

# BEEF TIPS



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Department of Animal Sciences and Industry

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## Upcoming Events

**February 19**

Scott County Beef  
Cattle Conference  
Scott City

**March 5**

Livestock & Meat  
Industry Council  
Banquet  
Manhattan

**March 6**

Cattlemen's Day  
Manhattan

**April 2**

Roundup 1998  
Hays

## SPRING VS. LATE SPRING VS. FALL CALVING: A VETERINARIAN'S PERSPECTIVE

The season of the year and month of year to begin the calving season should include economic, management and health considerations.

### Economic considerations

1. Change in value of weaned calves. Moving from an early spring calving season to a late calving season will, on average, decrease the pounds of live calf for sale or pounds produced per exposed cow.

The difference can be up to 100 pounds or more. The difference is due entirely to age; the WDA or weight per day of age may actually be improved on later born calves that reflects a lowered maintenance cost associated with more favorable weather. Consideration of lowered weaning weight is not an important factor if calves are not marketed at weaning time. In addition, weaning weight alone is a poor indicator of profitability. Backgrounding calves or finishing calves that are born later is not impacted by calving date; however, marketing dates will change which may be impacted by seasonality of markets. Traditionally, feeder calf and live cattle markets are the lowest during the late spring and summer months.

2. Change in annual cow costs. Since feed costs account for 65 to 70 percent of annual costs and harvested forages are most likely the most expensive component, then an increase in the amount of harvested forage fed will increase costs. Calving during the season of the year when harvested forages must be utilized to meet cow nutrient requirements results in higher feed costs. A Nebraska study indicated that summer-

calving cows were fed over 3,000 pounds less hay/cow/year than spring-calving cows, while protein supplement costs were similar. For sustained profitability some have estimated that cow feed costs should be no more than 40 percent of the total cow unit revenue. If total cow unit revenue is \$500, then total feed costs including pasture should be no more than \$200.

3. Change in facilities cost. Calving earlier in the year will require a greater investment in housing and weather protection. Providing protection from the weather elements to newborn calves, postpartum cows and late gestational cows will increase the survivability and improve the health of calves. Facilities cost/cow/year should be about \$10/year. Simple, low-cost protection can be provided to young calves through the use of small huts or windbreaks that are only accessible to calves. The downside of some of these structures is that calves may not use them or in disease outbreaks they can be a source of contamination.

### Management considerations

1. Early calving allows for labor usage to be entirely focused on the calving process. Being able to devote full attention to one large task can be rewarding. If labor is being hired, providing work at times of the year when other tasks are not as plentiful makes sense. Alternatively, attempting to monitor the calving process while crops are being planted can be an overwhelming task, particularly if the incidence of calving difficulty and/or health problems is too great.

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2. Having adequate early growth pastures to accommodate the nutritional requirements of spring-calving cows. A study in Finland indicated that dairy cows calving after April 29 had the shortest postpartum interval. In addition, a negative energy balance (ketosis) was an important factor in increasing the parturition to conception time. In this same article, cows that were losing weight at a rate of 1 percent per week had a conception rate of only 16 percent, while cows on a diet adequate in energy had a conception rate of 90 percent. The reason for this effect is two-fold. Daylight hours are increasing dramatically during this time of year, temperatures are increasing and nutrition. The same rationale can be applied to late spring calving beef cows. The nutritional content of grass is increasing, which more correctly meets the cows needs at this time in contrast to early calving when essentially no grazing is taking place, the nutrition of the grass is extremely poor, and harvested forages and supplements must be fed to meet the cows' needs. This dramatically increases the feed costs to maintain and allow the cow to rebreed. A study done on beef cows tended to corroborate the dairy study in that cows that calved the earliest in the season had the longest calving interval. This again is likely due to improved nutrition, increasing environmental temperatures and daylight hours. In a Nebraska study a conclusion was reached that a 70-day breeding season for a late spring (April) calving was as productive as earlier (March) calving. In addition, the later calving season should provide more comfort for both cow and producer as well as less labor.

#### Health considerations include:

1. Late spring or fall calving offer the advantage of decreasing the contamination and buildup of pathogens that contribute to disease in the newborn calf. The decreased risk of bad weather in the late spring and fall allows producers to let cows roam to find comfortable surroundings for parturition. When cows are able to find their own calving grounds, it will likely be a long distance from other cows and calves. The chances of spreading pathogens from one pair to another is greatly diminished when space is not restricted.

2. Late spring or fall born calves are less likely to be stressed due to weather. Under wet, muddy and cold conditions, calves' energy requirements are greater and have been shown to diminish the ability of the calf to absorb colostrum immunoglobulins. The most important factors in reducing scours are to reduce exposure level, reduce contamination, and increase immunity within the calf. Factors identified as being associated with an increased incidence of scours are: heifers calving, wet conditions in the

calving area, limited shelter and wintering cows and heifers on the same grounds where calving occurs. As is readily apparent, these can directly or indirectly increase exposure, increase contamination and decrease immunity. In a North Dakota study, calves born to heifers in herds that calve before the cows were 1.6 times more likely to develop scours. In addition, calves born in herds before March 10 were 3.8 times more likely to develop scours than those starting after March 10. In the same study the odds of a herd calf scours problem was increased by 3 times in herds not fed some alfalfa hay. The reason for this is not clear but may relate to adequate protein intake in late gestating cows.

