

Backgrounding Your Calves: For the Feedlot or for the Herd

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It's that time of year when beef producers who calve in the spring begin thinking about weaning and how they will market their calves. Many of these marketing decisions are based on projected calf prices for the fall, as well as feed prices, and can affect the number of heifers to be kept as replacements, sold at a sales barn or feedyard, or backgrounded and sold at a sales barn or feedyard.

Backgrounding is preparing your calves (prior to, during, and after weaning) for the next phase of their production life. This consists of pre-weaning and booster vaccinations, worming, and weaning at least 30 days prior to arrival at a sales barn or feedyard. Backgrounding has become a standard protocol for calves going into the feedlot because it reduces opportunities for stress and acclimates them to eating on their own.

When feed prices are low, feedlots will bring in calves freshly weaned or backgrounded for 30-45 days. The recent boom in the ethanol industry has driven the price of feed higher, especially corn. Now feedlots prefer to feed cattle for a shorter period of time before going to slaughter, making heavier cattle more attractive. The next decision is how long to background the calves and whether to background and keep some of the heifers for replacements; all dependant upon available feed supply, calf prices, and herd management goals. Proper feeding choices at this time will set the stage for either profit or loss, particularly for calves going into the feedlot. Differences in rates of gain need to be understood when formulating backgrounding rations for calves going into the feedlot in comparison with heifers kept as replacement cows.

Feeding concentrates is the most common method of backgrounding calves going into the feedlot, whereas backgrounding replacement heifers can be accomplished most economically on high forage rations supplemented with grains and grain by-products. When formulating a ration for backgrounding calves, keep in mind that calves at this stage are growing and require a high level of nutrition to meet the demands for growth. Also keep in mind that this is the most stressful time in a calf's life and high risk calves (or calves under a lot of stress) are most vulnerable to sickness, which impacts health, growth performance, feed efficiency, and carcass quality.

Calves and their rumen bacteria are accustomed to mothers' milk and grass. It takes one to two weeks for the rumen microbial population to adapt to new feedstuffs, such as grain. The diet for a weaned calf should start off with access to good quality grass or grass/legume hay (13-16% crude protein, CP) at about 2% of the calf's body weight to stimulate intake for the first seven days. Providing enough bunk space for all calves to eat at one time is crucial (18-24" per calf). Calves will recover from the stress of the weaning process faster if they quickly adapt to eating. After calves begin to consistently clean up the bunks or show signs of an increase in appetite, grains can be added to the diet at about 1% of their body weight on a dry matter basis beginning on days two or three after weaning.

Once both hay and grain is being consumed by calves destined for the feedlot, start phasing out the hay by adding a pound of feed every 2-3 days. Keep in mind that calves going into the feedlot should be targeted to consume at least 2.2 lbs/day (Ritchie, 1987), so getting them on a high concentrate diet as soon as possible will affect their efficiency and rate of gains in the feedlot. By the third or fourth week on feed, calves should be eating an average of 2.5-3% of their body weight. Calves typically prefer a dry grain mix at first, but will quickly adapt to high moisture feeds over a 1-2 week period. Try to stay away from sources of energy that ferment rapidly in the rumen such as high-moisture corn, steam flaked corn or wheat.

In feeding replacement heifers, try to reach 65% of their mature body weight by the first day of the breeding season to ensure those heifers have reached puberty and are cycling. Average daily gains for replacement heifers (1.25-1.75 lbs/day) do not need to be as high as calves preparing to go to the feedlot.

Several feed sources work well for backgrounding rations, however, a total mixed ration is easiest to control and monitor feed intake. Local feed (i.e., corn gluten, soy hulls, wheat midds, rolled oats, grain screenings, dried beet pulp, or distillers grains) can be a great alternative over corn especially if an ionophore or bambermycins is included. Keep in mind that feed alternatives such as corn gluten and distillers should not be fed at a rate of more than 40% of the total diet due to the potentially high levels of phosphorus and sulfur.

When formulating rations to meet the nutrient requirements of weaned calves, there should be enough energy for sufficient growth and enough forage to aid in the transition from forage to grain. Normally weaned, well-managed calves destined for the feedlot should have a diet consisting of 50-60% concentrate and 47-50 Mcal/cwt of net energy for gain; whereas replacement heifers only need 30-40% concentrates in the diet. Early weaned or high risk calves require a concentrate mix of at least 65-75% of the diet to ensure higher energy intake at lower feed consumption. Crude protein ranges anywhere from 13-16% in 300-500 pound calves (Table 1) backgrounded for the feedlot and 11-12% for replacement heifers. Keep in mind that newly weaned calves cannot utilize urea as effectively as older cattle, so a natural protein source or a supplement that includes a high bypass source with urea is preferred. Always make sure the backgrounding diet contains the right vitamins and minerals in the right amounts.

One additional management tool to consider, particularly in dry years, is creep feeding which can take some of the grazing pressure off of a pasture, and the cows. In these years, it can be less risky by increasing calf weights by as much as 30-60 lbs. Creep feeding can result in enhanced adaptation to backgrounding conditions only if average daily gains can exceed 2.2 lbs/day (Ritchie, 1987). Creep feed formulations should contain at least 70% total digestible nutrients and 12% CP and should be placed in an area that is well exposed and frequented by the cow herd.

Backgrounding calves may not be for every producer, particularly producers that sell their calves after weaning, however, due to the rising cost of corn and the demand for heavier cattle going into the feedlots, one might consider backgrounding for a period of time after weaning, particularly if there are available feed resources