

# BEEF TIPS



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Department of Animal Sciences and Industry



## EDITORS

**Dale Blasi**

Stocker and Forages  
Nutrition & Mgt.  
785-532-5427

dblasi@oz.oznet.ksu.edu

**Frank Brazle**

Livestock Production  
316-431-1530

fbrazle@oznet.ksu.edu

**Lance Huck**

Livestock Production  
316-275-9164

lhuck@oznet.ksu.edu

**Sandy Johnson**

Livestock Production  
785-462-6281

skjohnso@oznet.ksu.edu

**Gerry Kuhl**

Feedlot Nutr. & Mgt.  
785-532-1250

amurphy@oz.oznet.ksu.edu

**Twig Marston**

Cow-Calf Management  
785-532-5428

tmarston@oz.oznet.ksu.edu

**Steve Paisley**

Livestock Production  
316-663-5491

spaisley@oznet.ksu.edu

**Gerald Stokka**

Beef Veterinarian  
785-532-5694

jstokka@oz.oznet.ksu.edu

## Measuring and Managing for Profitability

*By Sandy Johnson, Extension Specialist, Livestock Production, Northwest Area*

How do you evaluate your cow/calf operation? If your weaning weight has increased each year for the past 5 years does this mean your operation is more profitable? Certainly a changing calf market will effect your returns, but just because the market is high in a given year does that mean you are doing the right things? The cow/calf enterprise is difficult to evaluate for a variety of reasons, which include its long production cycle and its ties to other enterprises, such as hay production or backgrounding. A standardized performance analysis (SPA) is an excellent way to evaluate the cow/calf enterprise. There is help available for producers who want to complete a standardized performance analysis and continue to measure and manage for profitability.

### Why complete a standardized performance analysis?

Typically, producers are very good at implementing management changes that increase production. However, it is much more difficult to find opportunities where the added revenue of increasing production offsets the added costs. A standardized performance analysis will calculate the cost required to raise 1 pound of weaned calf, which is the unit cost of production or breakeven price. In this one number, the relative balance between cost and level of production can be determined. A standardized performance analysis will determine the true profitability of the cow/calf enterprise and allow the producer to make comparisons with other alternatives. Strengths and weaknesses of the cow/calf enterprise can be identified and resource use can be evaluated for possible changes. The initial analysis can serve as a baseline to document progress toward

producer goals. The analysis will help the producer make informed management decisions and monitor and control costs. Other benefits may be to meet information needs of owners or lenders or to develop employee incentive programs. Armed with the knowledge of a unit cost of production, a producer is better positioned to take an integrated approach to managing resources such as land, labor and capital.

### How can producers get help with a standardized performance analysis?

K-State Research & Extension would like to assist producers in completing a standardized performance analysis. Although slightly different approaches will be taken in different counties, many plan to form local, producer-driven integrated resource management (IRM) groups. A few meetings over the course of the year will be designed to help producers gather information needed to complete a standardized performance analysis. Other meetings will be devoted to topics that are of particular interest to the local group. Goals of the program are to help producers determine and better manage their cost of production and, thereby, improve profitability. An additional bonus would be the development of a database of Kansas' costs, so producers can benefit from benchmark comparisons. As particular problem areas are identified during the process, teams of specialists (veterinarians, bankers, nutritionists, other producers, etc.) will help producers develop solutions. Other possible benefits from these local groups could develop from group purchases or marketing efforts. These groups could also serve as a sounding board for producers trying to make difficult management decisions.

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Watch for local extension programs focused on integrated resource management and standardized performance analysis or contact your local county research and extension agent for specific information.

Partial listing of meeting dates and times for integrated resource management groups:

- Nov. 29, Noon, Atwood, Sponsored by Cheyenne & Rawlins Counties

- Nov. 29, 6:30 pm, Oakley, Sponsored by Logan, Thomas & Gove Counties
- Dec. 1, 6:00 pm, Russell, Sponsored by Russell & Ellis Counties
- Dec. 7, 10:30 am, Smith Center, Sponsored by Smith & Osborne Counties
- Dec. 7, 7 pm, Hill City, Sponsored by Phillips, Rooks, Graham & Trego Counties

## Winter Stress and Feedlot Cattle: What to Expect, What to Do

*By Lance Huck, Extension Specialist,  
Livestock Production, Southwest Area*

Few people watch the skies from October through April more than cattle feeders. This is understandable since two-thirds of all cattle in North America are raised in regions where the average January temperature is below 32°F. Although winter weather has the ability to deal its blow to all classes of cattle, the confined feedlot animal often is the most vulnerable, and the most dependant upon its caregiver, in times of winter-weather stress.

