Nutritional Management in Beef Cow-Calf Herds

Proper nutritional status is critical to a cow or heifer's production cycle. Attention to cows' needs can help improve a producer's profitability.

The USDA's National Animal Health Monitoring System (NAHMS) collected data on nutritional management of beef cows. Phase one of the NAHMS Beef '97 Study included 2,713 producers from 23 of the leading cow-calf states[1]. This study represented 85.7 percent of U.S. beef cows on hand January 1, 1997, and 77.6 percent of U.S. operations with beef cows. Phase two of the study focused specifically on herds that had five or more beef cows and included 66.3 percent of all operations with beef cows and 85.0 percent of all beef cows in the U.S. Producers in phase two were asked specific questions about body condition scores and creep feeding.

According to the phase two NAHMS data, based on producer estimates, almost half of the cows (42.4 percent) weighed less at weaning than they did 1 week after calving. This finding indicates that cows are losing weight during the grazing season when nutrition should be at its highest. The producer must then provide extra feed in the fall and winter to return the calving female to her proper nutritional state.

Early weaning has been practiced by some producers to reduce nutritional demands and put weight back on cows while forage is available. However, nearly one-half of producers (49.9 percent) cited the most important factor that determined when to wean calves was the age or weight of the calf (Figure 1). In some instances, weaning calves into a feedlot where growth can be accelerated and allowing cows to graze without nursing calves may be better for the overall production

of the operation. Over one-fourth of producers (29.2 percent) used creep feeding in 1996 to add growth to nursing calves (Figure 2). Many producers do not creep feed because of low economic returns or practicality in range situations.
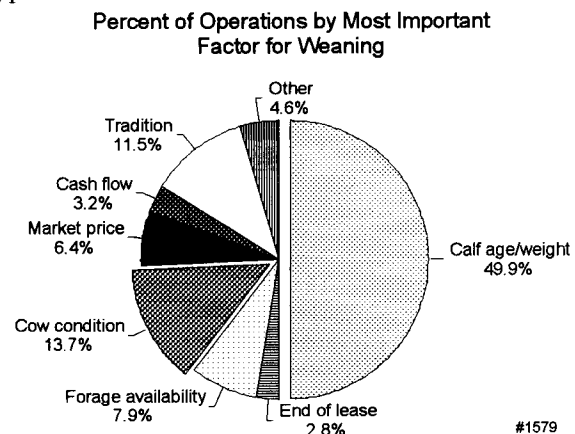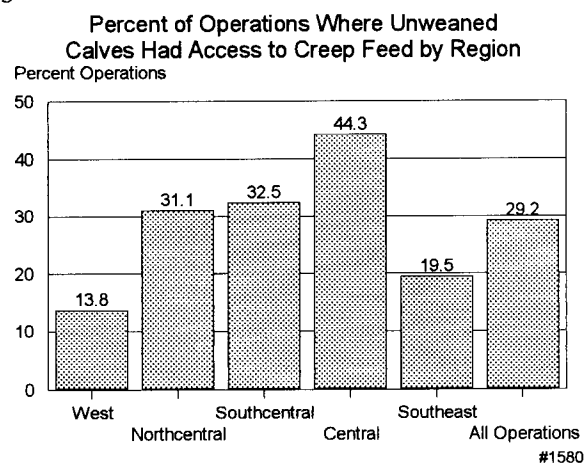
Figure 1

Percent of Operations by Most Important Factor for Weaning

Other 4.6%
Tradition 11.5%
Cash flow 3.2%
Market price 6.4%
Cow condition 13.7%
Forage availability 7.9%
End of lease 2.8%
Calf age/weight 49.9%
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Figure 2

Percent of Operations Where Unweaned Calves Had Access to Creep Feed by Region

Percent Operations

West 13.8
Northcentral 31.1
Southcentral 32.5
Central 44.3
Southeast 19.5
All Operations 29.2
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Producers can evaluate the nutritional status of their cow herd by doing routine body condition scoring (BCS). Research has shown that cows below a BCS of 5 at calving (on a scale of 1-thinnest to 9-fattest) do not breed back as well as properly conditioned cows. Also, thin cows may be more apt to have difficult calvings or

[1]Alabama, Arkansas, California, Colorado, Florida, Georgia, Illinois, Iowa, Kansas, Kentucky, Mississippi, Missouri, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Tennessee, Texas, Virginia, and Wyoming.

poor colostrum for the calves. Unfortunately, fewer than one-fourth (23.3 percent) of producers used BCS as a management tool in their beef herds (Figure 3). Use of BCS was higher in larger herds compared to smaller herds.

