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## G83-655 Management of Early Weaned Calves

Paul Q. Guyer

*University of Nebraska - Lincoln*

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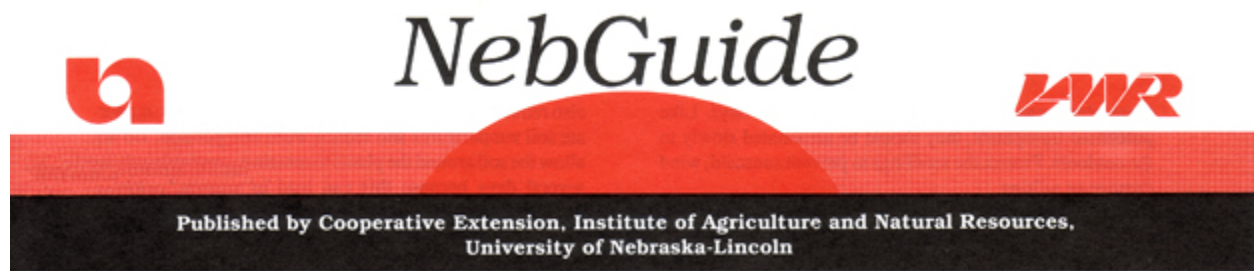
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Guyer, Paul Q., "G83-655 Management of Early Weaned Calves" (1983). *Historical Materials from University of Nebraska-Lincoln Extension*. 331.

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G83-655-A



## Management of Early Weaned Calves\*

This NebGuide discusses the benefits and disadvantages of weaning beef calves early, including rations and methods for both drylot and pasture-grain feeding programs.

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*Paul Q. Guyer, Extension Beef Specialist*

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Early weaning of beef calves is a management practice that should be considered under situations such as fall calving, drylot cow-calf production and drought. In areas where forage quality is very poor in late summer and early fall, early weaning might also be considered as a regular practice. Early weaning can enhance the efficiency of drylot cow-calf operations by allowing greater use of poor quality roughages by the cow herd.

### How Early is Early Weaning?

Although not a common practice among beef producers, dairymen have been weaning 3-day-old calves for years. Weaning beef calves as early as 30 days of age is practical. This is early enough to encourage the cows to cycle and rebreed early, while allowing the cow to function as a lactating animal. Weaning at 3 to 5 months of age is too late to assist early cycling; therefore, it doesn't contribute to the improvement of reproductive efficiency. However, weaning at 3 to 5 months of age may be a viable alternative when forages are scarce and milk production is low in the latter part of the grazing season.

### Considerations of an Early Weaning Program

Before deciding to wean calves early, make plans as to how the calves will be handled, based on their age and available feed supply. In some situations it may be necessary to sell early weaned calves. In this case, you may realize more income by locating a buyer ahead of time and doing more pre-conditioning

than is usually done under normal weaning. At best, cow-calf operators must determine what benefits can be realized in terms of income for that calf crop. And, consideration must be given to the long term benefit that may be more difficult to evaluate monetarily.

The long-term considerations may be of more concern than the present economic situation when all factors are evaluated. Early weaning eliminates the nutrient needs for milk production, thus freeing up more energy for maintenance and reproduction. Under drought or poor range conditions, this significantly reduces the nutrient demands placed on the cow.

The fetus a cow is carrying should be of as much concern as the nursing calf. Avoid stress that may result in light, weak calves at birth and dams that have reduced colostrum quality and quantity. The brood cow must be in sufficient condition to winter well on low quality roughages, especially in drought years. Removing the calf early helps to improve body condition which will aid in producing a healthier calf the next year and subsequent rebreeding.

The nutritional program must be adequate during gestation to have cows in good condition at breeding time. If the cow herd is in poor condition at breeding time, the result is a lower percent of the cows coming into heat, an increased postpartum interval, and a lower conception rate. In situations when under-feeding is common, a more intensive and costly health program may result.

Early weaning of calves from 2-year-old, first calf heifers reduces the stress of nursing and raising a calf. As a result, they should recycle and breed back earlier and grow more rapidly. For heifers bred for higher milk production, early weaning takes on greater importance, for the more milk they produce, the slower they are apt to cycle. It appears doubtful that any level of nutrition will have the same beneficial effect on the reproductive efficiency of the heifer as early weaning.

