



## Transition Cow Management

A successful transition nutrition program reduces the incidence of costly metabolic diseases and gets your cows off to a good start.

The transition stage and early lactation are times of intense changes and stress for dairy cattle. Dairy cows undergo significant changes in glucose, fatty acid, and mineral metabolism during the transition stage. These changes are taking place in the cows digestive system to support lactation. The goal of a transition nutrition program is to help the cow adjust to these changes while avoiding metabolic disorders.

A solid transition program strengthens the immune system, encourages dry matter intake, and provides the proper balance of trace minerals, selenium, proteins and carbohydrates. This will help to get cows off to a good start and reduce stress at the time of calving as well as reduce metabolic disorders.

### The Transition Period

The transition period is generally considered to be 2-4 weeks before calving through 2-4 weeks after calving. Typically, dry matter intake is depressed prior to calving and can be slow to increase after calving. This increases the importance of feeding a nutrient dense, properly balanced ration during this critical stage.

Some problems that can occur with an inadequate transition program are:

- Metabolic disorders like milk fever, fatty liver, and ketosis
- Reproductive disorders including retained placenta and metritis
- Digestive disorders like subclinical rumen acidosis and displaced abomasums (DA)
- Rapid loss of body condition in early lactation
- Lower peak milk yield
- Poor fertility
- Increased veterinary costs
- Increased involuntary cull rates

Implementing a transition nutrition program with the help of your nutritionist can help your herd avoid many of the costly problems mentioned above. Following are recommendations that will supply transition cows with optimal nutrition for a healthy and high producing lactation.

### Energy

Dry matter intake (DMI) can decrease 30% prior to calving. After calving, DMI usually is 20-30% less than during peak lactation. In addition, the energy requirement for maintenance and pregnancy increases before calving, and the energy requirement for milk production sharply increases at calving. The combination of reduced DMI and increased energy requirement make it essential to feed a more energy dense diet.

If a cow does not consume enough energy, she uses up her body fat stores, which then elevates nonesterified fatty acids (NEFA) concentrations. This can lead to fatty liver if the amount of fat mobilized is excessive. Michigan data reports that increased NEFA levels before calving were risk factors for retained placenta, DA's, and mastitis. Feeding an energy dense ration will help to prevent this problem from occurring. It is recommended that a ration containing .71— .73 Mcal NE/lb DM be fed 3 weeks prior to calving. For springing first lactation heifers, this energy level should be fed for 5 weeks before calving because of their higher requirement due to growth. After calving, the ration should contain .76—.78 Mcal NE/lb DM for 2 to 4 weeks, then increase to .78 .80 Mcal NE/lb DM for peak lactation.

### Body condition

The goal is to have cows freshen with a body condition score (BCS) of 3.5, with a range of 3.25 to 3.75. Heavier cows, with a BCS of 4 or 4+, can have greater decreases in dry matter intake before calving and are more likely to have fatty liver, ketosis, and DA's. They also can experience excessive and rapid weight loss after calving, which can lead to reduced fertility.

Thin cows, with a BCS of 3 or less, don't have enough body fat to support high milk production. Ideally, cows should be at the proper BCS at dry off, so conditioning cows should happen before dry off.

### Carbohydrates

One way of increasing ration energy density is by supplementing with non-fiber carbohydrates.

This practice can increase dry matter intake, increase energy intake, and reduce body fat mobilization. Other advantages are the adaptation of the rumen microbes to a higher starch diet and stimulation of rumen papillae growth for increased volatile fatty acid (VFA) absorption. Balance your transition ration for 35-40% NFC (DM basis) for the pre-fresh ration.

### Fiber

The transition ration should have adequate fiber and particle length to encourage chewing and provide rumen fill. Both the pre and post fresh rations should have 8-10% of particles in the top screen of the Penn State—Nasco shaker box. This can be achieved by feeding 3-5 lbs. of hay/cow/day and having at least 21% NDF (neutral detergent fiber) from fiber. This supports increased milk production as well as increased dry matter intake. It is important to watch for sorting in the bunk to make sure that all cows are getting adequate fiber.

### Fat

The addition of fat to the ration is another way of increasing ration energy density, but it often has a negative effect on DMI and can increase liver triglycerides. Feed no more than 2-3% (DM basis) fat for pre-fresh cows and 5-6% total fat (DM basis) post fresh using a combination of fat sources.

### Other additives

- **Anionic salts** These are used in pre-fresh diets to reduce potassium (K) and sodium (Na) levels, which helps to control milk fever, retained placenta, DA, and ketosis. Anionic salts can have a negative effect on DMI, so it's recommended to reduce potassium and sodium concentrations in the ration as a first step. This can be accomplished by feeding forage low in potassium (alfalfa typically is high in potassium). Corn silage is a good forage choice for low potassium, as well as grassier hay that tests low for potassium. Test your forages to properly balance your ration. Transition Cow Care, code 981, contains SoyChlor 16-7 which is a palatable alternative to anionic salts.
- **Vitamin E and selenium** Vitamin E aids in immune function, and when supplemented with selenium, helps to control retained placentas and mastitis. Ohio State recommends 1,000 IU/cow/day for dry cows and 500 IU/cow/day for lactating cows. The legal inclusion rate for selenium is .3 ppm.
- **Yeast** Adding yeast to the transition ration helps to stabilize the rumen pH during the transition from a low energy to high energy ration. Yeast also stimulates appetite and improves rumen fermentation. This reduces the loss of body weight and body condition score.
- **Metal amino acid complexes** Zinc methionine (ZinPro) was shown in 11 trials to increase milk and fat corrected milk yields by over 2.5 lbs./hd/day. In addition, it improved hoof health.

- **Buffers** These feed additives help to buffer acidity in the ration and acid produced in the rumen. It is recommended for early lactation cows and high producing cows. Dobby Kow Buff-R, code 020, provides multiple buffers.
- **Niacin** Including niacin in the ration has been shown to stimulate intakes and a summary of 13 trials showed a 6.5% increase in milk production in early lactation in 8 of the trials.
- **Propylene glycol** This oral drench is given once daily at the rate of 10-16 ounces per head to reduce the mobilization of body fat. It is recommended for use on over-conditioned cows and those that are off-feed. Fresh Cow KP-R, code 967, contains dried propylene glycol for the prevention and treatment of ketosis.

### Summary

A properly balanced transition ration will help cows through the stress of calving, improve immune function, increase dry matter intake and milk production after calving, and reduce the incidence of metabolic disorders.



Implement the feeding strategies mentioned in this article and work closely with your nutritionist to develop a transition program for your herd. Both Transition Cow Care, code 981, and Steam-up Complete Dry Cow, code 982, contain selenium from SelPlex®, Niacin, trace minerals from both inorganic and organic sources, and yeast culture. Contact your Area Nutrition Consultant or local Dobby Feeds® dealer to learn more about the transition cow products available.

### Dobby Dry Cow & Transition Programs:

- Encourage dry matter intake
- Contain chelated trace minerals
- Contain organic selenium
- Strengthen the immune system
- Offer the optimal balance of metabolizable protein
- Offer the optimal balance of soluble carbohydrates.

### Improved Dry Matter Intake Means:

- Higher milk production
- Improved energy balance

### Minimizing Body Condition Score Changes:

- Increases reproductive performance
- Healthier cows

Visit our website at  
[www.dobbyfeeds.com](http://www.dobbyfeeds.com)  
or contact your local  
Dobby Area Nutritionist.