

Green Grass is in Sight for Cows

The nutritional demands annually for cow calf operation can be divided into 4 periods. The 80 days post calving, the 125 days pregnant and lactating, the 110 days mid-gestation and 50 days pre-calving. Table 1 illustrates the needs for an 1100 pound frame 4 cow for the year. The table assumes a calf each year and energy is to maintain a cow in good condition with a BCS of 4 to 5 during the year.

Table 1 Nutritional Demands for the Cow.

1100 Pound Cow	<u>Period 1</u> 80 days Post Calving	<u>Period 2</u> 125 days Pregnant and Lactating	<u>Period 3</u> 110 days Mid-Gestation	<u>Period 4</u> 50 days Pre-Calving
NEM Mcal/day	14	12	9	10
Protein Lbs/day	2.3 – 3.1	2.1 – 2.9	1.4 – 1.9	1.6 – 2.0
Calcium Gm/day	33 – 45	29 – 42	22 – 25	25 - 30
Phosphorus Gm/day	27 – 33	22 – 30	17 – 20	20 - 25
Potassium Gm/day	65 – 95	60 – 90	50 - 75	55 - 80
Vitamin A IU/day	40,000	36,000	25,000	27,000

Period 1 nutritionally is the most important during the year. The cow is recovering from calving, is at peak lactation for the breed type and should be cycling for rebreeding during period 1. Calving difficulties and poor condition in the cow represents problems that the cow can not easily recover in the 80 days.

Proper nutrition is necessary from breeding to weaning (period 2). Period 2 is 125 days that maintaining pregnancy, lactation and gaining some condition is important. This period for spring calving is normally a period that grass is abundant and forage is available.

Period 3 is a time when the cow has the least demands for nutrients. This is a time when poor quality forage can be utilized.

Period 4 the 50 days prior to calving is the second most critical period for cow nutrition. This has been and still is a time when nutrition is focused. The bulk of fetal growth occurs in this period and nutrition will have an impact on calf vigor, calf growth, cow's milking ability and length on anestrus. This is a potential time when nutritional difficulties can be corrected.

Period 2 begins in April or May for spring calving herds and is the when the grass is green. This is a time when creep feeding can be considered. Creep feeding should be considered when the extra weight at weaning time will more than pay for the feed. The decision depends on different factors:

- Calf prices
- Calf price of creep fed calves versus non creep fed calves, the price difference is usually the slide for heavier weight calves
- Grain and supplement prices
- Market for calves
- Age of cow herd
- Condition of pastures
- Equipment available.

Nutrients needed for maximum growth can be supplied in cow's milk in the newly born calf. However, beef cows can vary considerably for milk produced and the persistency of milk production. Table 2 shows the expected peak milk production for different breeds of cows.

Table 2 Peak Milk Production for Beef Cows.

Breed	Peak Milk Production Pounds per Day Range Conditions
Angus	18
Braford	15
Brahman	18
Brangus	18
Braunvieh	26
Charlois	20
Chianina	13
Devon	18
Galloway	18
Gelbvieh	25
Hereford	15
Limousin	20
Longhorn	11
Maine Anjou	20
Nellore	15
Piedmontese	15
Pinzgauer	24
Polled Hereford	15
Red Poll	22
Sahiwal	18
Salers	20
Santa Gertudis	18
Shorthorn	19
Simmental	26
South Devon	18
Tarentaise	20

Between the second and third month of the calf's life, there is a need for more nutrients for maximum calf growth for the genetic potential. The calf begins foraging more to meet the nutritional needs. Creep- feeding of calves will likely add 30 to 100 pounds to the weaning weight. Table 3 shows the average gain and feed intake that can be expected from creep feeding.

Table 3 Expected Gain Response to Creep Feeds

	No Creep	Creep	Difference
Total Gain, Lbs	220	280	+ 60
Daily Gain	1.0	1.4	+ 0.4
Pounds Creep Feed	0	3.5	+ 3.5
Feed to Gain Ratio		8.75	

Forage that becomes mature and grows during hot humid weather declines in nutrient value. The crude protein is often considerable below the calf's needs for optimum gains. The protein concentration in creep feeds should be increased as forage nutrient quality decreases. The growing calf has a protein requirement for optimum growth that can not be met with the milk available and forage.