

Electric Fence for Distribution of Cattle on a Range Grazed by Sheep and Cattle

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ELECTRIC fence has been in service on the ranch since the fall of 1943 ... eight years. The charged one-wire fence has now been adapted to the range as a permanent improvement, and 40 miles of it have been built.

If labor had been available, the expensive and inadequate permanent type of "strength" fence would probably still be in use. The need of distributing and holding cattle on a range already used by sheep was adequately solved, however, by the use of the electric fence.

The use problem consisted of grazing areas that were left ungrazed by the sheep, or areas where herding was difficult. Much coarse grass, that the sheep found unpalatable, was left on many areas, while other spots were cropped extremely close. Many of the better sheep feeds were being suppressed, not only by the sheep, but by the coarser grasses. Regular barb-wire fence, with its high costs, would be unduly expensive for enclosing these many range areas that have part of the palatable forage consumed by the sheep.

TYPE OF COUNTRY

The range consists of high foot hills that are steep—rising from the valley floors as much as two thousand feet. A favorable moisture condition of 30 to 40 inches annually has clothed these steep slopes with luxuriant forage; consisting mainly of bunch grass, but a good admixture of browse species is also present. Water is found in numerous springs and creeks, but there are many good

grass areas that are a considerable distance from water. It has been to many of these steep and distant areas that the electric fence has been instrumental in drifting the cattle (Fig. 1A).

The grasses on the north slopes are mainly fescues (*Festuca* spp.) and redtop (*Agrostis alba*), with some wheatgrasses (*Agropyron* spp.), being similar to the Pacific bunch grass type. The south slopes are composed of wheatgrasses, needle grass (*Stipa comata*) and saltgrass (*Distichlis spicata*). These types grade into each other as the altitude increases and other species become more prominent, as timothy (*Phleum pratense*) and mountain brome (*Bromus marginatus*).

NATURE OF THE FENCING

Areas that have coarse cattle feed, along with the necessary water, are enclosed. The fences run on the level or easy grade—up and down hill fencing, as occurs frequently with fences built on section lines, being avoided. Steep and eroding areas are not included in the enclosures, if it is feasible to fence around them. Pockets where cattle might tend to collect and overgraze are eliminated by the contour nature of the fencing. Many of the fences run along the lower side of springs and creeks, the cattle being permitted to graze out both directions from the water and up the hillsides.

Range types are fenced separately. This is particularly true of north and south slopes (Fig. 1B). It was not practical to separate the range types one hundred per-

cent, as small breaks frequently occur on the larger slopes, giving rise to minor north and south slopes.

The cattle are pastured on some south slope areas in late fall and early winter. They are not allowed to graze many of the south slope areas at all, these being reserved for the sheep. The cattle are also excluded from all areas that are closely used by the sheep. The creek bottoms, north slopes and higher areas are pastured by the cattle during the summer. Wind swept areas on both north and south slopes are reserved for winter

CONSTRUCTION OF THE FENCE

Considerable time is needed to choose the location of a proposed fence. Grades need to be laid out, brush patches circumvented or a way thru discovered, range types considered, and the needs and movements of the cattle studied. After the location is decided upon, the fence is erected with startling ease and rapidity.

Three men can construct three-fourths of a mile of fence in a day with ready cut and pointed posts. Posts are placed a rod and half apart, depending upon condi-

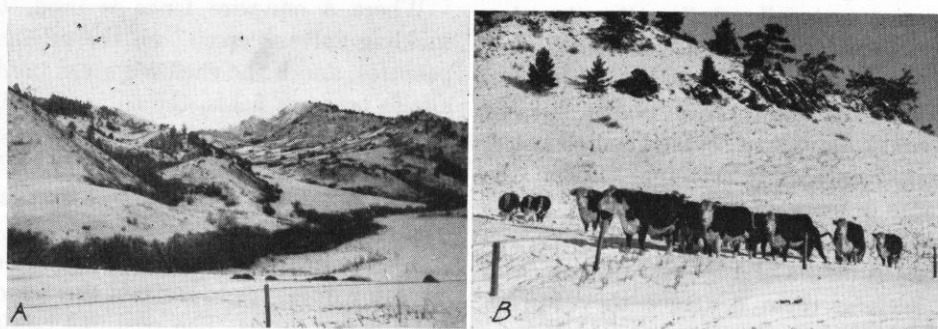


FIG. 1. Electric fence on the range. A. Some of the range country. B. Cows graze south slope in early winter.

grazing. The sheep move about the range in seasonal camps, having access to all areas.

