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### **MOLASSES SLURRY IMPROVES PRODUCTION**

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Winter is a very difficult period for Florida cattle from a nutritional standpoint. Brood cows are expected to lactate and cycle, and heifers are expected to grow and cycle, while our pasture quality and quantity is well short of that required for these basic functions. The resulting low nutritional supply and high nutritional demand forms the logical basis for winter supplementation.

Blackstrap molasses has long been the winter supplement of choice for Florida cattlemen. Since molasses is a by-product of sugar production, it is Florida produced and readily available. Molasses is not only an excellent and economical source of energy, but also provides a convenient carrier for supplemental crude protein.

Protein supplements that can be used in molasses mixtures fall into three general types.

1. non-protein nitrogen such as urea.
2. rumen degradable protein such as soybean meal.
3. rumen bypass protein such as feather meal.

These first two types are largely broken down in the rumen by microbes to form microbial protein which the animal then uses. Bypass protein, on the other hand, is not broken down in the rumen, but in the lower digestive tract of the cattle. Often the case for growing or lactating animals is that microbial protein is of inadequate quality to meet the animals protein needs. When this occurs, the best way to supply additional protein to the animal is with bypass protein.

While most proteins contain bypass protein, some proteins bypass the rumen better than others. Feather meal is a protein source high in bypass protein. According to recent work at Ona, the response in cow/ calf production to protein supplementation is very large, and more so to natural protein than urea, particularly in younger cattle.

In the fall of 1989, a large Southwest Florida ranch began feeding a feather meal based molasses slurry mix to year-old heifers in an effort to increase conception rates when bred as two-year-olds. Approximately 1500 two-year-old heifers were fed a molasses slurry supplement containing 80 percent molasses-urea (12 percent crude protein with six percent as non-protein nitrogen) and 20 percent dry feed mix (52 percent crude protein with feather meal, corn meal, wheat middlings, and rice bran as major ingredients). This resulted in a 19 percent crude protein slurry with only six percent supplied by non-protein nitrogen.

The slurry was fed free-choice in an open trough from December 15 to June 15. Large round-bale pangola hay was fed free choice from January 1 through April 15. During the 180 day feeding period, slurry consumption ranged from three to six pounds per head per day, and averaged 4.5 pounds per head per day. Costs for the slurry mix and hay during the feeding period was approximately \$56 and \$7 per head, respectively.

Over the past several years at the ranch when molasses-urea mix and hay were fed as supplements, conception rates of two-year-old heifers averaged 55 percent. In 1990, palpation rates for the two-year-old heifers receiving molasses slurry averaged 79 percent. This represents a 44 percent increase in conception rates due, at least in part, to the increased nutrition provided by the molasses slurry supplementation.

At weaning, calves from three-year-old-heifers fed molasses slurry averaged 525 pounds. This compares with a previous three year average weaning weight of 415 pounds, thus a 27 percent increase.

These observations demonstrate the value of providing a higher level of nutrition to younger cattle during the period of highest nutritional demand. Because of improved conception rates and weaning weights, feeding a molasses slurry mix with a natural protein component is an effective and economical means for providing this increased nutrition.