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MontGuide

Modifying Fences to Protect High-Value Pastures from Deer and Elk

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This guide explains how to modify existing livestock containment fences in a low-cost manner to make them resistant to deer or elk.

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IN MANY AREAS OF MONTANA, DEER AND ELK cause significant monetary losses to agricultural producers by consuming forage meant for livestock or cash crops. The threat of brucellosis transmission from elk to cattle is a major concern to some Montana producers. When the threat of damage or disease transmission occurs on the landscape, it can be very difficult to prevent. Many methods of preventing wild animals from damaging crops and rangeland have been used, but fencing is the most practical long-term solution in areas with high deer or elk populations. Unfortunately for producers, traditional eight-foot high elk-and deer-proof fencing is also very expensive, costing up to $15,000 per mile for materials. To use a fence this expensive to protect an agricultural crop or pasture is seldom cost-effective.

In order for a fence to be a practical solution to a wildlife problem, the cost of fence construction and upkeep cannot exceed the losses or damage caused by wildlife. For most crops and pastures, a low-cost fence needs to be used to provide monetary relief from damage, but still must be effective at stopping deer and elk from entering the protected area.

This guide explains how to modify existing livestock containment fences in a low-cost manner to make them resistant to deer or elk (Figure 1). Many producers will find that reducing the cost of fencing by modifying existing materials instead of constructing new fences will provide a cost-effective means of preventing wildlife entry.

FIGURE 1. Mesh fence extension on top of existing livestock containment fence

Advantages of Modifying Fences vs. New Construction

Nearly all livestock pastures and many cropland areas in Montana are fenced with some variation of a four-strand barbed wire or woven wire fence to either contain or exclude cattle, sheep, or other livestock. These styles of fencing generally allow deer and elk to move freely across by crawling between the wires or jumping over the fence. Replacing these livestock fences with traditional eight-foot high deer and elk-proof fencing requires removal of the original fencing. New posts and new wire then need to be purchased and installed. However, by modifying the existing livestock fence, a producer can save a significant amount of money.

Recent research at Montana State University has found that six-feet high woven wire fences are effective at excluding deer and elk from a potential food source. In this study, the fence design described was 100 percent effective at excluding deer and elk from test plots. Fences of this height can be constructed using many of the materials currently in place on a standard

livestock fence. The height of fence posts can be extended, rather than replacing the post, and additional wire can then be added to obtain the desired finished product. By modifying existing fence instead of building new, not only is cost of materials significantly reduced, but installation labor is also lessened.

Materials Needed to Modify Fence

The finished product of a fence modified to deter deer and elk is a six-foot high woven-wire fence (with six inch by six inch mesh). This height is effective at deterring deer and elk from a food source and is sustainable over time with steel rebar post extensions. Materials needed to achieve this final design will vary widely based on the current fence in place.

Defining a standard, four-strand barbed wire fence is difficult, since many construction variations exist depending on the terrain, the materials available and initial expenditure. For this guide, we will assume that a typical livestock fence is built using 4-6 inch diameter wooden posts, spaced 16 feet apart, with approximately 48-52 inches of post above ground level. Some combination of barbed, smooth, and/or woven wire is then strung along the posts. For fences with a different base design, individual additional modifications may be justified to obtain a sturdy six-foot high fence.

In order to gain sufficient height without replacing the post itself, an extension can be attached to the post, to which wire can then be attached. Steel rebar, 3/8-inch diameter, can be used to accomplish this. Cut rebar into lengths of at least 30 inches, and accordingly longer if wood posts are less than 4 feet high. Using a 3/8-inch drill bit, drill a vertical hole in the exact center of the top of the wood post to a depth of at least six inches. Using a hammer, drive the section of rebar solidly into this hole. (Figure 2A). Standing in the back of a pickup or on a short step ladder creates leverage for this process. If the hole was not drilled in perfect alignment with the post, causing to rebar to be crooked, it can simply be bent at this time to make it vertical with the fence line. Make certain that the tops of the rebar extensions measure at least six feet from the ground level.

If the original fence was built using steel t-posts, the rebar can be welded to the t-posts to extend the height to six feet (Figure 2B). Other connection strategies of hose clamps, heavy wire or commercially available devices, can be used, although they are typically more expensive.

Woven wire now needs to be strung from the ground level to a height of at least six feet. If the wire on the existing fence is not woven, two strips of woven wire in the common heights of 48 inches and 24 inches (or two 36-inch strips) each can be used. This will typically reduce costs over stretching a single piece of 72-inch high fencing. Make certain that the base of the wire is touching the ground at all times, as deer in particular will attempt to crawl under the fence if a sufficient gap is left. Fill in or otherwise reinforce any ditches, holes, or low spots where wire cannot be made to come in close contact with the ground. After sufficiently stretching, use standard fencing staples to attach the woven wire to the wood posts.

