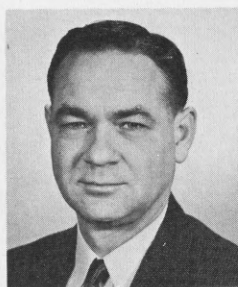


From the DIRECTOR



A. G. HAZEN

Recently, it was my privilege to represent the Agricultural Experiment Stations of the 12 states in the North Central Region at the dedication ceremonies of the United States Department of Agriculture Meat Animal Research Center at Clay Center, Nebraska. This responsibility was a part of my duties this year as chairman of the North Central Regional Association of Agricultural Experiment Station Directors.

This new research center is being developed on a part of the U.S. Navy Hastings Ammunition Depot to develop, through research, new technology for meat animal production. The goals are to improve carcass merit and reduce costs of cattle, sheep and hogs.

It was with tremendous pride of accomplishment on the part of those I represented that I took part in this dedication. My message was simple, gained from several years of experience with and observation of the agricultural research that is conducted in these great United States of America by both public and private institutions, organizations and individuals. We are just naturally going to accomplish more in the way of useful results from agricultural research by cooperating and working together than we will ever be able to accomplish working separately. This is true between and among the several state experiment stations as well as between them and the Agricultural Research Service and other similar units of our federal government and private industry as well.

As one of the directors of the North Central Region, I have been aware of the development of this new research facility. I have every faith that the cooperative relations between this unit and the Agricultural Experiment Station of the University of Nebraska will be close and fruitful for all of us. We all look forward to many years of success, not only from the standpoint of cooperative relations, but also, and more importantly, from the standpoint of useful research results which may come from this physical facility and its complement of capable personnel.

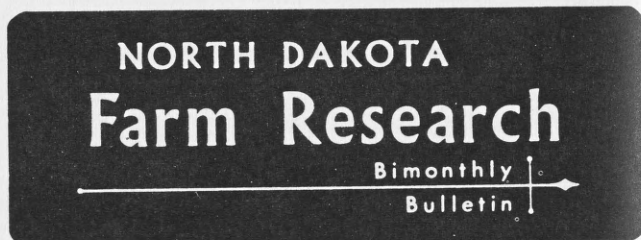
A dedication such as this culminates a tremendous amount of thought, discussion, planning, cooperation, legislation and construction. These things have been accomplished by many people

(Continued on Back Cover)

In This Issue

Influence of Tillage Method on Incorporation of Fertilizer Phosphorus	3
The Sulfur - Supplying Power of Certain Red River Valley Soils	7
Grass Species Studies in Northwestern North Dakota	10
Costs and Returns of North Dakota Agriculture ..	13

On The Cover: Forage harvest in the research plots of the Experiment Station is a small-scale operation. Terry Schwartzenberger and Lawrence Perry serve as scale supports, while Wayne Nerby, agronomy research technician, checks the weighing operation. Weighing is part of an experiment with five alfalfa varieties to check yield and quality of forage harvested on specific dates as compared to yield and quality when alfalfa is cut at specific stages of plant growth.



Vol. 26, No. 5

May - June, 1969

A BIMONTHLY progress report published
by the

**Agricultural Experiment Station,
North Dakota State University of
Agriculture and Applied Science**
Fargo, North Dakota 58102

Arlon G. Hazen

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

EDITORIAL ADVISOR

John A. Callenbach

EDITORS

Robert A. Jarnagin

Dorothea McCullough

James A. Berg

Table 4. Net cash income per farm, North Dakota, averages, 1949-51 and 1965-67.

	1949-51	1965-67
Cash income		
Receipts from marketing	\$8,055	\$14,852
Government payments	80	2,671
Total cash income	\$8,135	\$17,523
Cash expenses		
Current operating	\$2,938	\$ 6,134
Fixed	1,309	2,933
Total cash expenses	\$4,247	\$ 9,067
Net cash income	\$3,888	\$ 8,456

on family living and to reinvest in the farm business.

The net cash income is greater than the net farm income. This is true because the fixed non-cash items are excluded. It is essential that a certain amount of the cash income be set aside each year for the purchase of capital items needing replacement.

North Dakota agriculture has made economic growth during the 16-year period from 1949-51 to 1965-67 as indicated by the increase in net farm income. In this analysis, one must keep in mind that while the net farm income to North Dakota agriculture as a whole increased, the number of farms decreased 20 per cent which resulted in the total net farm income being distributed among fewer farmers in the 1965-67 period. Although the production expenditures consumed a higher proportion of the realized gross farm income in 1965-67 than formerly, the net farm income after allowing for the production expenditures and changes in inventory still showed a marked increase in 1965-67 over the 1949-51 period.

FROM THE DIRECTOR

(Continued from Page 1)

and in many different ways. But it also formally initiates a program of research which can be expected to add materially to both the theoretical and practical scientific knowledge which is of paramount importance to us in our present and future lives.

Agricultural Experiment Station
NORTH DAKOTA STATE UNIVERSITY
 of Agriculture and Applied Science
 University Station
 Fargo, North Dakota 58102
 Publication



DIRECTOR

Postage Paid
 U. S. Department of Agriculture

to

R. L. WITZ
 ENGINEERING DEPARTMENT