



BEEF SOLUTIONS

Nutritional strategies for starting calves

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In the cattle business, there are few things as rewarding as getting weaned calves and newly arrived feeder cattle off to a good start. The first 30–45 days after weaning and/or commingling can set the tone for calves' lifelong health, performance and profitability. Whether calves are destined to be herd replacements or feeder cattle, they should all be provided with feed that helps them build strong immune systems and grow at a pace that will enhance their production for their entire lives.

When transitioning calves off of their mother's milk, forage and/or creep feed-supplemented diets, producers should continue providing diets that build their calves' gut health. Approximately 70% of the immune system is involved with the digestive tract, making gut health critical to sustaining a long and productive life.

A key indicator of a healthy, low-stress, well-performing calf is its appetite. Making sure every calf is eating an adequate amount of feed ensures the group is off to a great start. Newly arrived calves should have plenty of feed-bunk space (18 to 24 inches/calf). Total mixed rations are easy to manage and are fairly predictable.

Many cattle feeders like to stay slightly behind the appetite of calves when they start those calves on feed, as doing so forces them to come readily to the bunks when fed. One simple approach is to provide 2% of their body weight of long-stemmed hay on the first day of arrival; then, on the second day, add concentrate at 1% of their body weight to the long-stemmed hay. When their appetite matches the concentrate-long-stemmed hay delivery, most cattle feeders will then convert the calves to a 100% starter diet. Each group will be different, but normal, healthy calves should be consuming 2.5 to 3.0% body weight (100% dry-matter basis) within a couple of weeks.

The following tips can help transition calves to the starter TMR quickly and safely and minimize digestive upsets, such as bloat, and other negative side effects. These tips will also help you take advantage of a period when favorable feed efficiency can lead to increased profitability.

Water: The importance of water quality and availability cannot be overemphasized. Encourage cattle to drink as much and as often as they would like. Water intake is positively correlated to feed intake, so water should be just as high-priority as feed, feed bunks and feed delivery management. Water should be clean (i.e., free of solids, unappetizing flavors, algae and odors) so that even the most particular calves will be encouraged to drink; don't give them a single reason to go thirsty. If calves aren't attracted to a watering site, some consultants will suggest allowing water to flow on the ground in an effort to attract and lead cattle to the water source.

Ingredient selection and presentation: For calves experiencing pen feeding for the first time, palatability and feed presentation are two major factors to consider. Prior to weaning, calves really have it easy, with access to a continuous supply of mother's milk, grass and creep feed. Upon weaning, not only do calves have to deal with the social shock of leaving their mother, they are also expected to grow accustomed to both a new diet and the way it is catered. And it's not just the calf that is experiencing these changes — the rumen bacteria must also shift to accommodate the new nutrient sources being consumed by the calf. Try to start out with feeds that calves are accustomed to, such as grass hays of a similar composition to the pastures on which they were raised. Creep-fed calves have the advantage of exposure to a transition feedstuff, and many producers will successfully incorporate creep feeds into the first week or two of the post-weaning transition period.

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In most cases, calves prefer dry starter feeds. There are many options for formulating a starter feed; corn, soybean and wheat grain co-products are excellent ingredients to utilize, along with grains, protein sources and roughages. Palatability is key. Ingredients must be fresh and high-quality — that is, free of molds and unappetizing flavors and smells. Commercial calf starters are an easy-to-use, fully fortified, hassle-free calf starter feeding program. The results of several trials at Purdue University (Hendrix et al., 2002) show that using commercial calf starter programs — like Hubbard Feeds' [StressGuard Starter System](#) — can be economical and also provide excellent calf performance, compared to a variety of other on-farm diet combinations.

Speaking from experience, here are a few important tips:

- When managed properly, complete commercial starter feeds (like StressGuard Starter System products) are highly successful and economical.
- Grain co-products contribute both protein and energy, with a very small starch component.
- Many different combinations of ingredients can create satisfactory starter diets; however, feed analysis is necessary to formulate a diet that will fulfill the animal's nutrient requirements.
- Soyhulls provide fiber but not roughage — and roughage is critical for providing a scratch factor that stimulates rumen motility.
- Silages and other fermented feeds have slower adaptation periods than non-fermented feeds. That said, some producers have been successful at including limited silages, baleage and green chop feedstuffs to starter diets with improved management practices. Don't be surprised if calves take up to two full weeks to get accustomed to fermented feedstuffs.
- Fill bunks appropriately and maintain a consistent daily feeding schedule. Bunks should maximize feed availability and eating comfort, and keeping a consistent feeding routine will train cattle on how to eat properly. It is extremely important to sustain a steady intake pattern from day to day. According to research completed at South Dakota State University, cattle whose daily intakes fluctuate from high to low will have lower than expected weight gains.
- Offering low-moisture blocks — such as [Crystalyx® Blueprint® Battalion®](#) or [Brigade®](#) — can bolster feed and water intake and will stimulate saliva flow for newly started calves.

Nutrient requirements and feed additives: The nutrient density of the ration must adequately supply calves with the proper amounts of energy, protein, minerals and vitamins. Energy levels should be formulated to promote enough growth while also including roughage to complement the transition between diets. The Iowa State University extension reports that normally weaned, well-managed calves fed a ration of 50–60% concentrate and 47–50 megacalories/hundredweight NEg is nearly ideal; however, some producers would rather start calves at 44–48 megacalories NEg. Protein will usually be fed at levels of 13–14.5% — or even more, if the dry matter intake is below normal. Including urea is discouraged until the calves are well-up on feed and weigh more than 450 pounds. The proper amount and balance of minerals and vitamins should be formulated into starter diets. Organic trace minerals, especially those from yeast sources, offer superior bioavailability and are able to support performance better than other forms.

There are numerous feed additives available, each with its own unique properties; as such, it is important to understand why and when these additives should be included in the diet to achieve maximum performance and profit. Diseases of the respiratory system and digestive tract, such as bovine viral diarrhea (BVD) and coccidiosis, can attack newly weaned cattle and have severe consequences. Consult your [nutritionist](#), [feed representative](#) and veterinarian to determine which feed additives should be included in your personalized starter program.

Remember, your goals when starting calves are to:

- Get cattle up on feed safely, effectively and with minimal health issues.
- Always provide good, clean water.
- Expect healthy calves to eat 2.5 to 3.0% body weight (dry-matter basis) by or shortly after the third week of arrival.
- Balance the diet to provide the correct amount and ratio of nutrients.
- Use the right feed additives to improve the health, gains and appetite of your animals.