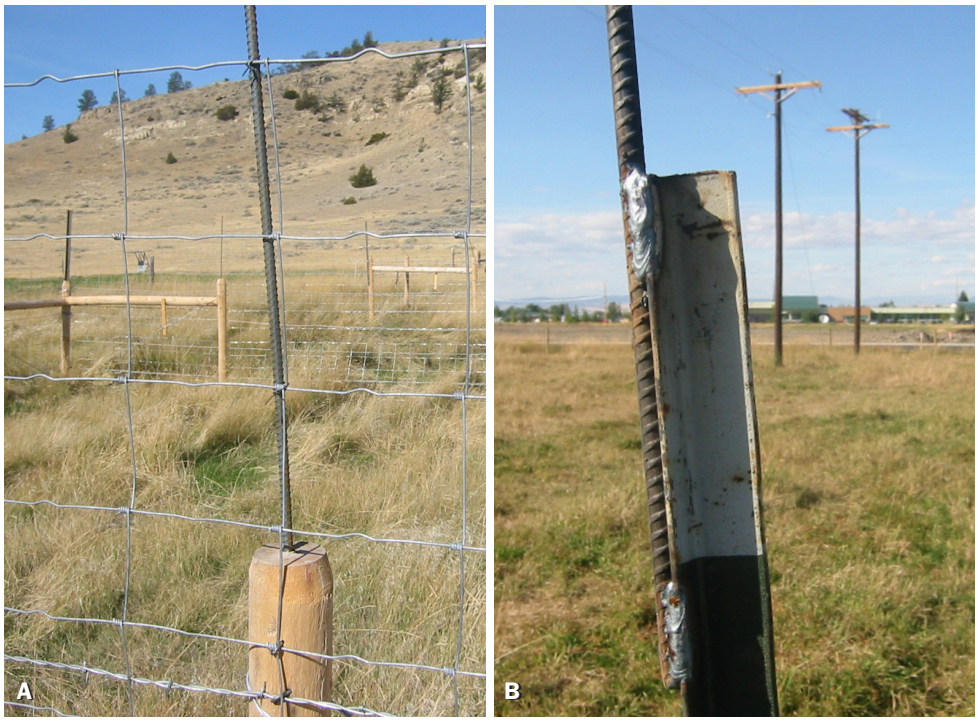

FIGURE 2. Steel rebar post extensions.

The second strand of woven wire is then strung immediately above the first, bringing the total height of the fence to approximately six feet. After stretching, attach the lower section of the second strip of wire to the wood posts using fencing staples. Use a light gauge tie wire to attach the woven wire to the rebar extensions. Be sure to twist the tie wire sufficiently tight to ensure that it does not slide up and down the steel rebar. Finally, the two strips of wire should be attached to one another in between posts using a hog ring or another piece of tie wire to prevent gapping between the bottom and top wire sections.

If the existing fence was designed for sheep control, then there is likely woven wire of some height already in place on the fence. If this is the case, a second strip of woven wire will have to be added to the fence to bring the total height to at least six feet. Many different heights of woven wire are available from different manufacturers. Just remember that the post extensions must be tall enough to secure the top of the woven wire, so compensate the length of the extensions accordingly if the finished fence will be over six feet in height.

Areas to Fence

Another concern with fencing large areas of land is reducing wildlife passage. If animals are not free to move through the property, for example in the case of a migration route, they are much more likely to attempt to breach the fence, and damage to the fence is the likely result. Any increase in maintenance will lower the monetary advantage of having the fence in place. For this reason, as well as maintaining good connections between habitat areas, it is recommended that game-proof fences are not built around any area larger than 640 acres, or one square mile. By limiting each side of the fence to one mile in length or less, deer and elk will be able to circumvent the fence without problem. Fences any longer in length may lead to increased attempts to breach the fence. When using the fence to address threats of brucellosis transmission, consider building wide gates to allow wildlife entry through the pasture during times of the year when the threat of brucellosis transmission is low.

Conclusion

With some planning, effort, and perhaps a little innovation, nearly any fence in good condition can be converted to a six-foot high deer and elk deterrent to reduce disease transmission threats or to protect crops and livestock forage in a rangeland setting. By using materials already in place, significant savings in material costs will result. This adaptation to traditional wildlife-proof fencing will make it much more likely that the protection from depredation will pay for itself over time. Although deer and elk are physically capable of jumping over a fence six feet high, they typically do not have the motivation to do so simply to reach a food source.

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