

2-Step Weaning Strategy

Weaning is arguable the most stressful time of the year on both the calf and the cow. Stress can weaken an animal immune system, decrease feed intake and narrow profit margins. Compared to a traditional/abrupt wean, a 2-step wean is lower stress and allows for a more gradual transition off the cow. The nose insert, seen in figure 1, will prevent the calf from nursing, while still allowing contact with the dam.

Although a relatively new method, 2-step weaning uses ideas that go back generations. While initially more labor intensive, it can prove beneficial in the long run for the producer's bottom line. Less sick calves, more time laying down and eating, and overall less stress are all reasons why this method has become more popular. Ultimately, the calf's natural behaviors while in the pasture are unchanged. They are still able to graze, drink water, have contact with their dam, and socialize as they normally would. The only difference is they are not able to nurse.



Fig 1. A calf in the 2-step weaning process with a nose insert

In a trial conducted at the University of Illinois, a two-step weaning process was further investigated. A group of abrupt weaned calves were used for the control group on this project, while a second group went through the 2-step process for weaning. The trial went on for 42 days post weaning, and the nose inserts were put in the 2-stage calves at day-6, before the calves were weaned. During this time period, the 2-stage calves gained less than the abrupt calves, but this was expected simply because they could not nurse from their mothers with the nose inserts in. The calves did not have access to any creep feed.

On day 0, all of the calves were weaned and transported via commercial trucking company 166 miles to the on-campus feedlot. The calves in the 2-stage trial had less shrink. These calves were weighed prior to loading and then weighed again after unloading at the farm. From day 0-14 the 2-stage calves also gained more. Days 14-28 the abrupt weaned calves began to catch up to the 2-stage calves and gained more. When looking at data from day 0-42 there was no difference in calf performance.

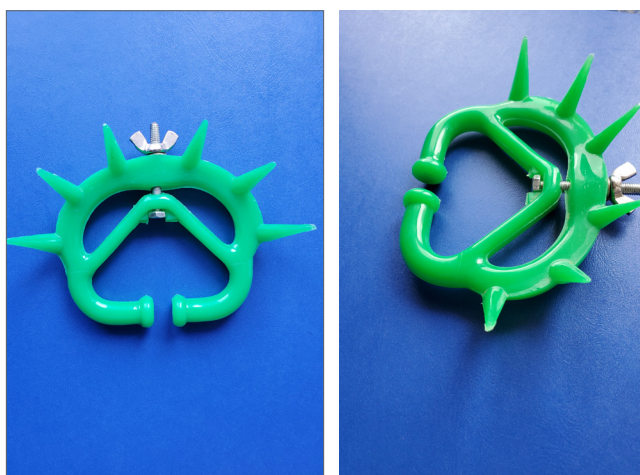


Fig. 2. Nose inserts for weaning

The behavior of these calves was also documented and recorded. The results showed that on day 1 of the trial, the 2-stage calves appeared to exhibit less stress. They had a higher percentage lying down and eating while also having a lower percentage of standing, walking and vocalization. This can be seen in table 1 below. On day 2, it was observed that more of the abrupt weaned calves were laying down, but this is likely due to exhaustion of bawling and walking on day 1. Even so, the 2-stage calves were less vocal and had more eating on day 2.



Fig 3. Photo of a calf on pasture pre-wean

Table 1: Day 1 Behavior	Abrupt	2-Stage	P-Value
Standing	69.3	46.1	<0.01
Lying %	30.7	53.9	<0.01
Walking %	18.7	1.9	<0.01
Eating %	18.0	30.2	<0.01
Vocalizations, call/steer-hr ⁻¹	74	4	<0.01

In conclusion, the research shows that there are significant behavioral benefits to 2-stage weaning. The 2-stage calves were less stressed and transitioned better to the feed-lot. There was no difference in body weight between the groups. The calves gained weight at different intervals, but ended at very similar weights. However, there was a difference in transportation shrink, favoring the 2-stage calves.

There are challenges to this system, however. The biggest challenge is taking the time and effort to put the devices in the calves' noses. This requires another day of processing calves. However, if your operation already implements a pre-weaning vaccination program, this would be an easy addition to that routine. These devices may also cause irritation in the calf's nose and are an added cost for your operation. All in all, two-step weaning may be a strategy to help transition calves away from their mothers and can certainly help quiet down calves at weaning time.

Acknowledgements

Rauch, J.W. 2017. Evaluation of two-stage weaning and trace mineral injection on receiving cattle growth, behavior, and health. MS thesis, University of Illinois Urbana-Champaign

Written by Kendi Sayre, University of Illinois, Orr Beef Research Center, Intern. Revised by Travis Meteer, University of Illinois Beef Extension Educator. Revised by Sadie Drayer, University of Illinois Extension Intern



Fig. 4. Calf lying down in a pasture pre-weaning

Build your best life. Trust Extension to help.



Illinois Extension
UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN