TECHNICAL NOTES

U.S. DEPARTMENT OF AGRICULTURE BOISE, IDAHO SOIL CONSERVATION SERVICE

TN- ECONOMICS AND COST RETURN - 1

July 1963

The following information was furnished by R. E. Williams, Soil Conservationist, F & RP Division Washington, D. C. as a reprint from the "American Cattle Producer."

Luther Jones,
State Soil Conservationist

FENCE COSTS
Six Kinds Compared

Construction of approximately 33 miles of fence on the Texas Experimental Ranch in Throckmorton County during 1959 afforded an excellent opportunity for a comparison of the costs for various types of fence. Terrain on the ranch varies from rolling to steep and broken, and the soils from deep to shallow and rocky.

Six basic types of fences were selected for comparison, with the following specifications:

1. Standard fence-cedar posts, 20 feet apart with 1 wood stay between.
2. Standard fence-steel posts, 20 feet apart with 1 stay (wood or twisted wire).
3. Suspension fence-cedar posts 100 feet apart with 10 twisted wire stays.
4. Suspension fence-steel posts 100 feet apart with 10 twisted wire stays.
5. Semi-suspension fence-cedar posts 50 feet apart with 3 stays (wood or wire).
6. Semi-suspension fence-steel posts 50 feet apart with 3 stays (wood or wire).

All fences were made with four strands of 12½-gauge barbed wire. Two strands were foreign made (Belgium) and two were domestic wire. Although the foreign wire was cheaper and contained several more feet per roll, the American wire was more uniform in quality and more easily unrolled for stretching. The cedar posts were 6 feet long with 4-inch tops, and the steel posts were 6½ foot "I" posts with anchor plates. Costs of the individual items are given in Table 1. Total materials costs and man-hours per mile for each type of fence are shown in Table 2. Although man-hours will vary among individuals building fences, the ration of hours required for any two types should remain fairly constant.

Cedar posts 8 feet in length and 8 inches in diameter at the top were used as corners for all fences. These were installed with braces and "dead men" or at shorter intervals if required by the terrain.

At this time, all fences have been entirely satisfactory.

Suspension Fencing

The idea for the suspension came from Thomas Halff, Pearsall, and R. A. Brown Throckmorton. Both of these men credit Tom Lasater, Falfurrias, with the original idea. Everyone the author has found who has tried this type of fence has been satisfied with it.

The principal difference between a suspension fence and any other type is the distance between posts. In the suspension fence on the experimental ranch, posts are 100 feet apart and still wider spacings have been used by some ranchmen. Twisted wire stays were placed every 10 feet between the posts. These stays should be clear of the ground so that the fence can sway and whip when an animal contacts it. It is now concluded that six stays between posts would be more desirable.

Where wooden posts were used, small plates of 20-gauge metal were used in place of staples because the swaying of the fence may tend to work the staples loose. These plates, $\frac{1}{2}$ x 1 inch in size, had holes punched in each end so that 6 penny nails could be used to hold the wire against the post. By placing the plate over the wire and driving a nail above and below, the wire should remain in place indefinitely. Steel posts require only the clips that come with the posts for holding the wire in place.

After more than two years of use the suspension fence has proved fully as effective as the standard fence in the restriction of livestock movement. Because of its resilience, animals are not likely to run through or break a strand of the suspension fence, and, because of its whipping action, bulls are discouraged from fighting through the fence.

Fences and other improvements on the Texas Experimental Ranch were constructed with funds contributed by ranchmen and businessmen throughout west Texas. The land (7,040 acres) and cattle to stock it were provided by the Swenson Land and Cattle Company of Stamford.

TABLE 1. COST OF MATERIALS

LINE POSTS
- Cedar posts (Y5)-min. of 6 ft. length by 4-in. top, ea. $0.45
- Steel "I" posts - 6½ ft. with anchor plates and 5 wire clips per post, ea..... 1.00

CORNER POSTS
- Cedar, 8 ft. x 8 in. top, ea., 1.75

STAYS
- Cedar, ea..... .08
- Spiral wire (42-in.), ea..... .0631

WIRE
- 12½-gauge galv. 2 barbs (American), roll..... 9.00
- (Belgium), roll..... 7.25

TABLE 2. MATERIALS COST AND MAN-HOURS PER MILE

Fence	Wire	Posts	Stays	Total	Man-Hours
Type 1	$130.08	$124.00	$20.80	$274.88	168
Type 2	130.08	262.20	20.80	413.08	112
Type 3	130.08	29.95	20.66*	180.69	108
Type 4	130.08	56.25	20.60	206.93	98
Type 5	130.08	53.35	24.72	208.15	133
Type 6	130.08	107.21	24.72	262.01	103

* Six stays per 100 feet