Slotted fence shelter in use at Dickinson Branch Experiment Station.

Using The Slotted Fence Shelter For Beef Cows In Western North Dakota

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The slotted board fence is an effective shelter for beef cattle in western North Dakota. It has been compared with the solid board fence and pole sheds for feedlot shelter for growing-finishing calves in year-around trials at the Dickinson Branch Station, the results being published in North Dakota Research Report No. 58, May, 1975 by James L. Nelson, William E. Dinusson and Raymond J. Douglas. These researchers concluded that there were no marked differences in rate of gain, efficiency of feed conversion or health of the cattle in these trials.

Since 1969, the slotted fence has been used successfully at Dickinson as winter shelter for the beef breeding herd. During the five years that this type of shelter has been used for the breeding herd, satisfactory weight gains have been maintained, calving percentages have been very good and general herd health has been satisfactory.

The system in use at the Dickinson Experiment Station for handling the beef breeding herd uses the slotted fence shelter during the winter period in combination with pole sheds and clean, dry lots for calving. The pole sheds are next to the hospital barn, making it comparatively easy to move animals needing extra attention to the hospital facilities.

A well-bedded calf creep is provided in each pole shed for additional comfort and protection for the calves.

Building the Slotted Fence Shelter

The slotted fence shelters in use at the Dickinson Station are 9 feet high, built of full-cut 1" x 6" rough boards set vertically, with a 1½" slot between boards. The slots equal 20 per cent of the total area of a fence built this way.

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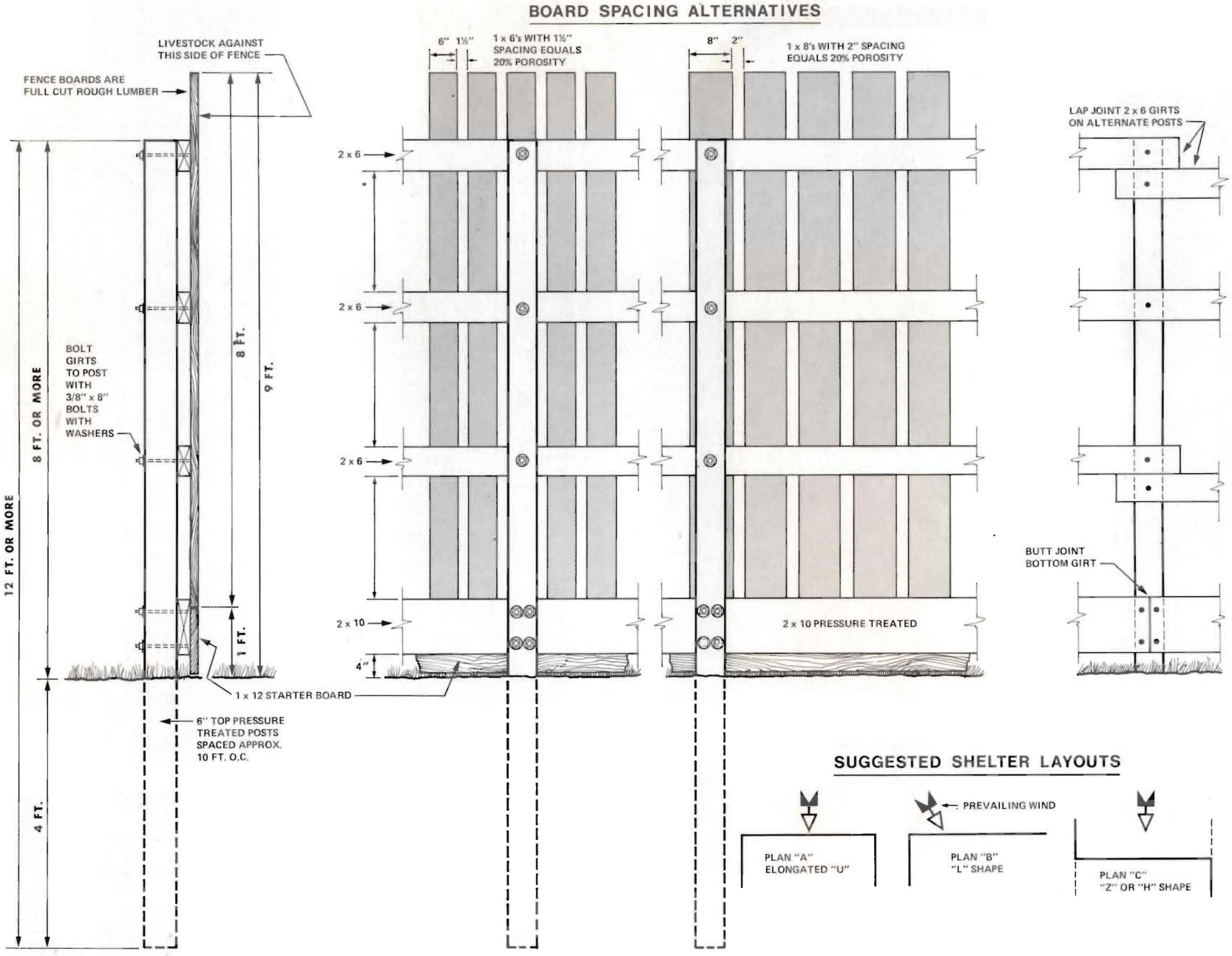

Figure 1. Suggested Construction Details, Slotted Fence Shelters.

Table 1. Cow Weights During the Winter Period 1969-1974.

Year	Weight on:				Difference
1969-70	Nov. 26	1072	Mar. 19	1110	+38
1970-71	Nov. 30	1082	Mar. 17	1123	+41
1971-72	Dec. 3	1079	Mar. 15	998	−81
1972-73	Dec. 1	1046	Feb. 28	1107	+61
1973-74	Dec. 3	1052	Jan. 31	1086	+34

The idea as well as the design for the shelter in use at the Station was borrowed from a prototype windbreak in use at the University of Saskatchewan livestock feedlot at Saskatoon, Saskatchewan, Canada, where Canadian agricultural engineers Moysey and McPherson (1) conducted field tests on it.

Table 2. Per Cent Calf Crop, 1969-1974.

Year	Cows	Calves	Per Cent Calf Crop
1969-70	81	77	95
1970-71	85	83	98
1971-72	91	90	99 (Two sets twins)
1972-73	105	101	96 (One set twins)
1973-74	119	115	96

These researchers recommended a fence with a porosity of approximately 25 per cent for best sheltering below the mid-height of the windbreak, and concluded that the size of the slots is of little consequence if the minimum dimension is in the range of ½ to 2 inches.

The suggested construction detail shown in Figure 1 uses board widths of 6 to 8 inches, because suitable combinations of porosity and slot width can be provided with lumber of these dimensions.

Other Considerations

Drifting snow can become a problem. Trapping snow by the use of properly located snow fence on the upwind side of the shelter is recommended.

If the shelters are around feedlots used during hot summer weather designs that permit removal of panels to provide better air circulation are suggested.

Shelters for use in larger holding areas should be constructed within the holding area, and not as part of a line fence. This permits use of both sides of the shelter for protection, depending on wind direction.

Reference

Moysey, E.B. and F.B. McPherson. 1966. **Effect of porosity on performance of windbreaks.** Transactions of the American Society of Agricultural Engineers. 9:1, 33-36.