Figure 3   Percent of Operations that Used Body Condition Scoring by Herd Size

Percent Operations

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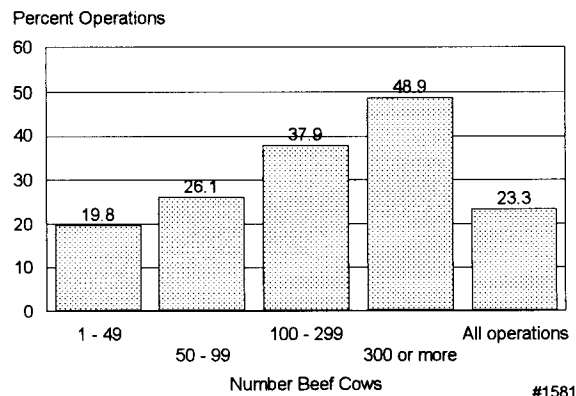
Nutrition is the single biggest cost of a cow-calf operation, accounting for over 50 percent of annual cow costs in most operations. Producers cannot ignore the significance or cost of keeping a cow in good nutrition. Many producers have training or experience in nutritional management. However, all operations could benefit from outside advice on forage condition or new nutrition technologies. For information on nutrition, producers cited veterinarians as the most important off-farm source (35.5 percent), followed by feed salespersons (26.6 percent). Other sources such as nutritionists or Extension agents were cited less often as the most important off-farm source (Figure 4).

Figure 4   Percent of Operations by the Most Important Source of Information on Nutrition

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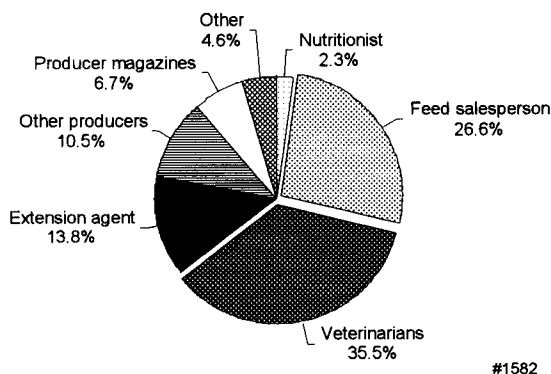
Only 22.0 percent of operators calculated balanced rations to meet the nutritional needs of their cows (Figure 5). Larger operations were more apt to calculate rations (47.7 percent). Besides balancing the diet to meet the nutritional needs of the cow herd, calculated rations can also improve profitability. A

Figure 5   Percent of Operations that Calculated Balanced Ration by Herd Size

Percent Operations

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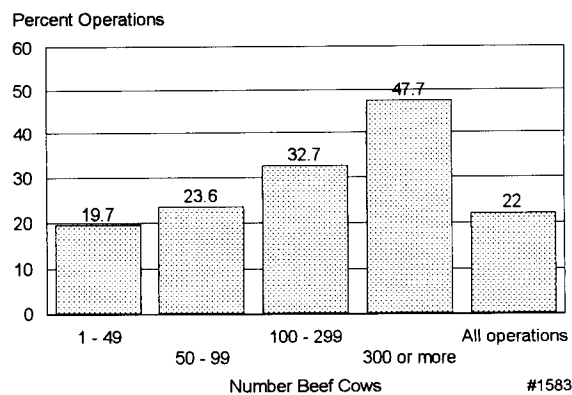
producer can reduce feed costs if the ration is balanced and cows are not overeating or wasting valuable harvested feeds. A formulated ration will also improve operation productivity if the cows have not been getting adequate nutrition.

The 1992/1993 NAHMS Beef Cow-Calf Health & Productivity Audit found a lot of variability of nutrients in harvested forages. Therefore, eyeballing forage or relying on book values may not be accurate enough for ration formulation. This inaccuracy can cause a ration to be unbalanced so that the operation does not achieve an optimal nutritional program. Overall, in 1996, only one-fourth (26.9 percent) of operations that balanced the ration for their cow herd submitted feed for a nutritional analysis.

To remain profitable in today's tight economic marketplace producers must pay attention to all details. A nutritional management plan that addresses all phases of the production process can help a producer's bottom line. Calculating a balanced ration with the best information available is the cornerstone of a proper diet. Producers can also shop around for sources of less expensive ration components for use on their operation. Once the nutritional content of a feed source is known, the rest of the diet can be formulated to minimize cost to the operation. Producers who know their cow herd can make use of technologies to achieve a well balanced diet to meet day-to-day requirements and minimize this major cost to the cow-calf operation.

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