Remarkably, feedlot cattle have the ability to withstand a wide range of effective ambient temperatures (wind chill temperature that the animal “feels,” regardless of the thermometer reading) while maintaining internal body temperature. This range of temperatures, called the thermal neutral zone can be thought of as the animal’s “comfort zone” within which metabolic heat production is, over the short term, independent of ambient temperature. The lowest critical temperature that an animal can stand without expending additional energy for maintenance depends upon how well the animal has adapted to cold conditions. Research has shown an 800-pound steer, with a winter coat, in dry, still-air can withstand temperatures as low as 32°F for short periods of time, without expending any additional energy to keep warm.

Newly arrived, thin cattle, especially Brahman- and dairy-influenced calves, begin adapting to cold through acute responses such as shivering, huddling or posture shifting to raise metabolic heat production. These responses are thought to be unimportant in cold-adapted feedlot cattle, because they have high rates of heat production and increased body insulation. Long-term acclimatization to cold involves increases in hair length and fat thickness, a decrease in hair shedding, an increase in intake, and an increase in basal metabolic rate. Regardless of the level of adaptation, cold-hardy cattle still demonstrate seasonal fluctuations in production efficiency which appear to be environmentally related. Summarized data in trials involving feedlot cattle from Canada and the northern United States have found a consistent 30 percent improvement in gain and efficiency of feedlot cattle fed during warm seasons, compared to cattle fed during the cold winter months. The best explanation for this

decreased productivity of cold-exposed cattle lies in the increased maintenance requirement due to increased energy metabolism within the animal. The balance between heat gained and heat lost must be regulated to maintain a constant body temperature. This regulation is accomplished by modulating feed intake and body weight gain. The 800-pound steer referred to previously will need an additional one Meal of energy for every 5°F deviation below its lower critical temperature (32°F).

While cold temperatures can decrease cattle performance, freeze waterers, and cause general discomfort, the real wintertime feedlot performance loss occurs with the addition of precipitation and mud. It is well-documented in trials from California to Canada to Texas, that fee required per pound of gain can be increased as much as 24 percent under rainy or muddy conditions. A year-round pen management plan is crucial to confined cattle survivability, including an emergency blizzard plan during the winter.

The winter of 1992-93 in western Kansas was undoubtedly the most stressful time period for cattle and cattle feeders than any other in memory. While most feedlot managers have tried to forget the effects of those back to back blizzards, none have forgotten the experience. Feedyard managers who were successful in dealing with the overabundance of snow during that period had several successful management strategies in common.

- (1) Waterers were winterized in early fall.
- (2) Blizzard management plans were discussed with employees well in advance of inclement weather.
- (3) Goals focused on keeping cattle dry through pen management, and warm by maximizing feed intake.
- (4) Pens were well maintained year round.
- (5) A larger than normal labor force was employed.
- (6) Extra equipment (front end loaders, dump trucks, bunk sweepers) was on hand prior to each blizzard.
- (7) Crews worked around the clock, first piling, then removing snow from each pen.
- (8) Upper management participated first-hand in the cleanup effort.
- (9) Pens with new cattle were cleaned first.
- (10) Huddles of new cattle were “stirred” often during the blizzard to prevent trampling and suffocation.

***"The lowest critical temperature that an animal can stand without expending additional energy for maintenance depends upon how well the animal has adapted to cold conditions. "***

- (11) Snow in feed alleys was removed, not just pushed aside.
- (12) Employees and their families were rewarded with overtime pay and special appreciation celebrations following the cleanup.

Thus far, precipitation and temperature predictions for the 1999-2000 winter appear to be normal for the midwest and plains states. However, a plan to keep confined cattle dry and comfortable throughout the winter will pay great dividends in feedlot performance should severe weather occur.

## Backgrounding Calves During the Winter

*By Frank Brazle, Extension Specialist, Livestock Production, Southeast Area*

Drylotting calves during the winter has its advantages and disadvantages. When grain and harvested forages are cheap, this may be one of the lowest cost methods of wintering calves. However, winter weather—especially rain and snow—can cause problems when backgrounding in drylot. Feeding pens need to be kept clean and dry for cattle gains to be satisfactory. When backgrounding pens become muddy, they become expensive in terms of cost of gain of the cattle. As a rule, 4 to 8 inches of mud in a feedlot will decrease cattle feed intake by 8 to 15 percent, slow daily gain by about 14 percent, and increase feed requirements per pound of gain by 13 percent. Severe conditions, with mud 8 to 12 inches deep, reduce feed intake by up to 30 percent and decrease gain by 25 percent or more. In some situations, cattle gains have been cut in half by muddy conditions. Therefore, lots should be well drained and mounded to minimize the effect of mud on cattle.

Alternatively, a producer could background calves on pasture. If high quality winter pasture such as wheat or rye is available, cattle gains can be excellent. However, cattle performance on dormant winter pasture such as native grass may not be satisfactory, and large pastures will boost cattle maintenance requirements even more because the animals exercise more. For example, K-State research showed that calves wintered on native grass and fed a silage- and grain-based ration gained 14.2 percent slower (1.82 versus 2.08 pound/day) and 15.3

percent less efficiently than those fed the same ration in drylot. Ed Smith's earlier K-State research with stockers grown at lower rates of gain showed the same cattle performance relationship between drylot versus dormant pasture environments in the winter months. However, cattle wintered in drylot on the same ration as cattle on pasture may not be conditioned as well for summer grass as those wintered on pasture.

