

Pasture Weaning at the McNay Memorial Research and Demonstration Farm: A Progress Report

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Summary

In September 1995, 225 spring-born calves were weaned on pasture at the McNay Memorial Research and Demonstration Farm to explore procedures necessary to conduct a successful pasture-weaning program. In the two to three week post-weaning period, average daily gains (ADG) for the two groups weaned that year were 1.06 and 3.06 pounds; there were no health problems. In 1996, a research trial utilizing 242 spring-born calves was conducted to compare pasture-weaned and feedlot-weaned calves. Half of the calves were weaned on pasture for three weeks and then placed in a feedlot for three more weeks. The other half of the calves were weaned directly into the feedlot for the six week post-weaning period. ADGs during the three week post-weaning period were 1.24 and 2.42 for the pasture-weaned and feedlot-weaned calves. For the entire six week trial, ADGs were 1.83 and 2.40 for the pasture-weaned and feedlot-weaned calves. There was no sickness in either weaning treatment during the six week trial. Initial experience indicates pasture-weaning is a feasible method of getting calves through a stressful procedure.

Introduction

Since 1985, over 2,000 calves have been weaned on pasture at the Forage Systems Research Center near Linneus, Missouri. Throughout all those years, they reported no sickness or death loss during the three week post-weaning period when these calves were on pasture. In addition, the calves gained 1.5 to 1.7 pounds per day without any supplemental feed.

Because of these impressive results, a demonstration was conducted in September 1995, at the McNay Research and Demonstration Farm to explore the procedures necessary for successfully weaning calves on pasture. Observations were noted relative to calf behavior and health during the immediate post-weaning period. Also, average daily gain was measured during the post-weaning grazing period and the early feedlot period. Feed consumption was monitored after calves were placed in the feedlot.

Following favorable results from the 1995 demonstration, a more in-depth research trial was designed and conducted in the fall of 1996 to compare performance,

health, and economics of feedlot-weaned calves to pasture-weaned calves.

Materials and Methods

Cattle utilized in this demonstration and trial consisted of spring-born Angus and Simmental-sired bull, steer and heifer calves from the Beef Systems Breeding Project. In the 1996 trial, calves were allotted to the weaning treatments based on breed of sire, sex, and age.

There were two weaning groups each year. Group I consisted of calves from two year old heifers weaned in early September, and Group II was from three to eight year old cows weaned in mid-September. Calves averaged about 160-170 days of age and weighed approximately 400 pounds at weaning.

Pre-weaning processing of calves three weeks before weaning included administration of intranasal IBR-PI3 vaccine and an injectable wormer. A booster vaccination of killed IBR, PI3, BRSV, and BVD was given at weaning.

Blood samples were collected from the calves at three weeks pre-weaning, at weaning, and at three weeks post-weaning for use in serologic testing of antibody responses to several viruses.

In 1995, all 225 calves were weaned on pasture as part of the demonstration. However, in 1996, half of the calves (124 head) were weaned on pasture and half (118 head) were weaned in the feedlot for comparison purposes. Pasture-weaned calves were grazed for three weeks post-weaning and then were placed in the feedlot with the feedlot-weaned calves for another three weeks to further monitor performance and health.

In both 1995 and 1996, the pasture-weaned calves were first placed in an eight acre "weaning pasture" that had a reasonably tight five-wire permanent fence around it with an electrified wire in the fence on three sides of the pasture. After about three days, the calves were then moved to nearby hayfields or stockpiled pastures where most of the perimeter and partition fences were single electrified wires.

Companion cattle consisting of yearling heifers were placed with the pasture-weaned calves in 1995 but not in 1996.

Feedlot-weaned calves were placed in concrete-surfaced lots where they were full-fed a weaning ration plus long-stemmed hay for the first five days.

Results and Discussion

In 1995, Group I and Group II pasture-weaned calves had 1.06 and 3.06 ADGs for 20 and 14 days post-weaning. These calves had some fill in them even after moving from pasture to feedlot, having a four to six hour dry stand, and going through an individual weighing process.

In 1996, Group I and Group II pasture-weaned calves had 1.69 and 1.12 ADGs (averaging 1.24 for 124 calves) while grazing during the three week post-weaning period.

Feedlot-weaned calves during this period had gains of 2.34 and 2.45 (averaging 2.42 for 118 calves). Weights for both treatments were taken after an overnight stand without feed or water. ADGs for the entire six week trial averaged 1.83 and 2.40 for the pasture-weaned and feedlot-weaned calves.

Although the ADG of the pasture-weaned calves during the three week post-weaning period was significantly less than the gain of the feedlot-weaned calves, preliminary examination of various economic applications indicates that the pasture cost of gain was very competitive and generally favorable to the feedlot cost of gain.

Relative to health, only two calves out of the 225 head weaned on pasture in 1995 were treated for any respiratory sickness after weaning. These two calves, one 28 days and one 86 days post-weaning, were treated after being placed in the feedlot.

In 1996, no calves from either the pasture-weaned or the feedlot-weaned groups were treated for respiratory sickness during the six-week post-weaning trial. One feedlot-weaned calf was treated for mild sickness on day 68 following weaning.

The use of companion cattle during the weaning process on pasture would be suggested when calves are flighty, when calves are unfamiliar with electric fences and watering systems, and when the weaning pasture's location is not ideally situated relative to the location of the weaned cows. Companion cattle could consist of yearling replacement heifers, stocker cattle, gentle bulls, dry cows, or even a few wet cows. These cattle could assist in easing the weaning process, leading calves to pasture, teaching calves about water sources and electric fences, and encouraging more grazing by the calves as opposed to wandering or bunching in the pasture.

Some prior planning is required to enhance the success of a pasture-weaning program. Items to consider include: 1. location of weaning pastures relative to sorting areas, 2. management of weaning pastures for high quality and adequate quantity of forage regrowth, 3. adequate fencing, and 4. selection of companion cattle if needed.

Implications

As has been amply demonstrated at the Missouri Forage Systems Research Center and by these initial attempts at the McNay Research and Demonstration Farm, weaning calves on pasture can be a feasible way of getting through what is often a very stressful procedure. Allowing the calf to remain in a clean, familiar environment (pasture) with nutritious, familiar feed (high quality forage regrowth) seems to aid the weaning process as opposed to immediate placement into a confining and possibly dusty or muddy feedlot with new feedstuffs.

Positive aspects of pasture weaning include the assumption of less stress and hopefully fewer health problems, due to less suppression of immune responses. Another advantage is

the continued body weight gain of calves on relatively economical pasture during the immediate post-weaning period when many feedlot weaning programs result in minimal gains with more expensive feedstuffs.

More in-depth results relative to performance, economics, and blood serology will be available in a future report after further analysis.

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