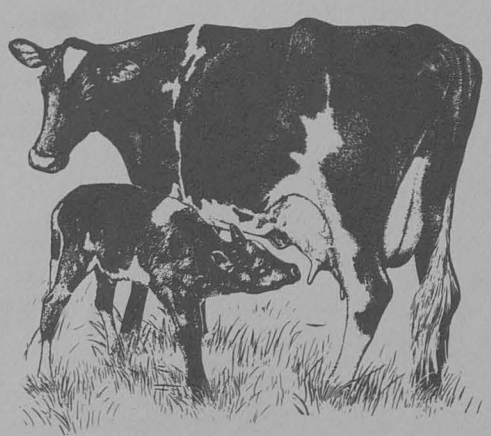
Extension Folder 574
DAIRY CALF AND HEIFER
CORRESPONDENCE COURSE

Unit 1—Care of the Dam Before and at Calving

Purposes

- **Understand the importance of a good dry cow management program.**
- **Identify good calving practices.**
- **Learn why cleanliness and good care of the cow are vital at and following calving.**



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1. MANAGEMENT OF THE DRY COW

Length of dry period—The average length of gestation for cows is 283 days, plus or minus seven days. Research has shown that a period of 60 dry days results in the highest milk production. Dry periods longer than 70 days can result in excess body condition; dry periods of fewer than 40 days do not allow enough time for udder regeneration. Ideally, a cow should milk for 305 days followed by a 60-day dry period. This means cows should be bred and pregnant 82 days after freshening. The best way to determine due dates and schedule for the 60-day dry period is to keep reproductive records with pregnancies confirmed by veterinarian exams.

Feeding the dry cow—The dry cow feeding program should be a maintenance program. Body condition for the next lactation is put on more efficiently during late lactation than in the dry period; therefore, cows should be in a "lactation ready" condition at drying off.

The nutrient requirements for dry cows are compared to three forage programs in table 1. Neither alfalfa-grass nor corn silage alone meet all the requirements; however, a combination of the two needs only vitamins and a small amount of phosphorus supplementation to meet requirements.

Table 1. Nutrient Requirements of Dry Cows and Approximate Nutrient Content of Two Forages (100% dry matter basis)

	Dry cow requirement	Alfalfa-grass	Corn silage	½ Alfalfa grass ½ Corn silage
Crude protein	11	16(+)	8(–)	12(+)
TDN (%)	60	50(–)	70(+)	60(+)
Net energy (M-cal/lb)	.61	52(–)	70(+)	61(+)
Fiber (%)	17	34(+)	26(+)	30(+)
Calcium (%)	.37	1.01(+)	.28(–)	.65(+)
Phosphorus (%)	.26	.25(–)	.21(–)	.23(–)
Vitamin A (IU/day)	50,000			
Vitamin D (IU/day)	15,000			

Plus (+) values are at or above requirements.
Negative (–) values are below.

Overfeeding during the dry period results in "fat cow syndrome," which increases calving problems and leads to other metabolic disorders. Cows over conditioned by consuming excess energy from grain or corn silage often have increased incidences of ketosis and displaced abomasum (twisted stomach). Other problems include retained placenta (cleaning problems), metritis (uterine infection), and mastitis.

Intake of calcium and phosphorus during the dry period should be checked closely. Too much calcium can cause milk fever and possible calving problems. Calcium should be limited to fewer than 100 grams per day, and 20-50 grams of phosphorus per day is adequate. Adjusting the calcium to phosphorus ratio without considering total amounts is neither practical nor beneficial.

Adequate quantities of vitamins are necessary for both the cow and the calf. If insufficient quantities of vitamin A are fed, cows will have reduced amounts of vitamin A in the colostrum and a higher incidence of retained placentas.