### **Reproductive Performance as Influenced by Time of Weaning**

Work conducted at the U.S. Meat Animal Research Center at Clay Center, Nebraska showed that when calves were weaned 8 days before the start of a 42-day breeding season, the percentage of cows exhibiting estrus from calving through breeding increased by 29 percent in 2-year-olds, 27 percent in 3-year-olds and 16 percent in mature cows (4 years of age and older). Pregnancy rates were likewise increased by 26 percent in 2-year-old cows, 16 percent in 3-year-olds and 28 percent in mature cows.

Early weaning for the purpose of improving fertility of first calf heifers can be done when the calves are 35 to 60 days of age. Clemson University studies have shown that 81 percent of the heifers whose calves were weaned at 56 days of age calved within the first 30 days of the subsequent calving season. In contrast, only 46 percent of the control females calved within the same period.

### **Performance of Early Weaned Calves**

Early weaned calves fed grain either in drylot or in addition to improved pasture may gain 0.5 to 1.0 pound per day faster than calves nursing their dams. The amount of grain required per pound of gain ranges from 2 to 7 pounds, depending on whether a pasture or a drylot system is used. Calves should be managed and fed to obtain optimum weights at normal weaning time. Research indicates that any difference in performance at 205 days of age (normal weaning) due to early weaning is eliminated by one year of age.

Excellent results have been obtained with calves weaned as early as 34 to 76 days at the U.S. Meat Animal Research Center. All the calves weaned in this study were self-fed whole oats as a creep ration

for at least 30 days prior to weaning. After weaning, they were fed the rations shown in *Table I*.

<b>Table I. Rations used for early weaned calves at U.S. Meat Animal Research Center.</b>			
<b>Ingredients, percent</b>	<b>Post Weaning Period</b>		
	<b>First 56 days percent</b>	<b>Second 56 days percent</b>	<b>Last 56 days percent</b>
Alfalfa Hay, Ground	25	—	—
Bromegrass Haylage	—	25	20
Corn Silage	—	25	43
Corn-Wheat-Milo	59	38	25
Supplement, 40% Protein	—	12	12
Soybean Meal	10	—	—
Molasses	5	—	—
Salt	1	—	—
Aureomycin, Gm/Ton	40	20	20
— Approximate Nutrient Content—Dry Basis:			
— TDN, percent	80.0	74.0	71.0
— Crude Protein, percent	15.8	15.2	14.8

### **Advantages of Early Weaning**

- It aids in ensuring a calf from each cow every 12 months.
- Dams of early weaned calves should cycle earlier.
- Calves can grow to their genetic potential regardless of the dam's milk production.
- It may be the key to more efficient feed utilization during times of drought or other periods of feed shortage.
- Fifteen to 20 percent less energy is needed to feed early weaned calves and their dams as compared to cows nursing their calves.
- It fits in with fall calving where heavy winter feeding would otherwise be required.
- Early weaning permits more cows to be carried on a limited feed supply.
- It may be possible to get cheaper gains due to the excellent feed conversion of early weaned calves.

### **Disadvantages of Early Weaning**

- Excellent calf nutrition and management is required.
- More labor is necessary.
- The facilities and feed must be available for small calves.
- The potential increase in weaning weights through heavy milking cows may be reduced.
- Information on dam performance from production records will be of limited use.

### **Systems of Managing and Feeding Early Weaned Calves**

The success of an early weaning program depends on maintaining a high level of management in weaning, caring for and feeding early weaned calves. Digestive disorders may be more of a problem with young calves. A highly palatable ration is a must for starting young calves on feed. Approved management practices for cow-calf programs, such as vaccinating, castrating, implanting, dehorning and internal and external parasite control should also be included in an early weaning program.

### Drylot feeding programs

Ration nutrient content and palatability are two critical factors in planning rations for early-weaned calves. Calves of the British breeds weighing 300 pounds or more require a ration containing 12 to 13 percent crude protein. Younger British breed calves or lightweight exotic sired calves require 13 to 15 percent protein in the ration. Use fresh, palatable feed ingredients in early-weaning rations. Processed grains should be coarsely cracked or rolled to minimize dustiness and increase palatability. A small amount of molasses is commonly used to reduce fines and dust problems and encourage consumption.

