

TWO TYPES OF CAGES FOUND SATISFACTORY FOR PASTURE STUDIES

H. B. STELFOX¹

Agronomist (Forage Crops) Experimental Farm, Lacombe, Alberta, Canada

The conventional square-yard type of cage used to protect areas from grazing in pasture studies has several serious limitations. It is

¹H. B. Stelfox died on April 1, 1957, as a result of injuries received in an auto accident. Mr. Stelfox was preparing this article at the time of his death. The article has been completed by his assistant, W. J. Doran.

expensive, the shading effect is appreciable, and the area protected is too small for adequate sampling of dryland pasture herbage in semi-arid regions unless a large number of cages are used.

Two other types of cages, one of a quonset hut design developed at the Experimental Farm, Swift Current, Saskatchewan, and the other a rectangular shaped one originating at the University of Nebraska, have been modified for use in pasture experiments conducted by the Lacombe Experimental Farm and have proven to be highly satisfactory. Both cages are constructed principally from galvanized concrete reinforcing

steel mesh 6" by 6" and 6 x 6 gauge. This material is obtainable in 100 or 200 foot rolls of various widths. The six-foot width of roll was used for the Lacombe cages.

The rectangular cage (Figure 1) measures 4' x 6' x 18" and permits the harvesting of a plot area 3' x 5' with a maximum height of herbage of 12". The cage is easy to construct and requires neither reinforcing or welding. A 7½ foot length of reinforcing mesh is cut so that a 3" projection of the longitudinal rods is left at each end. The mesh is then bent around the fourth cross-rod from each end to form sides 18" high and a top section 4' wide. The 21" end pieces

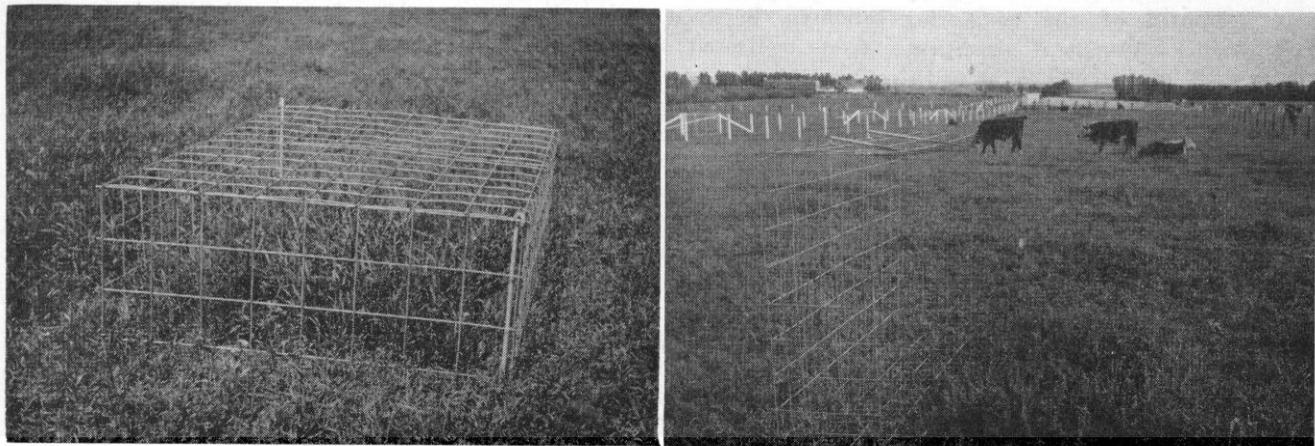


FIGURE 1. *Left*: General view of the rectangular type of pasture cage in use at Lacombe. Note the two steel corner anchor pegs. *Right*: Rectangular cage lifted from the protected area. The 3-inch projections of the longitudinal rods around the base of the cage help in anchoring it.