Little or no grain is needed in most dry cow rations; however, the exact amount required should be determined by the quality and amount of forage fed and by the cow's body condition and growth status. During the last two weeks before freshening, grain should be introduced into the ration to prepare the rumen bacteria for the higher concentrate rations fed during lactation. A maximum of 1% of body weight is adequate (1,300 lb cow; maximum 13 lb of grain).

2. CARE OF THE COW AT CALVING

Facilities—Clean, dry, and well-bedded calving sites are of utmost importance in protecting the health of both the dam and the calf. During delivery of the calf, the reproductive tract is open and subject to contamination by infectious organisms. Unsanitary calving facilities also readily expose a nonresistant calf to pneumonia, scours, and other diseases. Pens must be cleaned and disinfected between calvings to prevent buildup of disease organisms.

Maternity pens should have ample room for the cow to move around as well as sufficient area for possible assistance. Square or nearly square pens with at least 140 square feet are recommended. Rough concrete floors are best for sure footing and sanitation; however, dirt floors are better than slick concrete.

Tie-stalls or stanchions are not ideal locations for calving but can be adapted for such use. Stalls should be large enough to accommodate the cow. Place grates over the manure gutter or pack plenty of bedding into the gutter. Severe muscle damage can result from cows becoming caught or twisted in the gutter during calving, and calves born in manure and urine deposits are immediately exposed to disease. The stall needs to be well bedded with plenty of clean straw. Straw is preferable to sawdust or shavings because it absorbs more moisture and the larger particle size is less likely to be drawn into the uterus. Other disadvantages to calving in tie-stalls or stanchions are that cows have a difficult time licking calves and a calf may not always find the right mother.

Calving—Signs of approaching calving are swelling and enlargement of the vulva, sinking of muscles around the tail head, filling of the udder with colostrum, uneasiness, a nervous appearance, and a depressed appetite.

The calving process, which may range from a few minutes to several hours, is reasonably longer in first calf heifers. In most cases, assistance is not necessary and should only be given after it is apparent (one-two hours of labor) the cow is not going to deliver without help. You should work with your veterinarian to develop procedures for assisting cows. Improper or unnecessary pulling of calves can cause damage to both the cow and calf. Cleanliness is important. Unsanitary utensils, gloves, or hands introduce bacteria into the reproductive tract and can cause reproductive problems. Your presence at calving is always advisable.

3. CARE OF THE DAM FOLLOWING CALVING

The process of calving and the initiation of milk production is a stressful situation. Though the stresses cannot be eliminated, they *can* be reduced in order to help ensure a healthy, high producing cow.

During the first 24 hours after calving, the cow should be closely observed. Fresh water and high quality feedstuffs should be provided in ample quantities. Check the cow closely to make sure she has cleaned. Mastitis, milk fever, downer cows, and other problems are better treated during the first 24 hours.

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Care of the Dam Before and at Calving

Please Fill Out and Return

Name_____

Address_____

1. What is the length of your calving interval?

2. What is the average length of dry period for your cows?

3. How many of your cows had the following metabolic disorders last year?

	Number	% of cows
Milk fever	_____	_____
Displaced abomasum	_____	_____
Fat cow syndrome	_____	_____
Ketosis	_____	_____
Cleaning problems	_____	_____

As a guideline, if 15% or more of your cows have any one or more of these disorders, your dry cow management program should be checked. Many of these disorders are feeding related, and incidences can be reduced by ration changes. For more information concerning these disorders see Extension Folder 437, *Nutritional Management of the Dry Cow.*

4. Describe your dry cow feeding program.

   a) How much and what type of forage is fed?

   b) How much grain is fed?

   c) Is a minimum of 5 lbs of long forage fed?

   d) Are vitamins adequately supplemented?

5. On the back page, outline your management steps for the dry cow starting two weeks before calving. Evaluate your answers with the considerations listed in the text.

The following material is also available on request. Please check those publications you would like to receive.

☐ *Nutritional Management of the Dry Cow,* Extension Folder 437
☐ *Feeding the Dairy Herd,* Extension Bulletin 218