Fenceless Grazing

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Coordinators:

Christopher Dutton
Project Coordinator, DVM
Vermont Technical College
P.O. Box 500
Randolph Center, VT 05061
802-728-1793
E-mail: cdutton@vtc.edu

Summary

In an attempt to make grazing young cattle and reducing purchased feeds costs, VTC has undertaken an experiment that could potentially do just that. Higher feed costs and impractical grazing methods make it difficult for all farmers to raise young livestock in an economic way. But there may be a way to graze these young animals that could prove to be cost effective and less time consuming than the ordinary temporary fence system. The idea is to utilize an existing dog fence collar system that will prohibit/discourage livestock from breaching the boundary line. This type of system can be moved quickly with no permanent fixtures and potentially contain livestock. VTC has made the attempt to do just this. By acclimating the young animals within their winter pens and transitioning them to a test pasture, VTC was able to observe and make adjustments to the test system. While the final goal was not accomplished, essential data was collected. This was the first experiment of this kind. With amendments to the system and different management strategies, the intended goal looks promising in time.

Introduction

Historically, dairy and beef farms have always used hard fence for containing their livestock. These hard fences consist of smooth electric fence, barbed wire fence, high tensile fence, cedar posts and pressure treated posts. Each fence system comes with a different cost. These costs are directly related to the quality and expected life of the fence system. Our goal is to explore other options of livestock containment that will show a significant competitive advantage over traditional containment methods. Our medium of choice for this project is a wireless dog containment fence. This fence is effective both underground and above ground. We wish to utilize this wireless system in a similar fashion in which traditional temporary fence is utilized. Typically it is moved daily to provide fresh feed for grazing cattle without giving the cattle the freedom to trample the entire pasture before they can consume it.

Objectives/Performance Targets

As stated above, the main objective for this project is to explore new methods for cattle containment that

shows a competitive advantage over traditional containment methods. The subjects to be trained were four to five month old Holstein heifers. These heifers were to be acclimated to the wireless system within their winter pens. From there, a new perimeter fence was established around the test pasture to form a large paddock. Once the young heifers had been acclimated to the wireless system they were moved to the test pasture where the wireless fence system was also moved. Nine heifers were chosen to be fitted with shock collars and to be observed on the test pasture. Observations consisted of reactions in relation to the wireless system in the test pasture in comparison to reactions during the acclimation faze within their winter pens. The final goal by the end of the test period was for these nine heifers to be contained by the wireless fence system with no other assistance by traditional containment methods..

Materials and Methods

VTC currently utilizes a large hoop building for housing calves in the winter time. In this hoop building there are nine pens in which two to three calves per pen, depending on age and size of heifers, are housed. The pens were fitted with the wireless fence system around the back sides of the pens and along the gates which separate the pens. The original wireless system was altered by replacing the original coated 14 gauge wire with electric horse fence. The purpose for this alteration was to maintain the integrity of the test system while also offering a visual aid for the young heifers to establish boundaries. It was important that the system never crossed the area of the manger as this would provoke a negative response from the animals and would prevent them from eating or drinking. Unfortunately the horse fence was not a suitable replacement for the original coated wire. It choked the frequency so the system could not function properly. Another draw back was that when the bare wire weaved through the horse fence was coated with manure, it was completely ineffective. When the original 14 gauge coated wire was put into place, there was an immediate response from the subject heifers fitted with the collars. The frequency was stronger and the warning beep sounded at a greater distance away from the coated wire than it did from the electric horse fence. In fact, the frequency was so great and the beep sounded at such a great distance that even at the lowest settings, the roughly 20’ x 20’ calf pens were too small to acclimate the calves to the wireless system.

The next step to move forward was to move the test subjects outside to the test pasture. The calves were given a water tub and the wireless system was put in place. Initial observations were promising. But the calves had quickly, in a day’s time, eaten down and trampled the small wireless containment section and began to get restless. The older calves soon became acclimated to the warning beep from the collars and learned to ignore it. They also began exploring their boundaries more intensely and figured out that if they could make it across the designated boundary line quickly, they would only receive minimal shock time before getting far enough away from the system when it would stop shocking and beeping them. This posed significant issues because while part of the traditional boundary fence was made up of high tensile fence, other parts were comprised of nothing more than electric horse tape which offered no real physical resistance to the animals and they were able to breach the traditional boundary fence in certain areas. Unfortunately, the boundary fence, or lack there of, was never resolved so as animals escaped from the wireless system, they also received no resistance from the boundary fence as either.

In an attempt to manage the escaping heifers, the wireless system had to be treated much like a temp fence system. This meant that the wireless system boundary had to be moved out every day at the same time offering the test subjects a set schedule as well as fresh grazing ground every day. This seemed to be a viable management solution to the problem. That was until the heifers became more comfortable with the system. As the test subjects became more acclimated to the system, they found new ways of manipulating it. In an attempt to learn the new boundaries that were changed daily, the larger heifers used the smaller heifers as boundary testers. They would push the smaller heifers toward the wireless boundary until the younger animals collar would beep. This was alright because the animals were able to locate boundaries quickly and effectively. But once the boundaries were located, a select few of the test subjects began to

ignore the warning beep of the collar realizing that they were not getting shocked. This caused the batteries to prematurely fail and rendered the collars with dead batteries useless and the calves could then escape shock free. This routine continued for the rest of the test period and the sought out goal was becoming less likely.

Impact of Results/Outcomes

Nearing the end of the grazing season, the project was aborted and the heifers were placed back into their pens in the hoop building where they remained. The final goal was not accomplished but progress was made. It turned out to be a battle in experimenting with a containment system that was originally designed for a completely different species. But that is why the experiments are designed. This kind of system had never been used on cattle as far as our research to find. The data collected and the experience gained is the first step in developing a system for cattle. The chosen system was originally designed for dogs which operate in a completely different mind set and obedience level. The data VTC has collected and analyzed may offer a clue pointing towards an amendment to be made to the wireless system utilized in the test period. Rather than using a wireless system by itself, it may work out in combining the wireless system and a temp fence system together. This combination would offer a visual aid to the livestock, physical response through a warning beep when livestock get too close to the fence, shock from the collar when they get closer to the fence, and electric shock when they touch the temp fence wire.

Participants:

Calvin Blessing
Consultant, DVM
E-mail: cblessing@vtc.edu

Dana Storer
Participant/Farmer
760 Silloway Road
Randolph Center, VT 05061
207-344-5698
E-mail: dstorer@vtc.edu

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