

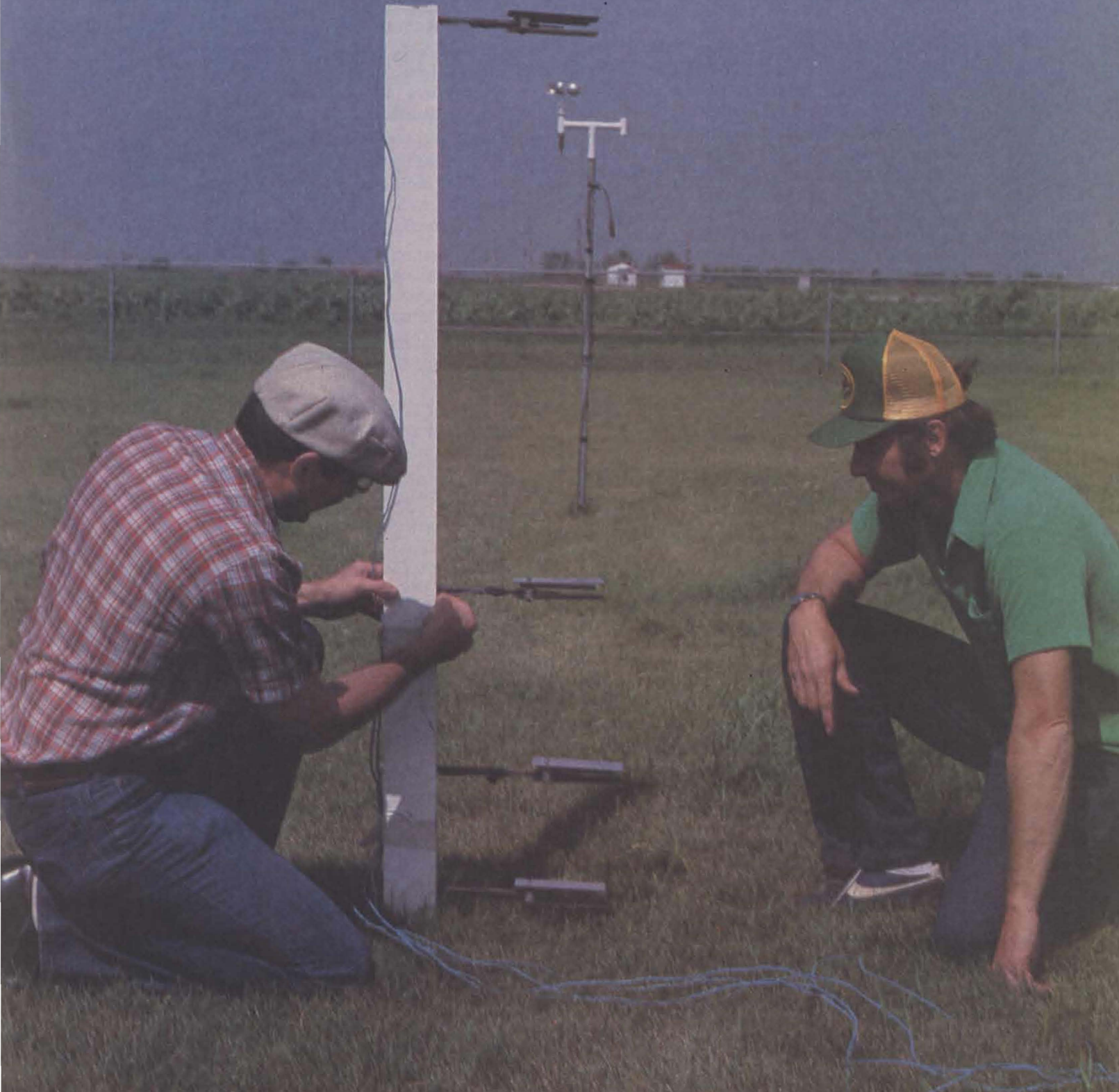


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# GUEST COLUMN



**J. E. Foss**  
Department of Soil Science

Soil has sometimes been termed the "skin of the earth." This "skin," generally 3 to 4 feet thick, is one of the most important natural resources in North Dakota and is intrinsic to the success of agriculture in the state. It has been said that air quality is a good index or measure of the health of the environment. We can also unequivocally say the status of the soil resource is a good measure of the health and quality of agriculture and mankind in a given region. One only needs to examine the massive erosion and salinization problems of some **past** societies to realize that survival and quality of life are strongly associated with the soil resource.

