

FrontLine®

TECHNICAL INFORMATION FOR TODAY'S FEED PROFESSIONAL



Designing a Successful Calf Raising Program

Objectives

The objectives of a successful calf raising program are simple:

- Keep calves alive and healthy
- Keep mortality to less than 5%
- If replacement heifers, they should be big enough to breed at 14-16 months of age.
- Do it economically

Colostrum Management

Providing high quality colostrum is an important component of a successful calf raising program.¹ High quality colostrum provides immunoglobulins, non-antibody immune factor nutrition components (protein, energy, fat, vitamins, and minerals). A successful colostrum management program can provide the following benefits:

- Low calf mortality
- Improve resistance of disease
- Improve weight gain the first few days of life

Colostrum Composition

Colostrum is produced by cows beginning approximately 5 weeks before calving and ending at calving time. Most of the immunoglobulins are concentrated in the colostrum about 3-9 days before calving. true colostrum is the first milk of a fresh cow.

	Composition of Colostrum, Transitional Milk and Whole Milk					
	Milking Number (Cows Milked Twice Daily)					
	1	2	3	4	5	11
	Colostrum *	Transitional Milk			Whole Milk	
Solids, %	23.9	17.9	14.1	13.9	13.6	12.9
Protein, %	14.0	8.4	5.1	4.2	4.1	4.0
Total Ig, %	6.0	4.2	2.4	0.2	0.1	0.09
Fat, %	6.7	5.4	3.9	4.4	4.3	4.0
Lactose, %	2.7	3.9	4.4	4.6	4.7	4.9
Minerals, %	1.11	0.95	0.87	0.82	0.81	0.74

* Contains more vitamins than whole milk
Source: University of Minnesota

Amount of Colostrum Fed and Effect on Livability

A university study evaluated the effects of varying levels of colostrum fed during the first 12 hours after birth of heifer calf mortality. Calves fed 8-10 pounds of colostrum during the first 12 hours after birth had significantly lower mortality than calves fed lower amounts.

Colostrum Fed During the First 12 Hours after Birth and Heifer Calf Mortality ^b		
Amount Fed (lbs.)	Number of Herds	Average Mortality, %
2-4	18	15.3
5-8	16	9.9
8-10	26	6.5

^b (Mortality of calves from 1 week to 6 months of age).
Source: Clemson University

¹ McGuirk, S. M. 1989
Practical colostrum evaluation
Bovine Proceedings No. 21:79-81