ONA REPORTS

published in

THE FLORIDA CATTLEMAN AND LIVESTOCK JOURNAL

September - 2001

Developing Calf Nurseries for an Early-Weaning System

Dr. John Arthington and Dr. Rob Kalmbacher
UF-IFAS, Range Cattle REC

For questions or comments regarding this publication contact
Dr. John Arthington or Dr. Rob Kalmbacher

Early weaning (EW) is a management option, which the cow/calf producer may utilize to improve body condition of heifers and young cows. This occurs by removing the nutritional requirements of lactation. Early weaning decreases calving interval by as much as 24 d. When EW cows stop lactating their dry matter intake decreases, reducing digestible nutrient intake by as much as 45%. Combined with the highly efficient feed:gain ratios of EW calves, this results in a 40% improvement in converting TDN into calf gain. Early weaning has positive implications on the value of calves at the time of slaughter. Research from the University of Illinois showed that EW improved the percentage of calves grading USDA Choice or higher by 40% over normal weaned calves. These data have significant practical value to the productivity of Florida cowherds, especially for heifers and young cows.

In many regions, producers chose to market EW calves immediately after weaning vs. accepting the management of these young animals. The mild winters associated with Florida offer a unique opportunity to manage calves on a forage-based grazing system using ryegrass, a highly nutritious, winter annual forage. In the past, ryegrass has earned a bad reputation for being unreliable due to highly variable winter rainfall. At the Range Cattle REC, we have been investigating the establishment of Calf Nurseries for the rearing of EW calves. Calf Nurseries consist of ryegrass grown on a selected piece of land that slopes from a lower wet area upward to a higher dry area. This provides a dedicated piece of land that should respond favorably to variation in rainfall, whereas the higher land will yield better in wet winters and the lower in dry winters. Each Nursery has a small area (approx. ½ acre) of bahiagrass sod were water, feed, and mineral are offered. We learned that hogs enjoy rooting through the Nurseries; therefore, woven-wire fencing surrounds each Nursery. Over the past 2 yr, we have grazed EW calves at 4.5 and 3.3 calves / acre. Despite a 59 yr record drought, the 2001 stocking rate turned out to be too low, as available forage exceeded that which the calves could consume. We expect

the optimal stocking rate to be 5 calves / acre. At this rate, Calf Nurseries use a minimum of dedicated land. For example, using an EW rate of 10% (lactating cows with the lowest body condition) a 500 hd cowherd would early wean 50 calves, requiring only 10 acres of land dedicated to the Calf Nursery.

In our system, calves are born in the fall (October / November) and early weaned in January at an average age of 70-d. 'Jumbo' ryegrass is established on cultivated soil in mid-November. We prefer Jumbo because tests have shown it grows later (approx. 30-d) into the spring compared to 'Gulf'. Nitrogen is applied at emergence (50 lb / acre) and again on 45-d intervals. We can expect about 100-d of grazing lasting into April. Typically, April calf markets are the best of the year. As well, these calves have been weaned for over 3 months, which should provide further value to buyers.

Ryegrass provides an excellent feed source for calves. Using a conservative feed:gain ratio of 4.2 to 1, our Calf Nurseries provided 1.2 tons of ryegrass DM / acre, which was 81.4 % digestible and contained 34.8 % CP. To supplement the ryegrass, calves are provided with grain (16 % CP) at a targeted rate of 1.0 % of body weight daily. This past year our 20 EW calves gained a total of 288 lb / calf over 112 d of grazing (2.04 lb/d). Considering the total costs for ryegrass establishment, fertilizer, grain, mineral, and supplies, our overall cost of gain was $0.32 / lb.

The use of early weaning is an effective management tool for optimizing reproductive performance of young cows. Establishing dedicated Calf Nurseries should provide Florida cattlemen with the ability to optimize early weaned calf performance, while capitalizing on low cost of gain and favorable spring markets.