

# Value Added Calf (VAC) - Management Program

Produced by the TAMU Department of Animal Science Extension Beef Cattle Specialists

Genetic content is a major factor in determining the value of a calf. Genetics can not be changed by nutrition, health, or general management. But these non-genetic factors do influence value.

The majority of beef cow operations sell fresh-weaned calves through a local auction, where buyers generally know nothing about the history of what they're buying. Texas A&M Ranch to Rail, numerous research projects, and field observations have shown that well-designed health, nutrition, and management programs increase value. Calves going through such programs tend to have lower sickness and death, gain faster and more efficiently, and yield more valuable carcasses. These traits can result in higher prices received by the cow/calf producer, if calves are effectively marketed. Or if ownership is retained, the producer benefits directly from better performance as stockers or feeders and greater carcass value.

Calves are stressed in two ways if they are weaned and shipped right off the cow. The trauma of weaning in itself is stressful. Movement to another location adds additional stresses, including the effects of hauling, new surroundings, different nutrition, and exposure to disease. Weaning and backgrounding on the ranch or farm before shipping separates these two types of stresses, resulting in healthier calves.

## HEALTH

Backgrounded or not, calves are healthier when immunized against common diseases. There are effective immunization programs to fit different management and marketing systems. Programs are available for application before, at the time of, and after weaning, for marketing at weaning or after backgrounding, and for purchased calves. These alternatives are discussed in detail in Texas A&M Department of Animal Science publication ASWeb-076, "Value Added Calf (VAC) - Vaccination Management", which can be accessed on this website (<http://animalscience.tamu.edu>). Specific vaccination regimes should be recommended by your herd health professional or beef cattle veterinarian.

## GENERAL MANAGEMENT

The American beef industry is characterized by the use of steers and not intact males. Generally, to receive highest price, all bull calves should be castrated. Delayed castration, especially beyond 400 pounds, increases chances of sickness and death and reduces weight gain and feed efficiency. Also, late castration may reduce eating quality of beef.

Dehorning is another factor that adds value. Horned cattle can cause bruising of carcasses. To reduce stress, horns should be removed as early as feasible, usually at "working" (two to four months of age). Creating genetically polled calves removes the stress of dehorning.

Growth implants increase value to the cow-calf producer through heavier sale weights. One implant at working to steers and market heifers has been shown to increase weight gain to weaning by an average of 10 to 15 percent, and subsequent stocker/feeder performance is not affected. Growth implants do not compensate for poor nutrition, and response improves with good nutrition.

Another factor that can affect sale weight is internal and external parasitism. Calves may benefit from parasite control, often applied at working, when conditions indicate. Some special backgrounded sales require treatment for internal and external parasites.

Many producers brand calves at working. If so, brands should be placed so that value of processed hides will not be reduced, in such locations as the rear hip, shank, or thigh. Large brands on the side, in particular, will reduce the value of hides.

If calves are backgrounded or retained for other purposes, weaning should be designed to reduce stress as much as possible. Some research and field observation has shown reduced stress from "fence-line" weaning, where calves are weaned across a fence from their dams. Weaning should be done in a secure lot or trap with shade, with fresh water and good-quality hay and supplement, if needed, or a good receiving ration provided for a limited time. Calves should be watched closely for 10-14 days for sickness and therapeutically treated as needed.

## **PREWEANING NUTRITION**

Good nutrition increases sale weight. A basic part of a good nutrition program is minerals. Cows and calves should be provided with salt, adequate levels of the macro minerals phosphorous and magnesium, and any trace minerals likely to be deficient, especially copper, selenium, and zinc.

Calves gain weight most efficiently and economically when nursing dams of adequate milking ability, grazing good-quality range or pasture. Supplement can be provided when these components are lacking. For highest efficiency, supplement should be provided directly to calves. This is accomplished most practically by creep feeding.