The Department of Soil Science at North Dakota State University has as its prime research objective developing and testing soil management systems that provide for high yields, quality products, minimum influence on other environmental components, and sustained production for future generations. Other objectives include: (1) providing information on the nature, characteristics, and potentials of the soil resource; (2) developing soil fertility and management systems for the major crops and soils in the state; (3) developing soil and water conservation methods, and (4) providing and promoting the use of climatic data for agriculture and other users.

The Department of Soil Science is involved in three separate but strongly integrated tasks; these are teaching, research, and service. The department has responsibilities for providing training for soil scientists at the B.S., M.S. and Ph.D. levels. It is vitally important to have trained soil scientists in the various institutions, agencies, industries, and other components dealing with the soil resource. The future success of agriculture in the state is directly related to the training of scientists, not only in soils but all agricultural sciences. The return on the investment in our educational system,

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**On the Cover:** John Enz and Lynn Brun check instruments at the climatological research facility. This issue presents an overview of past and present research conducted by the Department of Soil Science, including climatology. Photo by James Berg.

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**H. R. Lund**

*Dean of Agriculture, and Director  
of Agricultural Experiment Station*

**EDITOR**

*Gary Moran*

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**Continued from page 2.**

although difficult to quantify, is perhaps unsurpassed in all the state-supported programs.

The various subdivisions for research activities in soil science include the following: soil chemistry/plant nutrition; climatology/soil microclimate; soil and water conservation; soil classification, survey, and genesis; soil fertility; soil management; soil physics; and soil testing. In this issue of North Dakota Farm Research, a summary of past and present research programs in these areas will be reported. Although a great deal of research has been accomplished over the past few decades, many challenges remain as cropping systems change, economics become more important, and as emphasis changes from maximum production to maintaining and improving the quality of the soil resource. Two important research areas in maintaining our soil resource in a productive state are soil erosion by wind and water and soil salinization. Both these problems will receive high priority in our future research efforts.

Research activities in the Department include laboratory, greenhouse, and field experiments. Other departments including Agronomy, Botany, Geology, Animal Science, Agricultural Engineering, Agricultural Economics, Bacteriology, Horticulture, Plant Pathology, Biochemistry, and the Land Reclamation Research Center at Mandan contribute substantially to

the research program in soil science. The complicated and involved aspects of most research problems dealing with the soil resource necessitates a team approach. Field research at the branch experiment stations is an integral part of the overall effort in soil science research. Various state and federal agencies, industry, and other individuals cooperate and support the research in soil science.

The service portion of the work in soil science at North Dakota State University is accomplished mainly by personnel of the Extension Service. Those in the soil science area are Dr. Carl Fanning, Dr. Ed Vasey, and Dr. Allan Cattanach. Mr. Frank Sobolik, stationed at Williston, has a split appointment with the Extension Service and the Department of Soil Science. In addition to activities of the Extension personnel, most of the research-teaching staff participate in field days and answer numerous requests for information on subjects such as soil testing, soil fertility and management systems, climatic data, irrigation, soil survey interpretations, and soil and water conservation.

The teaching, research, and service activities dealing with the land resource are vital for a growing and prosperous agriculture in North Dakota. Hopefully, the efforts put forth by the Department of Soil Science and its numerous cooperators will result in the wise use and preservation of that precious "skin of the earth."

Agricultural Experiment Station  
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of Agriculture and Applied Science  
University Station  
Fargo, North Dakota 58105  
Publication

*H.R. Lund*

DIRECTOR

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