If we consider the influence of daily feeding time on cattle gain during the winter months, we might expect better performance when cattle are fed in the afternoon or evening compared to those fed once a day in the early morning. However, research on time of day feeding has been inconsistent. Cold weather also increases the energy requirement for maintenance; therefore, maintenance requirements are higher in winter than spring or fall by 10 to 15 percent. However, we can reduce cattle maintenance requirements by providing wind protection such as windbreaks. Therefore, the decision to put your cattle in drylot or on pasture depends on a thorough evaluation of your individual circumstances, opportunities and facilities.

*"If high quality winter pasture such as wheat or rye is available, cattle gains can be excellent."*

### References:

1. Brazle, F. K. and G. L. Kuhl. 1990. Performance of steers limit-fed in drylot or mature native pasture. KSU Cattlemen's Day Report of Progress 592.
2. Sweeten, J., L. Lubinns, R. Durland, and B. Bruce. Feedlot mounds. Great Plains Beef Cattle Handbook. GPE 7525.

## HOLIDAY GREETINGS

Following is a Christmas greeting penned by Dr. Gerry Kuhl, KSU Extension Feedlot Specialist, in a 1985 issue of *Focus on Feedlots*. Though 14 years have passed since the message was written, it is as heartfelt and appropriate today as the day it was written. -Lance Huck

*From all of us at K-State, we wish each of you a very Merry Christmas and Prosperous New Year!*

Take time from all the hustle and bustle to truly enjoy this most joyous season with your family and friends. Reflect on the fact that life's greatest blessings can't be measured in cattle prices or how full your feedlot is, but rather in friendships developed and renewed, the love of close ones, and knowing you and your crew have done your very best. • Take time to consider that the best things in life are indeed free, yet equally priceless. Like a child's squeal of surprise when unwrapping a present, the twinkle in the eye of a spouse when preparing the Christmas feast, the exuberance of a grandparent hugging a young one, the handshake of an old friend, and a pat on the back for a job well done. • Take time to reflect on the real reason for celebrating Christmas—an impoverished newborn laid in a feedbunk nearly 2000 years ago who had nothing to give but Faith, Hope and Love—yet changed the course of history with these priceless gifts. • Take time to contemplate the marvelous freedoms we take for granted in this country. Ragged edges notwithstanding, it really is America the Beautiful. • Take pride in our cattle industry, which converts solar generated forages, feedgrains, and byproducts into a delicious and nutritious product that touches the lives of millions of people with that Great Taste of Beef. • Take time to thank those around you for their friendship and teamwork. And, may the New Year bring you even greater blessings and better cattle to feed. -Gerry Kuhl

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## Kansas Feedlot Performance and Feed Cost Summary\*

Gerry Kuhl, Extension Feedlot Specialist, Kansas State University

### September 1999 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 October-Placed Cattle |
|----------------|--------------|-------------------|---------------------|-----------------------|--------------|--------------------------|---|
| Steers:24,578  | 1,259        | 130<br>(119-139)  | 3.50<br>(3.24-3.95) | 5.89<br>(5.52-6.41)   | .86          | \$42.41<br>(40.77-44.82) | \$42.68<br>(41.50-44.00)                |
| Heifers:27,097 | 1,137        | 142<br>(122-168)  | 3.08<br>(2.68-3.46) | 6.08<br>(5.70-6.33)   | .73          | \$44.76<br>(41.15-47.29) | \$44.21<br>(42.50-45.00)                |

| Current Feed Inventory Costs: July 15 Avg. Prices | Range       | No. Yards |
|---|-------------|-----------|
| Corn  | \$ 1.93/bu  | 6         |
| Ground Alfalfa Hay                                | \$60.12/ton | 6         |

\*Appreciation is expressed to these Kansas Feed-yards: Brookover Feed Yard, Brookover Ranch Feed Yards, Decatur County Feed Yard, Fairleigh Feed Yards, Kearny County Feeders, Pawnee Valley Feeders, and Supreme Cattle Feeders.

\*\*Closeout figures are the means of individual feedyard monthly averages and include feed, yardage, processing, medication, death loss and usually sold FOB the feedlot with a 4 percent pencil shrink. Interest charges normally are not included.



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**Cooperative Extension Service**  
 K-State Research & Extension  
 244 Weber Hall  
 Manhattan, KS 66506

*Dawn A. Blasi*  
 Dale Blasi, Extension Specialist

*Gerry L. Kuhl*  
 Gerry L. Kuhl, Extension Specialist

*Twig Marston*  
 Twig Marston, Extension Specialist