Numerous feed combinations can be used in such rations. Corn, milo and barley are excellent energy sources, and roughage may be supplied by seed hulls, high quality hay or other forages. Cottonseed or soybean meal are suitable crude protein sources. However, urea and other non-protein nitrogen sources are not well utilized by lightweight calves. Energy and protein feeds should be mixed with 10 to 20 percent roughage and supplemented with vitamin A, calcium, phosphorus and trace mineralized salt to form a complete ration. Adding an antibiotic will reduce health problems and increase gains.

Calves to be early weaned should be creepfed a palatable ration for as long as 20 to 30 days before weaning. After weaning, feed them a starter ration high in protein and moderate in energy. After all of the calves are eating well, they can be continued on a complete ration or a grain-supplement mix and hay designed for the rate of gain desired. We suggest feeding about .5 pound of long grass hay per head daily in addition to a complete ration. If a grain-supplement mix following the starter ration is preferred, feed hay to appetite and gradually increase grain and supplement to a level that will produce the desired growth without fattening. Numerous trials have shown this to be a very economical practice. Examples of rations that give satisfactory performance are presented in *Table II*. Average daily gains of 2.0 to 2.8 pounds should be attainable with these rations when starting with calves weighing approximately 200 pounds.

<b>Table II. Some typical rations of early weaned calves in drylot.<sup>1</sup></b>				
<b>Ingredient</b>	<b>Percent</b>			
Corn, Milo or Barley (rolled or cracked)	56	60	62	56
Soybean or Cottonseed Meal	20	12	10	15
Dehyd. Alfalfa Meal	—	—	10.5	10.5
Ground Alfalfa Hay	15	20	10	10
Molasses	5	5	5	5
Limestone	3.0	2.0	1.5	2.5
Trace Mineral Salt	1.0	1.0	1.0	1.0
<sup>1</sup> Add 2,000 IU of Vitamin A and 200 IU Vitamin D per pound of complete feed. An antibiotic is recommended at 10-20 mg. per pound of feed to obtain daily intake of 50-70 mg. per head.				

## Pasture-grain feeding programs

To minimize calf and forage management problems, calves should be weaned and placed in confinement with a starter ration for a minimum of three days before being turned out to graze. Although gains have been excellent when calves have been weaned and placed directly on pasture, forage losses due to trampling and fence walking are reduced if they are confined for a brief period after weaning to calm them down. It is important to completely remove the calves from their dams so they cannot see or hear one another.

Several species and varieties of forages may be used for midsummer grazing by early weaned calves. When using summer annuals, a rotational grazing system is recommended so that calves have access to young vegetative plant growth at all times. As the calves are moved, dry cows or other animals can be used to graze excess forage prior to clipping to obtain uniform regrowth.

High quality pastures are a necessity if forage is to supply a major portion of nutrients required for rapid growth of young calves. Grain consumption may be quite high when self-fed, regardless of pasture quality. Thus, grain intake must be limited if forage is to make a significant contribution to calf growth.

Labor and feeding equipment needs can be reduced by limit-feeding the grain mix through the use of salt. Mix about 10 percent salt with the concentrate initially. As calves adapt to the salt, some adjustment in the salt level may be required so that grain intake is limited to about one percent of body weight. Concentrate mixtures such as those shown in *Table II* can be used for this purpose by simply deleting the roughage source and substituting salt and additional grain to make up the difference. Commercial salt mixtures designed for limited intake can also be used.

## Is Early Weaning For Me?

Early weaning of beef calves is a management tool that can be used when the extra benefits outweigh the extra labor and expense. Generally, such conditions exist when producers are faced with limited or low quality pasture, or in other situations such as enhancing the rebreeding of first calf heifers. The age of calves at weaning may vary from 30 to 180 days, depending on whether the major goal is to improve reproductive performance of the dams, or to improve calf performance during periods of low pasture quality and/or quantity. This system allows the producer a practical means of efficiently using feed resources, while still obtaining a heavy sale weight of the calves produced.

\*Adapted from Great Plains Beef Handbook Fact Sheet GPE-1670 by David Whittington, Extension Beef Specialist, South Dakota State University and Gerry Kuhl, Extension Beef Specialist, Kansas State University.

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***File G655 under: BEEF***

***C-7, Beef Management***

*Issued June 1983; 12,000 printed.*

*Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Elbert C. Dickey, Director of Cooperative Extension, University of Nebraska, Institute of Agriculture and Natural Resources.*

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