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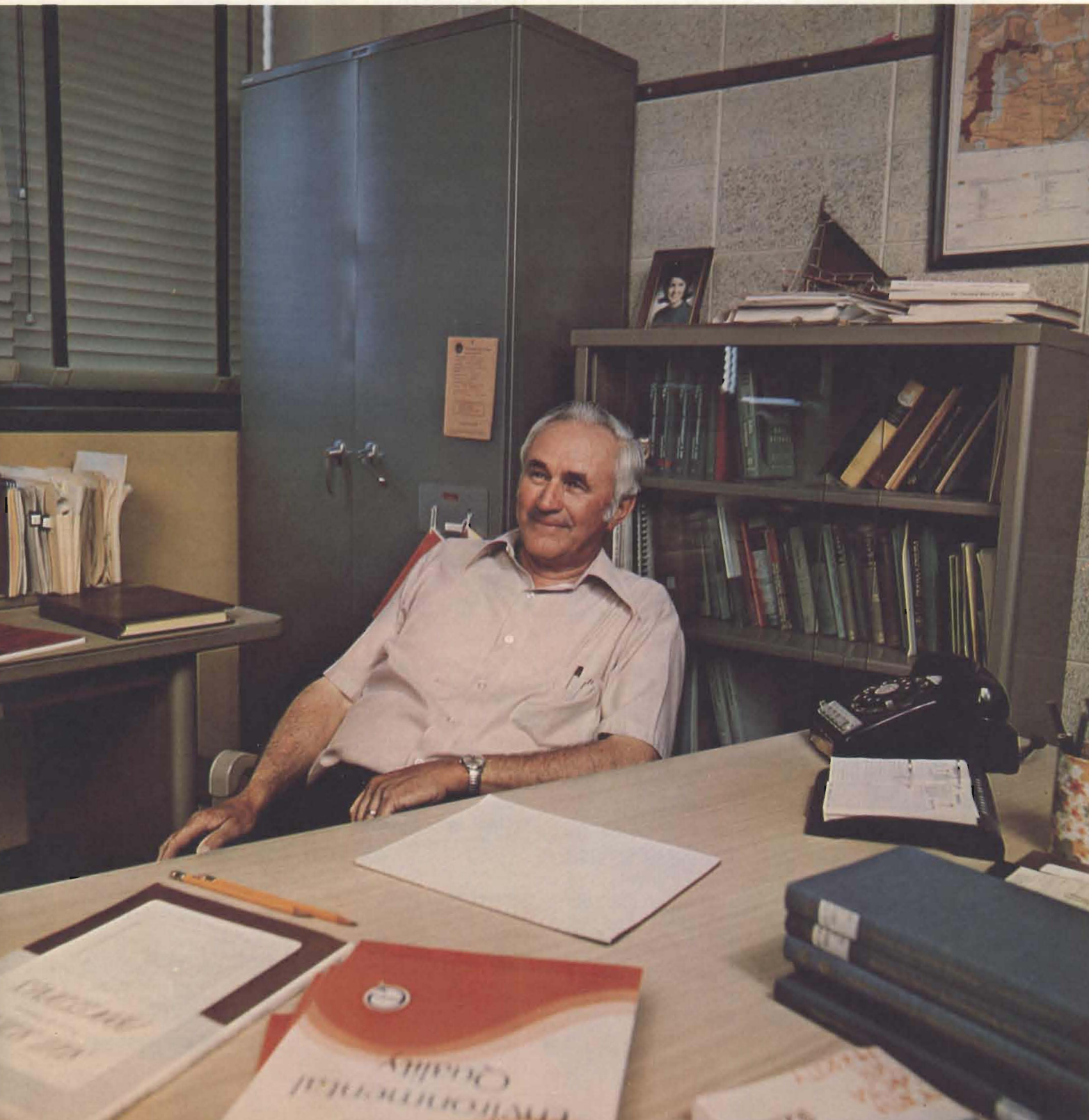

From the Director

A. G. HAZEN

Dr. Enoch B. Norum retired from the position of Chairman, Department of Soils, effective June 30, 1975. This is in keeping with the current retirement policy due to age for professional personnel occupying administrative positions under the jurisdiction of the North Dakota State Board of Higher Education.

Dr. Norum has served North Dakota agriculture as a teacher, researcher and administrator continuously for nearly 28 years, since his initial appointment as an associate professor effective September 1, 1947. And this service has been with unstinted devotion.

During these years, the recognized need for expertise in the soils area at NDSU has increased from the combined efforts of only two professional persons in 1947 to the currently authorized level of 20 professional positions with appropriate supporting employees. Dr. Norum has been very active in developing the two-man effort in 1947 to the present well recognized departmental unit (officially designated in 1959) with diverse and competent teaching and research capabilities.

Also during these years, the value and use of commercial fertilizers, adaption of new crops, development of water resources (irrigation), and advancement of knowledge about our soils through general and detailed soils surveys have all shown great strides forward. Without question, Dr. Norum has been a positive influence on these developments. Many of these developments have not been without problems which required extensive research, interpretation of data, and value judgment by experienced personnel, such as Dr. Norum, to assist in providing answers.

Dr. Norum deserves our recognition for his contributions during an extended career of devotion to agriculture for this area. We also extend to him this expression of appreciation for his services and our best wishes for a happy and contented retirement period.

In This Issue

On The Cover: Dr. E.B. Norum, retired but not exhausted, looks ahead to completing a special research study for the Agricultural Experiment Station on the movement and drainage of irrigation water in the soil. (Photo by Jim Berg).

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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.