In a study by Viring et al, calves born between May and September in Sweden had higher concentrations of gammaglobulin (immunity) than calves born from October to April. It is unclear as to why this occurs, but it perhaps relates to colder weather negatively influencing absorption. Gammaglobulins are the proteins absorbed from the colostrum and provide the passive immunity for the calf in the early critical stage of life. It is important to remember that absorption of adequate amounts of gammaglobulins does not guarantee health, nor does lack of absorption automatically mean ill health. However, with inadequate absorption (IgG levels less than 1000mg/dl) the risk of mortality was increased by 2 times, while morbidity was 6 times more likely to occur in the newborn and 3 times more likely to occur prior to weaning. Calves should be provided or have a minimum of 2 liters of colostrum within the first 2 hours and another 2 liters with the first 12 hours to provide the best chance for adequate absorption and disease protection. However, it is important to remember that it is not just quantity of colostrum that is important but the quality (amount of immunity) in the colostrum that is of real importance. Factors that affect colostrum quality are nutritional status and body condition score of the cow. Research indicates that cows in body condition score of 4 and less bore calves with lower immune levels than calves born to cows in adequate body condition score. Work at K-State by Coalson, 1996, indicates that any abnormal event in and around birth will dramatically influence absorption of immunity. In a four-state study of 550 herds, the average scours incidence was 10.9 percent. The rate among cows was 9.5 percent and rate among heifers was 18.8 percent. Herds that purchased animals during the calving season had a higher rate of scours than those that did not purchase any animals.

Gerald L. Stokka  
Extension Beef Veterinarian

# NOW IS THE TIME FOR SPRING-CALVING COW/CALF PRODUCERS TO . . .

## Manage the Mud

- 1. 4 to 8 inches deep**
  - Decreases feed intake by 8 to 15 percent
  - Decreases average daily gain (ADG) by 14 percent
  - Increases feed/pound gain by 13 percent
- 2. 12 to 14 inches deep**
  - Decreases feed intake by 30 percent
  - Decreases ADG by 25 percent
- 3. Scrape manure and mud off apron, mound and feedlot surface**
- 4. Earthen mounds offer dry, comfortable resting place**
- 5. Bed with straw or poor quality hay as alternative**
- 6. Pray for freeze up or dry out**
- 7. Move pregnant cows from saturated stalk fields prior to calving**
- 8. Move pregnant cows to native pastures and supplement with natural protein**
- 9. Avoid calving in muddy lots to avoid suckling muddy teats leading to scours, calf sickness and death loss**

## Provide Cattle Management

- 1. Monitor Body Condition Score (BCS)—cold weather can have negative impact**
  - Ideal calving BCS
    - Cows: 5
    - Heifers: 6
  - Cheaper to rebuild BCS prior to calving
- 2. Separate calved cows from uncalved cows**
  - Provides cleaner environment for calves
  - Feed lactating cows more without overfeeding uncalved cows
- 3. Use K-State “Beef Cow Ration Balancer” Software**
  - Generate rations for
    - Changes in body condition
    - Changes in reproductive status (pregnant versus lactating)
    - Changes in feed sources or quality
- 4. Feed pregnant females late in the day to stimulate more daytime calving (Konefal method)**
- 5. Inject calf scour vaccine if not done previously (bred heifers need booster)**
- 6. Control lice (previous control may not last entire winter)**
- 7. Monitor calf scours and provide prompt treatment**
  - Become familiar with Cryptosporidia and Salmonella symptoms

## Avoid Cold Stress

- 1. Provide shelter—natural or portable wind breaks**
- 2. Provide ice-free water**
- 3. Increase energy 1 percent for every degree that the wind chill temperature falls below the lower critical temperature depending upon hair coat insulation**

Coat Description	Critical Temperature
Summer coat or wet	59°F
Fall coat, dry	45°F
Winter coat, dry	32°F
Heavy winter coat, dry	18°F

- 4. Cold does not increase crude protein requirements**

## Be Ready for Calving Season

- 1. Assemble supplies and equipment**
  - Iodine
  - Fetal head snare
  - Warm water source
  - Esophageal feeder
  - Medications/injections
  - Calf respirator
  - Tattoo ink and tattooer
  - Obstetrical chain straps
  - Obstetrical lube
  - Calf feeding bottle
  - Plastic sleeves
  - Halter
  - Ear tags and tagger
  - Hair clippers for ceasareans
  - Frozen colostrum
  - Calf puller
  - Disinfecting scrub
  - Iodine dispenser
  - Syringes/needles
  - Birthweight scale
- 2. Provide Calving Facilities**
  - Sheltered area for pulling calves
  - Clean bedding
  - Pens cleaned, limed and bedded between pairs
  - Maternity pens with feed and water
  - Straight-sided head catch with sides that swing back
  - Sufficient lighting

**“It is cheaper to rebuild body condition score prior to calving.”**

*Ron Bolze  
Extension Specialist  
Livestock Production*

## Kansas Feedlot Performance and Feed Cost Summary\*

Gerry Kuhl, Extension Feedlot Specialist, Kansas State University

### December 1997 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 Jan.-Placed Cattle
Steers: 20,153	1,245	134 (117-158)	3.36 (3.17-3.90)	6.49 (6.02-7.06)	1.35	\$57.71 (53.45-64.45)	\$55.71 (54.00-60.00)
Heifers: 14,136	1,096	139 (115-187)	2.95 (2.72-3.22)	6.51 (6.14-6.85)	1.09	\$60.18 (55.85-66.99)	\$57.58 (55.50-62.00)

Current Feed Inventory Costs: January 15 Avg. Prices	Range	No. Yards
Corn	\$ 2.79/bu	7
Milo	\$ 4.50/cwt	1
Ground Alfalfa Hay	\$96.38/ton	7

\*Appreciation is expressed to these Kansas Feedyards: Brookover Feed Yards, Brookover Ranch Feedyards, 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% pencil shrink. Interest charges are not normally included.



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