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Creep Feeding – Pros and Cons

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“To creep or not to creep?” That is the question that many Mississippi beef producers wrangle with in managing calf nutrition. Producers often have several arguments for either allowing calves creep supplementation access or for keeping creep access off limits. A 1996 survey conducted by USDA’s National Health Monitoring System reported that 19.5% of cow-calf operations in the Southeast utilize creep feeding. In making an informed decision about preweaning supplementation, several factors should be considered. Research points to both advantages and disadvantages in creep feeding of beef calves.

Creep Feeding Basics

Preweaning supplementation or “creep feeding” is the supplementation of nursing beef calves. It can take the form of creep feeding with concentrate feed supplement or creep grazing with high quality forage. Typically, creep access to supplemental feed and/or forage uses creep feeders or gates that restrict access to the supplement by larger or more mature cattle while allowing calves to feed on or graze supplementation at will. Effective creep feeding facilities can be as simple as a custom-built single strand of electrified polywire strategically attached to T-posts and placed around creep supplement, or creep facilities can involve commercially available products such as creep gates placed on self-feeders or stand alone creep feeders.

Creep grazing is most beneficial when the forages cow-calf pairs are currently grazing are low in quantity or quality. Forages well suited for use in a creep grazing system should be high in forage quality and readily available. If creep forage gets ahead of the calves, the mature cows can be turned in on the creep forage until the forage grazed to a level that is manageable by the calves. In Mississippi, annual ryegrass is a common forage used for creep grazing. Other lush cool-season forages such as rye, wheat, and oats and even non-toxic endophyte-infected tall fescue and clovers may work well in creep grazing management systems. Annual grasses such as sorghum-sudan and pearl millet provide creep grazing options during the warm season. There are non-traditional creep grazing forages as well, including the high-quality warm-season forage forb, chicory. Chicory is currently being evaluated in research trials at Mississippi State University as a creep feeding alternative. When considering creep grazing for the calf crop, planning and labor associated with creep forage establishment should not be overlooked.

Calf Performance

Creep Feed Intake and Efficiency

Feed intake and efficiency are important factors affecting costs in beef cattle operations. Feed efficiency is improved when it takes less feed intake per pound of calf gain. Typically, the supplemental feed efficiencies of creep supplementation are poor, but this varies according to creep feed and total diet composition. It has been demonstrated that when using creep feed consisting largely of either ground corn or corn gluten meal, milk intake was not affected by the level of creep feed intake, but forage intake declined as creep feed intake increased. Some studies indicate that limiting the quantity of creep feed intake can partially offset decreases in fiber digestion. However, in a study comparing limited and unlimited creep feed supplementation of corn or soybean hulls, preweaning calf gains increased as feed intake increased, and yet feed efficiency was similar between limited and unlimited supplements. Recent research indicates that fiber-based creep supplementation using primarily soybean hulls can be used without negative effects on intake and digestion in nursing calves. Creep grazing research shows that the amount of forage area provided impacts calf gain per acre and can be altered within a certain range with no reduction in calf gains. Research also reveals that in many cases as cow milk yield increases calf creep feed intake decreases. No difference in milk intake but higher total intake (milk + forage + creep supplement) has also been observed in nursing calves with access to creep supplement. Cattle breed differences in creep feed intake have been reported as well.

Weaning Weight

The weaning weight advantages of creep feeding have been documented in numerous research trials. An East Texas study found that fall born creep-fed steer calves were 90 lbs. heavier at weaning than non-creep-fed steers on pastures with a low stocking rate. Creep feeding improved weaning weights by 80 lbs. in heifers in the same study. Increased heifer growth response to growth stimulant implants has also been improved with creep feeding.

The length of the creep feeding period can affect calf performance. Preweaning calf average daily gains have been shown to increase with increasing length of the creep feeding period in a comparison of non-creep-fed calves versus calves creep fed for 28, 56, or 84 days. Creep feeding for only 28 days provided no advantage in preweaning or postweaning growth performance, but creep feeding for 56 or 84 days resulted in improved preweaning gains. In addition, calves creep fed for 56 days had the most efficient supplemental gains.

Dam Performance

According to several studies, no differences in cow performance were observed by changing the length of the creep feeding period. Other research indicates that cows with creep grazed calves have more body condition at weaning and entering late gestation than cows with non-creep-grazed calves. There is some evidence that access to creep feeding can result in heavier calves at birth in the subsequent calf. A Texas trial found this birth weight difference to be approximately 7 lbs. Nonetheless,

management strategies to minimize calving difficulty in the herd should stress proper bull selection, heifer development, and adequate dam nutrition.

