



NORTH DAKOTA  
**Farm Research**

Bimonthly  
Bulletin

Vol. 49, No. 6

Winter 1992-93





## Director's Column

H. Roald Lund

The humorist of the early part of this century, Will Rogers, is reported to have said there is always a period of economic instability in each state when the legislature is in session. It appears that the 1993 legislature session will again be an important period in the life of the North Dakota Agricultural Experiment Station (NDAES). For the past several years we have used several federally funded initiatives to promote the growing and management of alternative crops as well as important new work in agricultural product processing, leading to a "value added" dimension in North Dakota agriculture.

It is important that the state legislature recognize that federal assistance eventually needs a state partner. We plan to present several real and important opportunities for the legislature's response this session. Also at the top of the NDAES facilities request is an animal health and care structure to provide research and technology transfer for the improvement of the animal industry in this state. Your interest in and support of these program and building initiatives is solicited.

It is fun to look ahead, but a backward glance now and then can provide much perspective. This fall we held a reunion of individuals who had attended some of the agricultural short courses and Farm Folk Schools held at NDSU over much of this century. What an experience! We plan to hold another reunion in fall 1993. Drop me a note for more information. An article by David Danbom in this issue of *Farm Research* describes the short course experience.

Your solid support of plant breeding research over the past 50 years has helped produce the largest wheat crop on record. It is no accident that nearly all the crops grown in North Dakota were bred at NDSU by NDAES and USDA-ARS scientists. Your input and support carried the program to provide high yielding, strong-strawed varieties resistant to the diseases produced by prolonged damp, cool weather. The varieties of the 40s and 50s would have been burned in the fields due to rotted straw and heads.

So ends 1992. I look forward to the challenges of the remaining years in this century for research and service to the citizens of this state and region. North Dakota has a strong history of state financial support for programs in agricultural research. Let's work together to keep it that way.

## In this Issue

The Short Course Experience at the NDAC . . . . .	3
<i>David Danbom</i>	
Semi-Drawf Durum Response to Planting Rate in Northeastern North Dakota . . . . .	6
<i>Bryan K. Hanson and John R. Lukach</i>	
The Hunt For Economic Development . . . . .	13
<i>Jay A. Leitch and James F. Baltezare</i>	
Effects of Using 'Ultra Early' Tomato Lines as Seed Parent on the Earliness and Fruit Size of F <sup>1</sup> Hybrids . . . . .	18
<i>A.A. Boe and G.A. Tuskan</i>	
A Crop Calendar for Spring Wheat and for Spring Barley . . . . .	21
<i>Armand Bauer, A.B. Frank and A.L. Black</i>	
Effect of Deworming Heifers on Gain and Reproduction . . . . .	26
<i>S.L. Boyles, L.J. Johnson, W.D. Slanger, B.K. Kreft and J.D. Kirsch</i>	
In Search of Leafy Spurge Control Herbicides . . . . .	31
<i>Rodney G. Lym and Katheryn M. Christianson</i>	
Distribution of Nitrate-N and Soluble Phosphorus in Displaced Wind Erosion Sediments in the Red River Valley . . . . .	36
<i>L.J. Cihacek, M.D. Sweeney and E.J. Deibert</i>	

**On the Cover:** Two well-known NDSU horticulturists retired in December 1992. Robert H. Johanson, seated, a potato breeder at NDSU for 42 years, released 15 new varieties. Arthur A. Boe, standing, has served as chair of the Department of Horticulture and Forestry and as a breeder of horticultural varieties, particularly tomatoes and squash. Photo by Anne Lennox.

NORTH DAKOTA  
**Farm Research**  
 Bimonthly Bulletin

**Vol. 49, No. 6** **Winter 1992-93**

A progress report published by the  
**Agricultural Experiment Station  
 North Dakota State University  
 Agriculture and Applied Science**  
 Fargo, North Dakota 58105

**H.R. Lund**  
*Dean of Agriculture, and Director  
 of Agricultural Experiment Station*

**EDITOR**  
 Gary Moran

Agricultural Experiment Station  
NORTH DAKOTA STATE UNIVERSITY  
of Agriculture and Applied Science  
University Station  
Fargo, North Dakota 58105  
Publication

*H.R. Lund*

DIRECTOR

to

Non Profit Org.  
U.S. Postage

**Paid**

Permit No. 818  
Fargo, N. Dak.

