



# Feeding the transition dairy cow

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**T**he transition period extends from the last 3 weeks of gestation (close-up dry period) through the first 2 weeks of lactation (early fresh period). During this time the cow goes from a low-maintenance phase to a high performance period in her productive life. Proper nutrition management during the transition period is critical to successful lactation.

The goal is to achieve peak milk production 5 to 6 weeks after calving, with a high peak yield and good continuing milk production. Theoretically, for every 1 pound of extra peak milk yield, total milk production during lactation increases approximately 250 pounds. In both the close-up dry cow and the fresh cow, knowing the intakes makes it possible to more accurately formulate rations for optimum milk production.

## The Close-Up Dry Cow

Feed intake usually decreases in the final week before calving, sometimes as much as 35 percent. At the same time intake is decreasing, nutrient requirements increase because of the growing calf. Because of this, it is a good idea to separate the dry cows into two groups — the far-off dry cows (first 40 days after drying off) and the close-up dry cows

(last 21 days before calving). When the dry cow pen is separated in this manner, a producer can increase the levels of energy and protein in the ration during the last 3 weeks before calving to ensure that the cow is getting the needed pounds of protein, energy, etc., during this critical time.

Two factors to consider in formulating close-up rations are nutrient profiles and feed ingredients. Table 1 shows example nutrient profiles for close-up cows. Any ingredient included in the fresh cow ration should be introduced in the close-up ration. A rule of thumb is the half-way point. For example: If the first group a cow goes into after calving is getting 6 pounds of cottonseed, she should get 3 pounds of cottonseed in the close-up period. The same concept applies for fermented feeds and fat products. The exception to this is buffers, which should not be fed at any time during the dry period.

If fresh cows are having particular problems with milk fever or other metabolic problems, producers should consider using an anionic salt program in the close-up dry cow ration. Adopt the same strategy when available forages for the dry cows are high in calcium, phosphorus, and/or potassium. Anionic salts are fed to manipulate the dietary cation/anion balance in the close-up cow. These

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## Know forage mineral levels

salts lower body pH and stimulate calcium release from the bones and calcium absorption from the gut. However, these salts are not very palatable and can further depress intakes, creating worse problems if improperly managed. When feeding anionic salts:

feed palatable rations (preferably in a total mixed ration);

know forage mineral levels; and

provide proper mineral supplementation (calcium levels must be at least 150 grams per day to prevent body depletion before calving).

Anionic salts can cause udder edema in heifers and should not be fed to this group. Work with a nutritionist when implementing an anionic salt program.

### The Fresh Cow

A well-managed cow with adequate body condition enters the fresh cow pen with minimal complications. Ideally, a fresh cow pen is simply a smaller pen

where cows can be more closely monitored for metabolic problems and potential infections. Early fresh cows should have plenty of access to feedbunk and stall space to encourage appetite and overall health; this is not the group to crowd!

If the close-up dry cow ration is on target, the fresh cow ration will closely mirror the high cow ration. However, cows in the fresh pen may benefit from additional long hay and other ingredients such as yeast, probiotics, and/or chelated minerals. If only moderate levels of energy and protein are fed in the ration just after calving, it is important that cows not be left in this pen too long in order to avoid inducing metabolic problems.

A well-managed transition cow should have 85 to 90 percent of her peak appetite by 2 weeks after calving and be ready to leave the fresh pen.

**Table 1**

<b>NUTRIENT GUIDELINES FOR TRANSITION RATIIONS</b>			
	<b>Far-off cow</b>	<b>Close-up dry cow</b>	<b>Fresh cow</b>
<b>Ne<sub>f</sub> (Mcal/lb)</b>	<b>.60</b>	<b>.68 - .70</b>	<b>.77</b>
<b>Crude protein, %</b>	<b>12</b>	<b>15 - 16</b>	<b>18</b>
<b>NDF, %</b>	<b>45 - 65</b>	<b>35 - 40</b>	<b>30</b>
<b>Nonfiber carbohydrate, %</b>	<b>25</b>	<b>30</b>	<b>35</b>
<b>Fat, %</b>	<b>3</b>	<b>4</b>	<b>5</b>

**Table 2**

<b>CAUSES AND PREVENTION OF METABOLIC PROBLEMS</b>			
<b>Problem</b>	<b>Cause</b>	<b>Treatment</b>	<b>Prevention</b>
<b>Displaced abomasum</b>	<b>Ration change too fast</b>	<b>Rolling, surgery</b>	<b>Close-up dry cow and fresh cow ration management.</b>
<b>Hardware</b>	<b>Ingestion of sharp object</b>	<b>Magnet on mixer/feeder wagon</b>	<b>Feed quality management program.</b>
<b>Ketosis</b>	<b>Low energy intake</b>	<b>Dextrose IV, oral propylene glycol</b>	<b>Close-up dry cow and fresh cow ration management.</b>
<b>Milk fever</b>	<b>Drop in blood calcium</b>	<b>Calcium gluconate IV</b>	<b>Close-up dry cow and fresh cow ration management. Oral calcium gel at calving.</b>

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