

Managing Very Young Bison Calves

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Introduction

Bison calves are seldom orphaned but when they are, most producers are interested in saving them at all costs. Resources needed include time, feed(s), and knowledge. Bison are wild animals and behave as such when confined, even at a few days of age. The conditioning to human care and feeding apparently needs to start at birth. Any attempt to modify the behavior and nutrition of these animals after that time is a major challenge. There is virtually no nutritional information or guidelines on the care of baby bison prior to weaning. The Carrington Research Center accepted a large number of very young bison calves and managed them as a group in an attempt to learn more about their behavior, human interaction, and nutritional needs. Consultation with a number of experienced bison producers suggested we had a major challenge on our hands. This paper is not intended to be the quintessential guide to saving baby bison calves but reports observations on some management approaches used with this group of calves.

Methods

Sixty-nine bison calves ranging in age from two days to two months were donated and delivered to the Carrington Research Extension Center on June 4, 2001. Their dams had been managed as feeder heifers and were scheduled for market. Several of the heifers in the group had inadvertently been bred when on pasture during the summer of 2000.

Calves were initially contained in a small corral to assess health, age, and condition, after several hours on a truck. Sixteen animals that were the youngest and obviously smallest, were kept in a small fenced receiving area. The rest of the animals were moved to a one-acre grass paddock.

Repeated attempts were made at bottle feeding or tubing the young calves with primary effort in the morning and late afternoon. Some commercially available, very palatable, high-protein, high-energy feeds were offered in three pans inside the pen. Two pans were used for milk replacer and fresh water was available in two others. Catching these animals, even in a small pen, proved to be a challenge. At the young age of the calves, they were fast and strong, and fought being handled. Roping calves caused severe stress from chasing with some choking and shock resulting when calves were caught.

Few showed any inclination to nurse from a bottle, and then only for very brief periods of time. None of the animals adapted to nursing from a bottle after several days. Little time was spent on each individual calf due to the large number and limited man hours available.

The animals not confined for bottle feeding were moved to a one-acre paddock fenced with feedlot panels. The lush, green, grassed area was next to a tree row which provided shade for the calves during much of the day. An 18-inch high, 100-gallon water tank was set up in the pen for fresh water. Several rubber feed tubs were distributed throughout the acre to maximize exposure to different feeds offered to the bison calves. Water tanks and all rubber feed tubs were emptied and cleaned daily for the first several weeks to ensure freshness and cleanliness.

Nutrition

Sheep milk replacer was used in the attempted bottle feeding and tubing for the smallest bison. To our knowledge it is the closest commercial product that resembles bison milk to any degree and was recommended by experienced bison producers.

Commercial sweet feeds were offered to both groups as well as pelleted barley malt sprouts. Four different commercial sweet feeds were offered to the groups of larger calves in approximately 20 separate rubber tubs scattered throughout the paddock. The feeds included three different commercial calf starter feeds, and barley malt pellets, a co-product of malting barley. A high quality grass hay bale was also provided to both groups. The calves initially preferred the barley malt pellets to the other feeds; however, barley pellets are low in energy and contain only moderate amounts of protein when compared to the calves anticipated nutritional needs. The barley pellets were then mixed with corn, peas and wheat midds to increase the nutrient density of that diet. Barley pellets were also mixed with the three commercial feeds to encourage intake. When intake improved, barley pellets were gradually removed so calves were eating only the nutrient dense commercial diets. On June 27, a specially- formulated baby bison feed was introduced. This feed was manufactured by Heartland Feeds (Hubbard) at Bismarck, ND for use in this study. This feed was more nutrient dense than the commercial starter feeds with higher protein (24%), more energy (est. 95% TDN) and less fiber. The formulation consisted of field peas, corn, canola meal, corn distillers dried solubles, soybean hulls, dried milk powder, molasses, yeast, fenugreek, and highly bio-available vitamins and minerals. The general health and bloom of the calves seemed to improve once they were acclimated to this feed. This feed was used to replace all the commercial starter diets.

Results

None of the calves that were bottle fed or drenched survived longer than one month. Most simply starved to death because they were unwilling to nurse or fought the tube at every opportunity and did not learn to eat the dry feeds. Of the 53 older calves, 25 survived. Survival was highest among calves that were older and had learned to eat dry feed from the pans. Having a highly palatable, nutrient dense feed available at the start of this feeding period would

have reduced the number of changes required and could have possibly increased the survival rate of the calves.

On September 10, the remaining bison calves appeared to be in good health and were transitioned to a conventional grain mix that was less nutrient dense and lower in cost. This feed was formulated at 16% crude protein and approximately 80% TDN. Feed sources included corn, peas, soy hulls, and wheat midds plus vitamins and minerals. It was offered along with free-choice alfalfa hay.

Summary

Virtually all orphaned calves occur as singles. Trying to save 69 head is a totally different experience with limited preparation time, labor availability, and most of all knowledge of nutrition and management of very young bison. Handling (catching, ear-tagging, drenching, bottle-feeding) any age of orphan calf is very stressful to calves and to handlers.

It appears the success rate is very low when caring for orphan bison calves under the age of 4 weeks unless significant individual attention can be given to each calf. These animals are simply too dependant on mother's milk and cannot be acclimated to milk replacer and starter feeds as a group. However, weaned bison calves older than approximately 6 weeks attained a 60 percent survival rate with nutrient dense, palatable feeds. Calves this old probably start ruminating and have the ability to survive on more traditional feeds.

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