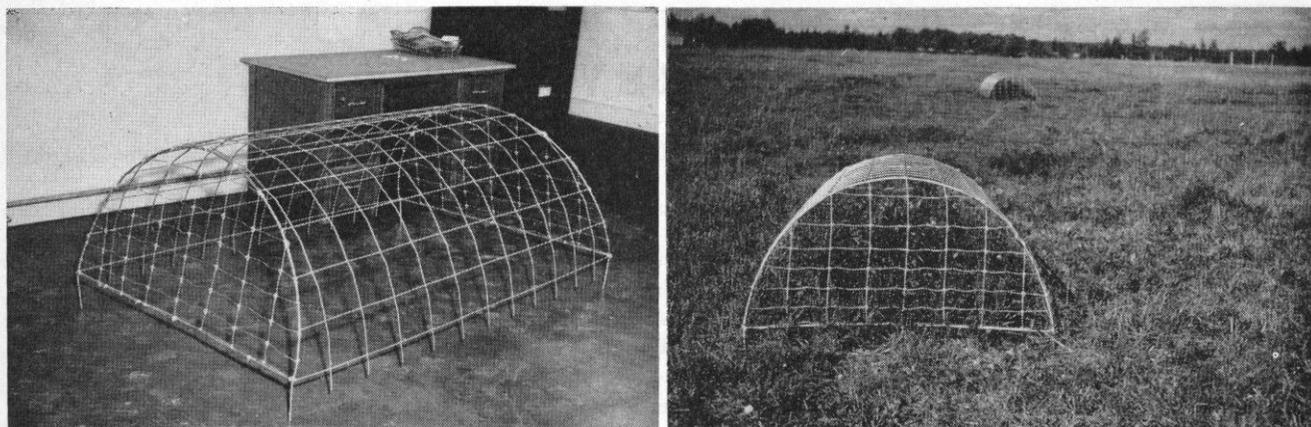


FIGURE 2. *Left:* The "quonset hut" type of pasture cage showing the steel rods welded to the ends as reinforcement. *Right:* Note the hog wire used for enclosing the ends of the quonset type cage. The ends are sloped in 6-inches from bottom to top to permit easy stacking for storage or transit.

are cut from a 4' length of roll which provides for three ends and leaves one waste section 9" wide and 4' long. The ends are fastened at the four corners and at two places along the top by means of 10 gauge galvanized wire. The 3" projection of longitudinal rods all around the base of the cage helps to hold it in place. To ensure even greater stability two corner pegs of $\frac{1}{2}$ " mild steel rod 30" long, with a short right angle bend at the top, are used at opposite corners of the cage to further anchor it.

The quonset type of cage (Figure 2) measures 4' x 6' and is 23" high at the center. The ends are sloped in 6" at the top to permit easy stacking. A framework of $\frac{5}{16}$ " mild steel rod is welded to the ends of the cage as reinforcement and to maintain its shape. This framework is projected downward a distance of 6" at each corner and bevelled at the ends to serve as an-

chor pegs for holding the cage in place. Hog wire 3' wide was used for enclosing the ends of the cage. The relatively open mesh (6" x 6") of the cages permitted the cattle to crop any herbage inside the cage that was within 6" of the sides and top. This limited the maximum height of herbage to 9", when an area 3' x 5' was being harvested under the cage, or, if the width of the harvested area was reduced to 2', then the maximum growth height could be increased to 16". To permit the harvesting of an area 3' x 5' with herbage up to 16" high, the size of the openings of the third and fourth rows of mesh along both sides of the cage were reduced from 6 inches square to 3" by 6" by interweaving 10 gauge galvanized wire throughout the length of the cage and securing it at each end.

One hundred and sixty-two of the rectangular type cages were

used in a large scale pasture project at Lacombe involving yearling steers, while sixty of the quonset type were used at the Athabasca Illustration Station with a dairy herd as the grazing animals. Both types of cages were highly satisfactory in 1956 with damage to each being practically negligible. The quonset hut type had the advantage of being easily transportable because of its easy stacking quality. The rectangular type, even though it required no welding was somewhat more stable than the quonset type. Using galvanized material for both types and including labor, the quonset hut type of cage cost \$7.57, as compared to \$7.70 for the rectangular type.

Based on their individual qualifications, each type of pasture cage appears to have a definite place in pasture research where larger samples are required and grazing animals are involved.

Southern Section to Meet at Winrock Farm

Arrangements have been completed for the annual meeting of the Southern Section this fall at WINTHROP ROCKEFELLER'S Winrock Farm on Petit Jean Mountain, near Morrilton, Arkansas. The meeting will begin at 8:30 a.m. on October 8, and will end at noon on October 9.

Section members and guests attending the meeting will eat and sleep at Mather Lodge, Morrilton, which is only two miles from Winrock Farm. The annual banquet will be at Mather Lodge on the evening of October 8.

FRED PEEVY is chairman of the program committee for the meeting.