

## Starting and Backgrounding Rations

Perhaps the most difficult and challenging phase of cattle production is the initial period immediately following weaning, commonly referred to as the starting or backgrounding phase. Entering this period calves are under stress for a variety of reasons. Having been abruptly separated from their mother, they are introduced to a diet drastically different to what they are accustomed. They may also have been hauled many miles, vaccinated, castrated, dehorned, dewormed, implanted, and mixed with other cattle. It is a major challenge just to keep them alive, let alone get them to gain.

Despite these obstacles it is possible with good management and proper nutrition to keep calves alive and get decent gains out of them during this initial phase. Some producers have even succeeded in getting calves to perform over and above what is typically expected during this time period. With few exceptions most of these producers have scrapped their traditional feeding systems and instead adapted a system that takes advantage of nontraditional feeds.

The theory behind this system is quite simple. Traditionally, in an attempt to get appreciable quantities of energy into the calf, most rations have typically relied on starch-based products for this energy source. But cattle are designed by nature to handle fiber-based ingredients. Adding starch creates an antagonist environment in the rumen of the animal, resulting in reduced intake, reduced forage digestibility, and poor feed efficiency. If high starch ingredients are minimized and substituted with

nontraditional high fiber/highly digestible ingredients, the depression of forage digestibility that often accompanies high starch rations can be eliminated. In addition, enhancing the diet's palatability by using a ration conditioner effectively stimulates the appetite, increases intake, and improves feed efficiency.

Numerous trials and studies have been done to determine the comparative effectiveness of these nontraditional feeds vs. more traditional feed sources. The University of Kentucky has done considerable research in this area. Their studies have consistently demonstrated that nontraditional feed sources provide superior performance and cheaper gains than traditional sources.

One of the most telling examples is a trial that compared soyhulls to corn with the following conclusion:

1) Soyhulls are an excellent choice to supplement high forage diets.

2) can replace corn on a pound for pound basis with slightly better results.<sup>1</sup>

Because the amount of time that calves are backgrounded can be relatively short it is imperative to get intakes as high as possible early in the feeding period and that gains be rapid and efficient. Increasing the dry matter intake (DMI) of an animal is the most economical way to boost its energy intake. The more dry matter it consumes in relation to its maintenance requirement the more efficient it becomes. As rate of passage increases the amount of microbial protein in the rumen increases. This requires fiber/feed sources that are highly digestible and palatable. Perhaps the biggest drawback to using nontraditional feeds is that they can be inherently dry and therefore unpalatable. This problem can be overcome by the inclusion of a ration conditioner that supplies energy and protein without upsetting rumen function.

<sup>1</sup> STOCKER CATTLE ISSUES, Dr. Roy Burris Extension Beef Specialist University of Kentucky, 2000.



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