The electric fence allows the sheep to graze and move about unrestricted. The single wire is 36 to 40 inches above the ground—well above the sheep. The sheep disturb the fences very little during their grazing, and it is not necessary for the herders to make openings in the fences to facilitate easier movement of the sheep, as it often is in regular type fences.

The cattle move along the contour and easy grade fence lines, drifting to good grass in far corners and on steep slopes. In other pastures cattle graze steep slopes quite readily, since they are held on them and not allowed to seek lower areas.

tions, requiring about two hundred posts to the mile.

The fence is economical. The present day construction costs of a well built electric fence with treated posts, comes to \$150 per mile. A regular type fence in this locality using four barb wires, costs from \$400 to \$800 a mile.

Maintenance

Maintenance of the electric fence is relatively simple. Snow drifts occasionally break the wire, quite frequently pull out the insulators. Little time is needed to replace the insulators and stretch the wire. It is about a five minute job to replace a rotted post and re-fasten the wire. Electric fence maintenance is neither difficult nor time consuming.

Charging

"Hot shot" batteries (six-volt dry cells) are used to charge the fences. In 1949 the battery cost of keeping 240 head of cattle in from four to six separate bunches during the year was \$75.00.

On some pastures two or three chargers are employed, depending upon convenience. The parts of fences that run along alfalfa meadows are put on separate circuits to lessen the chances of failure.

Green plants, as alfalfa (*Medicago sativa*) and Canada thistle (*Cirsium arvense*), that grow underneath the fence, furnish "ground" connections during all seasons, especially during the dry Augusts. The fence affords little shock when the ground is dry, covered with dead cover or dry snow. Green plants and wet ground conditions provide good electrical conduction, and therefore make the charge in fence effective. The very plants that would tempt cattle out of a dry pasture (as alfalfa) have been instrumental in keeping them in, since they furnish good ground connections.

Keeping the fence clear

It has been necessary to mow or reduce the growth of bushes and other tall plants that come in contact with the wire. The need for this is severe only along the creek bottoms and the more moist and fertile habitats. Canada thistle, wild carrot (*Leptotaenia multifida*), and giant rye grass (*Elymus condensatus*) are particularly troublesome. A hand scythe is used to trim plants on the uplands. In the lower area, mowing or spraying is resorted to. Ten miles of fence can be mowed in a day with a power mower, and even a greater amount can be sprayed in a day with regular spray equipment.

Even though the fence has been left untrimmed at different times, the cattle have not strayed. The charge in the fence becomes weak and ineffective on being

shorted out; the battery runs down sooner. Green plants and growing brush, when in contact with the wire, reduce the charge considerably.

On the upland areas about the only plants that interfere are the giant rye grass and an occasional patch of brush. It is generally easier to go around these than to trim them. The heads of the wheat grasses often touch the fence in the fall, but because of their dry nature in that season, they have little effect in reducing the charge of the fence.

"CREEPING"

Where a one-wire fence is used, the suckling calves "creep" on the adjacent pastures, and if the enclosed areas border alfalfa or grain fields, the calves "creep" on these. Damage to the grain and hay is not severe, although noticeable. The calves that have access to these special pastures do well.

A second wire, six or eight inches below the top wire serves to restrain the "creeping" of the calves. The pastures bordering the highway and several others, are fenced with two wires (Fig. 2A).

A training fence is set up in the corral while the calves are being weaned. Turned out to the green fall grass ten days after being taken from the cows, the weaned calves stay within the fence. Only one wire is necessary to restrain them if it is at the right height.

Occasionally a short yearling has gone into its second summer still small enough to "creep."

PROBLEMS ENCOUNTERED

The fence, as we use it, has proved satisfactory. It is different, however, as compared to a regular type fence. The electric fence, although inexpensive and scanty in appearance, does a remarkably good job of holding cattle.

