Suspension Fences for Livestock

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University of Hawaii
Cooperative Extension Service
Circular 444
ACKNOWLEDGMENTS

The authors would like to express their appreciation to Mr. Harold F. Rice, Manager, Kahuku Ranch, Ltd., for his assistance in supplying ranch fencing cost figures and his cooperation in developing this circular.

We would also like to thank Mr. Harris M. Gitlin, Extension Agricultural Engineer at the University of Hawaii, for his suggestions in the preparation of this circular.

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Fencing of pasture land is important for good grassland management. It provides the rancher with the opportunity to control grazing, which contributes to high-producing pastures. Controlled grazing is a necessity if the rancher is going to maintain pastures of high-quality forage.

Fence construction costs in Hawaii are high and in many places fences are very difficult to construct due to terrain and surface conditions.

Construction of suspension fences is a practical method of reducing costs and reducing the problems encountered in conventional fence building. According to a study of fencing costs in Hawaii the most common fences constructed in 1958 and 1959 were four-strand barbed wire using wood posts set 10 feet apart. The average cost of constructing the conventional type fence was $1,236 per mile.1

Observations made at Kahuku Ranch2 indicate that the cost of fencing can be reduced approximately 67 percent by constructing the suspension fence. The suspension fence minimizes the number of posts required and labor needed for construction.

The suspension or long span fence is not new. It has been used in many states on the mainland U.S. and other countries for some time. The principal reasons for its popularity are that construction cost is low, minimum maintenance is required, and livestock is effectively confined, and under normal grazing livestock will keep the fence rows clean.

At Kahuku Ranch, the first suspension fence was constructed in 1963. In the past 7 years, it has been used as a boundary fence, as a cross fence, and for fencing paddocks. Experience has shown that it is even possible to separate weaned calves from their dams across this type of fence without any problem.

The cost of constructing a suspension fence is approximately $400 per mile for labor and material. A crew of three men will normally build about one mile of suspension fence per day.

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2Personal communication with Harold F. Rice, Manager, Kahuku Ranch, 1969.
Put in a steel or wood post every 100 feet. On uneven or rolling land, place the posts on the rises and valleys. It may be necessary to adjust the distance between the posts to fit the hills and valleys. The distance between the posts can vary from 80 to 120 feet; however, it is best to keep the distance between posts at approximately 100 feet. (See Figure 3.)

5. Stretch the remaining 3 or 4 strands of barbed wire depending on whether you want a 4- or 5-strand fence (at Kahuku Ranch, 4 strands have been sufficient). (See Figure 4.) Be sure that the tension of each wire is about the same. This is important. The wires should be tight with no more than 3 inches sag per span. (See Figure 5.)

6. Clamp the barbed wire to steel posts with the wire clip as shown in Figure 6. An old mortise door knob holder makes a handy tool for twisting the ends of the wire clip.

7. Screw in the wire spreaders or stays every 10 to 15 feet apart depending on the gauge of the wire spreader used. (See Figure 7.) If ends of the wire spreader touches the ground, cut them off. The fence must be able to sway and be flexible.

The secret to success of the suspension fence is its flexibility. This is its strength and what makes the suspension fence stock tight. When the cattle puts pressure on the fence or feeds too close to the fence, the sound and movement of the fence will keep the stock away.
FENCING TIPS

Figure 8. Tightening wire by splicing in mid-span with a commercial splicing-sleeve and crimper.

Figure 9. Strand spacing on 3-, 4-, and 5-wire fences.
Figure 10. Steel corner and braces set in concrete.

Figure 11. (a) Cut one of the two wires on barbed wire where barbs have been removed, untwisted wire; (b) Extend cut wire around anchor post and wrap; leave space between each wrap; (c) Cut remaining wire; wrap between wraps of first wire.
Figure 12. Stapling wire to wooden posts.
SAFETY IN FENCING

Those who build and repair fences often sustain serious cuts and skin tears. These injuries usually are ragged, difficult to heal, and frequently result in serious infections. Most of these injuries can be prevented by a few simple precautions. When fencing:

1. Wear close-fitting, tough clothing that will not catch on the wire.
2. Wear extra heavy, gauntlet-type leather gloves which fit snugly.
3. Wear high-top boots for maximum protection to ankles and legs.
4. Keep chains and wire-stretching clamps in good condition and attach them properly.
5. When stretching wire, stand on the side of the posts opposite the wire.
6. Don’t carry staples in pants pockets. Use a nail apron.
7. Put shields on power shafts when using a power hole digger or post driver.
8. Wear a protective helmet when operating a power post driver.
9. Use driving caps on posts.
10. Keep children away from all fencing operations.
11. When handling treated posts, don’t rub your hands or gloves on unprotected skin. Some people are allergic to preservatives used in treating wood posts. The face, neck, and other exposed skin may be irritated, especially on hot, windy days. A good lotion will usually protect skin adequately.
12. Wear protective eye shield when drilling in lava rock.

WHERE TO GET HELP

The Cooperative Extension Service of the University of Hawaii has an office in each county. There are in each office County Extension Agents who can assist you with further information on fencing and other ranch-related problems. Please feel free to call upon these agents for assistance.