

CALVING EASE

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Managing Risk the First Week after Weaning

- The last week before weaning many progressive dairies have daily rates of gain between 1.7 and 2.0 pounds.
- Once weaned many dairy heifer calves live on a grain and water ration.
- A low-risk strategy for the first week after weaning includes preparing calves to eat and efficiently digest grain.
- Immediately post-weaning, depending on environmental temperatures, how many pounds of grain does a weaned heifer need to eat to continue gaining at least 1.5 pounds a day?
- An acceptable low-risk strategy is to hold at half-ration milk for a full week in order to build up to 3 to 4 pounds of starter intake before eliminating milk entirely.

Pre-weaning Rates of Gain

The Dairy Calf and Heifer Association Gold Standards suggest for large breed calves a doubling of birth weight in 60 days as a profitable goal for commercial dairy herds. For example, a Holstein heifer calf weighing 90 pounds at birth grows to 180 pounds by 60 days of age. Or, approximately an average of 1.5 pounds per day over the 60 days.

Rates of gain vary by age. During the first week of life growth rates fall in the range of zero and one pound. During the eighth week of life growth rates may range from 1.5 to 2.2 pound per day.

Rations: Pre-weaning, during weaning and post-weaning

A common daily feeding protocol for large-breed calves for the last three weeks before a calf is completely weaned and moved to group housing may look something like this (assumes free-choice water and calf starter grain):

- | | |
|------------|---|
| Days 35-41 | 8 quarts of milk replacer delivering 2 pounds of powder, calf voluntarily consumes 1 pound of calf starter grain. |
| Days 42-48 | 4 quarts of milk replacer delivering 1 pound of powder, by day 45 calf voluntarily consumes 3 pounds of calf starter grain. |
| Days 49-56 | 5 to 6 pounds of calf starter or grower pellets |

All of these rations under environmental temperatures of 60F or greater should support 1.8 to 1.9 pounds gain

High-Risk versus Low-Risk Management

I consider the weaning management strategy described above as low-risk. Note in the table below that even under cold weather conditions weaned heifers are estimated to continue gaining at least one pound a day. Variations in feed density may change these estimates.

So, what is high-risk? One option is to go directly from full milk to zero milk on one day. Calves have to quickly ramp up their grain consumption from 1 to 5 pounds in order to avoid either weight loss or very low gains (see table below). They have to learn to eat more

Estimated Gain per Day for 3 Selected Environmental Temperatures for 4 Starter Feeding Rates

Environmental	Temp = 60F		40F		20F
Amount	Energy	Amount	Energy		Energy
Starter	Limited	Starter	Limited	Starter	Limited
Consumed	Gain	Consumed	Gain	Consumed	Gain
Lbs./Day	Lbs./Day	Lbs./Day	Lbs./Day	Lbs./Day	Lbs./Day
2	Wt. Loss	2	Wt. Loss	2	Wt. Loss
3	0.7	3	0.1	3	Wt. Loss
4	1.3	4	0.8	4	0.3
5	1.8	5	1.3	5	1.0

Base values: 180 pound heifer calf, calf starter 18% c.p., DE(Mcal/kg)=3.69
NRC 2001 7th Edition estimates.

grain. And, the population of rumen microorganisms responsible for breaking down the carbohydrates and proteins in the grain has to multiply enough to achieve efficient digestion. This is the week when we see heifers managed like this “stand still.” And, weaker ones may break with pneumonia or coccidiosis.

Another high-risk option is to reduce milk replacer feeding by one-half and then drop the milk feeding as soon as starter intake increases to 2 pounds a day. In my experience that takes about two days. This really is not much different than “cold-turkey” weaning. That is why I really like to see these calves on half milk rations go a week before dropping the milk entirely. Given my intensive feeding program, it was rare to find one of my six-week old calves fed 1 pound of milk replacer powder in their AM feeding not consuming between 3 and 4 pounds of starter by the end of that week. Many were eating as much as 5 pounds a day. This is another reason to have a highly palatable feed.

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