/lb

Test Forage.

Summer and fall weather conditions across the state have been so extreme that forage testing is a mandatory management decision. The two main reasons to forage test are to determine the nutrient content of the feedstuff so proper diet formulation (supplementation) can be achieved, and to determine the safety of the feedstuff.

Control Waste.

A penny saved is a penny earned. Nowhere is this more applicable than when feeding forages. Several university trials have compared feeding systems, and all have concluded that hay losses can exceed 25 percent if producers are careless when distributing hay to their cows. Systems that reduce the possibility of cows soiling plucked mouthfuls of hay greatly limit waste. Even in best-case scenarios 3 to 5 percent of hay fed from round bales are generally lost.

To prevent loss, cover silage piles with plastic. Unsealed silage piles can experience losses of 60 to 70 percent within the top 1 to 3 feet of silage. In many instances the top 3 feet of silage piles contains 15 to 25 percent of the total silage in a pile. So the loss from an unprotected 40- by 100-foot silo containing corn silage can exceed \$2,000 worth of feed.

Practice Efficient Feed Handling and Pricing.

Reduce the number of trips when feeding cows. Research indicates that feeding supplements several days apart does not decrease their effectiveness. Grazing forage supplies is usually more economical than mechanically harvesting and feeding. When feed purchases are necessary, always try to get the most for your money. Buying in bulk may be less convenient than handling sacked feed, especially for small producers, but the savings can easily pay for minimal-cost storage facilities. Grain by-products are readily available and priced competitively to manufactured feeds. Remember, cows cannot read feed tags; it is your responsibility to buy what she needs, not what she wants. Buy hay by weight, never by the

bale. Guessing the weight of a bale is harder than guessing the weight of a cow.

Consider Weather and Wind Chill.

Energy is the only nutrient that is influenced by changes in ambient temperature. Ambient temperature is defined as the temperature that is experienced by the animal and is also called wind-chill temperature. Wind speed and moisture are two factors that affect ambient temperature. Hair coat conditions are the major factor in determining lower critical temperature. The following table lists the lower critical (ambient) temperature of different hair coats. For each degree (F) below the lower critical temperature, energy consumption must increase 1 percent to prevent weight loss.

Table 3. Estimated Lower Critical Temperature for Beef Cattle

Coat Description	Critical temperature (°F)
Wet or summer coat	59
Dry fall coat	43
Dry winter coat	32
Dry heavy winter coat	19

Protect the Environment

Feed cattle where they will do the least amount of damage to the environment. Act responsibly to maintain a clean, healthy environment for our communities and farms. Contamination of streambeds should be avoided. Sanitary conditions during the winter decrease the incidence of scours and respiratory disease in the spring.

Kansas Feedlot Performance and Feed Cost Summary*

Gerry Kuhl, Feedlot Specialist, Kansas State University

October 2002 Closeout Information**

Sex/No.	Final Weight	Avg. Days on Feed	Avg. Daily Gain	Feed/Gain (Dry Basis)	% Death Loss	Avg. Cost of Gain/Cwt.	Projected Cost of Nov. - Placed Cattle
Steers/17,471	1,340 (126-152)	144 (126-152)	3.69 (3.32-4.06)	5.89 (5.47-6.19)	.71	\$49.16 (46.40-50.90)	\$55.50 (53.00-60.00)
Heifers/25,465	1,186 (131-172)	145 (131-172)	3.13 (2.84-3.46)	6.27 (5.76-6.80)	1.10	\$52.99 (49.42-55.45)	\$57.25 (55.00-62.00)

Current Feed Inventory Costs: Mid-Nov. 2002	Avg. Prices	Range	No. Yards
Corn	\$ 2.78/bu	\$ 2.60-2.92	7
Ground Alfalfa Hay	\$106.46/ton	\$81.90-125.00	7

K-State, County Extension Councils, Extension Districts, and U.S. Department of Agriculture Cooperating.

All educational programs and materials available without discrimination on the basis of race, color, religion, national origin, sex, age, or disability.

Cooperative Extension Service

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