The fence does fail occasionally,

though. An unseen kink in the wire might cause a break, or the cattle might rub over a corner post. Then there might be an overlooked spot in the construction where the wire is too high, or too low.

Seldom have the cattle gotten out when the charger is off or the fence grounded out. Concerted effort is made to keep the fences that are in use, in good repair and charged at all times; any trouble with the charge or the condition of the fence is immediately taken care of.

Dry weather originally was some concern. It was thought that the cattle would break out, since the charge in the

seasons have not broken out during following dry summers or stormy winters (Fig. 2B).

ADAPTABILITY AND USE

Whether or not the electric fence could be used on other ranges and sections of the country is a question. Certainly it has proved adaptable to this range. Possibly a two-wire fence, one being a ground wire, could be used in dryer areas. No need for a two-wire fence of such type has been found on our range. The high-voltage or "dry" post on most fence chargers might serve under dry conditions.

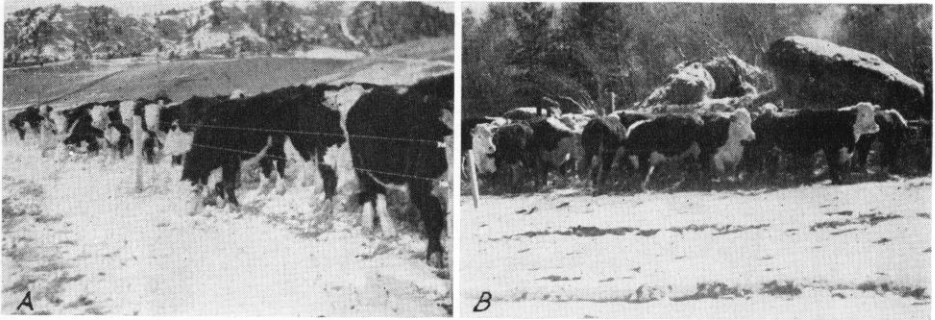


FIG. 2. Electric fence is effective. *A*. Calves in a two-wire fence in fall after weaning. *B*. Cows feeding around straw pile in February. The fence separates the creek bottom from alfalfa meadows.

fence is not very effective during dry seasons. The year 1949 was a drought year. Forage production fell far below the average and the grass was green for only a short while in the spring. The fence worked satisfactorily and no cattle got out. The high voltage or "Dry" post on the chargers are used occasionally during long dry periods.

None of the cattle have gone thru a charged fence during the green grass seasons, a time when the fence is extremely effective; neither have yearlings turned out in the spring, nor newly acquired cattle. Stock that have become used to the fence during the green grass

Our range, with a capacity of 2000 sheep, now carries 1200 sheep and 200 head of cattle. Greater use is being made of the coarser grasses, stimulating the finer grasses and weeds. Severe over use and trailing has been curtailed in many places. Corners, creek bottoms and areas that are used very little by the sheep are now utilized by the cattle.

SUMMARY

The electric fence has been given an extensive trial on a broken type of high foothill range that receives moderately high precipitation, and it has been accepted as a permanent improvement. It

is possible to graze both sheep and cattle on the same range with the use of the electric fence, obtaining good distribution and moderate use.

The electric type fence is easy to construct and it is economical. Maintenance is not difficult. The flexibility of lines of the electric fence enables it to follow the contours of the ground, thereby leading the cattle to high ground and distant corners. The sheep are able to move about the range unobstructed by the one wire fence.

There are some aspects of electric fencing that are new and different, such as the

“creeping” of the calves, and the necessity of keeping the fence row trimmed and the wires charged.

The fence has done the job of holding cattle thru the vicissitudes of eight years. It has held mature cattle that have never seen an electric fence before, and it holds calves that are used to running under the wire all summer before they are weaned.

Better utilization of the range, with improved plant vigor and better cover, has become possible with the multiple use of sheep and cattle. The electric fence has made this multiple use economically feasible.



BRIEFS

How many times have fine ideas and fine plans been stopped before they started because someone was too quick to say, “No, it can’t be done!”

Stephen Douglas



Criticism is something you can avoid by saying nothing, doing nothing and being nothing.

Anonymous