Traditional creeps (fed free choice, containing 10 to 15 percent crude protein and moderate to high energy) usually increase weaning weight. A summary of 47 research studies showed that calves on traditional creeps for around five months averaged almost 60 pounds heavier than non-creeped calves. However, on average, almost 10 pounds of feed were required for each added pound of gain. In these studies, feed efficiency was best when forage was limited or of lower quality and dams were poor in milking ability. But with good-quality forage and good-milking dams, feed efficiency was reduced.

Larger-framed calves gain most efficiently on creep feed and are less likely to be over-fleshed at weaning. Fleishy calves are usually discounted on price, which reduces the value of extra weight.

An alternative to traditional creeps is limit-feeding about a pound a day of a high-protein feed, when grazing is low in protein (below 10 % CP). Feed conversion in this case is generally excellent, in the range of two to three lb feed/lb gain. Calves should consume at least 0.5 lb/day for adequate gain and not over 1.2 lb/day for best feed efficiency.

Creep grazing is another alternative to provide supplemental nutrition. This involves growing small quantities of high-quality forage (such as winter small grains or high-quality summer annuals) adjacent to pastures grazed by cow-calf pairs. Calves are allowed exclusive access to these pastures through creep gates. Calf performance must be weighed against costs of growing these temporary pastures.

## **BACKGROUNDING NUTRITION**

Nutrition and time are key factors in backgrounding. Based on Texas A&M Ranch to Rail data, the optimum period for backgrounding appears to be about 45 days. Shorter periods generally do not produce enough weight gain to offset fixed costs, immunization may not be complete, and calves may not have fully recovered from the stress of weaning. Longer periods may result in excessive flesh, resulting in price discounts. Optimum weight gain during backgrounding is mostly in the range of 1.0 to 1.5 lb/day.

Good grazing generally produces the most economical weight gains, with high-quality hay ranking next. If needed, forages may be supplemented with limited amounts of about 2 lb/day of a 40% CP source (such as cottonseed meal pellets), if forage is lacking primarily in protein, or 4 lb/day of a 20% CP feed (such as breeder cubes), if forage is deficient in both protein and energy. Other useful feeds, depending on prevailing cost and availability, may include various byproducts such as brewers grains, corn gluten feed, distillers grains, rice bran, soybean hulls, wheat midds, and whole cottonseed.

## **ADDED VALUE FROM BACKGROUNDING**

The object of good backgrounding should be to create weaned, properly immunized, "dried-out" calves in moderate flesh that will perform well when stockered or fed. If this is accomplished, value is increased. To be feasible, some of this added value should accrue to the cow-calf producer and some to the stocker or feeder operator.

Properly backgrounded calves are worth more and should command a higher price. The cow-calf producer generally can not realize higher prices for backgrounded calves when they are marketed individually through most local auctions. But higher prices may be received when marketing through methods such as special backgrounded sales, video auctions, and private treaty to buyers willing to pay for proper backgrounding. A recent summary of sales conducted over a year's time by one video auction company showed a premium of \$6.69/cwt for calves properly backgrounded for at least 45 days.

Cow-calf producers can realize some benefit from backgrounding besides higher prices. Weight gain during backgrounding represents value to the producer, but it must be done efficiently with low-cost nutrition in order to be profitable. Fresh-weaned calves lose significant weight, even if offered feed and water after hauling. That weight shrink costs the producer when calves are sold at weaning. Backgrounded calves generally shrink considerably less, if they have access to feed and water after hauling. All factors involved in backgrounding, both negative and positive, should be considered before implementing this practice.

## **SUMMARY**

Whether calves are sold at weaning, backgrounded, or retained for other purposes, the various management tools discussed here can add value. Each producer should weigh the cost of a practice against potential economic benefit before deciding to implement. Some practices are more financially rewarding but also can be more costly to implement. In addition, different marketing situations will dictate different values at different times. Knowledgeable producers take advantage of benefits, minimize drawbacks, and secure as much added value as possible in order to maximize profit.