Producers interested in monitoring the maternal performance of herd females may choose not to creep feed calves to avoid masking low milk production. Creep supplementation trials have documented situations where differences in dam milk production did not impact calf preweaning growth performance. Calves nursing cows or heifers with lower milk production than herd contemporaries may compensate for this by increasing creep supplement intake. Thus, differences in calf growth performance due to dam's milking ability may be difficult to assess when creep supplementation is used. The flip side of this is that by allowing calves access to creep supplementation, calf preweaning growth performance will likely improve, leading to heavier calves at weaning offering greater potential returns to producers who market their calves at weaning. If creep feeding is implemented, it is a good idea to weigh calves prior to starting supplementation to get an idea of the dam's milking performance and the calf's growth performance up to that point.

Long Term Implications

Many producers express concern over the effects of creep feeding and preweaning growth on the future reproductive performance and maternal ability of replacement heifers. One research effort showed that while creep-fed heifers were heavier at weaning than non-creep fed heifers, the weight advantage was not sustained through yearling age. Additionally, creep feeding negatively impacted the subsequent productivity of heifers. Longevity, number of calves weaned, and calf average weaning weight were decreased in creep-fed dams versus non-creep-fed contemporaries. Other studies have shown that creep feeding results in heavier, fatter heifers at breeding but has no influence on pregnancy, weaning, and calving rates in first-calf heifers.

Reduced milk production has been documented when replacement beef heifers are given access to creep feed. A 2004 study showed that creep feeding depressed first lactation milk production, and that increasing dietary protein from 14% to 18% in creep feed improved lactation performance during the first two months after first calving among creep-fed heifers. However, there was no difference in total milk production over the entire lactation with the increased crude protein in creep feed. Other researchers have reported that long-term creep feeding resulted in higher amounts of subcutaneous fat and increased fat cell size in the udder. With this in mind, creep grazing may be more suitable to young heifers than creep feeding of high-energy supplements.

Mississippi State University research animal scientist, Dr. Rhonda Vann, was involved in a study of performance-tested bulls where it was determined that post-weaning average daily gains were not different between bulls that were creep fed versus bulls non-creep-fed bulls. However, creep fed bulls were heavier than non-creep-fed bulls at the start of the postweaning tests and maintained a weight per day of age advantage throughout post-weaning performance test periods on both feedlot and pasture-based performance tests. Another trial showed that postweaning average daily gain, yearling

pelvic area, and yearling scrotal circumference were not affected by creep feeding. Most studies indicate that although creep-feeding suckling calves generally increases preweaning performance, it has relatively little influence on performance during the subsequent finishing phase. Yet there is some data showing creep feeding not only increases calf weaning weights, but also enables more cattle to achieve Choice quality grade at 14 months of age.

Separation of male and female calves is an option to increase preweaning growth and weaning weights of male calves while avoiding potential reductions in future milking performance of female calves retained as replacements. Furthermore, if females can be identified that will not be raised for breeding stock and will instead enter cattle finishing operations, they can be sorted out with male calves for purposes of creep supplementation. This practice requires early selection of replacement heifers, which may not be ideal in many operations and also reduces contemporary group size for making performance comparisons. The major drawback to creating multiple nutritional groups within the calf crop is limited pasture or facilities along with sorting limitations due to breeding group requirements during the breeding season.

Other Considerations

Profitability of creep feeding may depend in large part upon current market conditions. Typically, when calf prices are high, creep feeding becomes a more viable and profitable option than when calf markets are lower. Seedstock producers should also consider how increased average daily gains and weaning weights due to creep supplementation affects and in many cases improves marketability of bulls. Creep supplementation may be more attractive in situations of low forage quantity or quality where calf nutritional needs to support acceptable growth are not being met. The time of year and forage conditions can impact the effectiveness of creep supplementation.

The decision to supplement nursing calves impacts preweaning and postweaning performance and should take into account cost and availability of feed and forage supplements, replacement heifer concerns, calf prices, and calf marketing plans. The value of improvements in calf gains and marketability should offset the cost of supplementation. Look at creep supplementation as a management decision that is evaluated with each calf crop instead of as a management practice conducted each year. For more information on creep feeding or related topics, contact your local county Extension office.