

From the DIRECTOR



A. G. HAZEN

However anyone tries to define agriculture in words, agriculture remains basic to life itself. At the same time, agriculture is challenging, exciting, and almost unlimited in its boundaries for encompassing new technologies.

For many years, "agriculture" was generally restricted to mean the **production** of food and fiber. Too many people still persist in this narrow definition, which adds greatly to the stigma to our industry that arises from such common misunderstanding.

If we can accept a short definition of agriculture as the art of handling our biological world for the good of mankind, then the importance of college preparation for an agricultural career, including its production phases, quickly becomes obvious.

But in addition to the production phases, agriculture also includes storage, processing, transporting, and marketing food and fiber plus all the attendant services that modern agriculture requires. Still another large field in agriculture that demands the best of college educations is that which encompasses all of the business aspects of the industry.

From this viewpoint of agriculture, we can sort out dozens of possible arrangements of formal courses and educational experiences. In fact, the smorgasbord of offerings is almost limitless. But, from the maze have emerged certain guidelines that I believe are fundamentals or essentials to college preparation for an agricultural career.

The first is furtherance of the ability to communicate clearly and effectively. The most successful individuals are those who can ably read, write and speak.

Secondly is a good grasp of mathematics, preferably through calculus and including physics. Through mathematics we can make tangible measurements of the seemingly intangible things that we find in the biological world. And we need to understand the basic principles of heat, light, sound and electricity, if for no other reason than to better understand the environment in which we live.

(Continued on Back Page)

In This Issue

Farm Costs and Returns on Wheat, Small Grain and Livestock Farms in North Dakota	3
High Moisture Oats in Rations for Beef Cattle	5
Sainfoin . . .	
A New Legume for North Dakota?	11
Recent Changes in North Dakota Population	14

On The Cover: Dr. H. Roald Lund, associate professor of agronomy, shows that tall corn will grow at the Fargo Station. This variety was grown as part of a cooperative project with the University of Missouri in a search for a day-length insensitive gene that might result in an improved variety for North Dakota. It is a cross between an open-pollinated Missouri variety and an exotic Mexican corn. The fact that this crop has tasseled is one indication that such a day-length insensitive gene is present.

NORTH DAKOTA Farm Research

Bimonthly
Bulletin

Vol. 27, No. 1

September - October, 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

FROM THE DIRECTOR

(Continued From Page 2)

The next essential ingredient is chemistry. Our future life is destined to depend on our ability to manipulate the chemistry of matter, the chemistry of metabolism, the chemistry of life itself.

To these basic ingredients the student can add several others to concoct the desired complete recipe of college education. From the basics of reading, writing and arithmetic, the student can move easily into one of two dozen or more specialized curricula in agriculture.

For the past few years, as the trend in production agriculture has been toward fewer but larger farm units, a larger percentage of rural and farm young people have migrated to the urban areas of our country. But, collaterally, the production potential of every individual in the industry has become more important. As time goes on, the gap between the demand of the agricultural industry for highly educated and skilled employees and the supply grows larger. But the industry is taking steps to reduce the gap.

One such effort that I am personally involved in as a member of the Board is Agricultural Careers, Inc. This is a non-profit organization based in Lincoln, Nebraska and operating in close cooperation with the University of Nebraska and other colleges of agriculture throughout the nation. One of its largest projects is the National Agricultural Youth Institute, the third of which was held August 4-15 this year at the University of Nebraska, with 117 boys attending from Nebraska and 46 other states and Puerto Rico. Other ACI projects include issuing publications and educational materials calling attention to the opportunities in agriculture, helping employers contact available potential employees, and coordinating the interests of potential employers and educational institutions in providing the best agricultural education.

Agricultural Careers, Inc., was founded to help find the highest quality leadership possible for agriculture in the future. The industry of agriculture must attract its full share of the nation's best young minds if it is to uphold its responsibilities toward fulfilling the food and fiber needs of our rapidly expanding national and world population.

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

Allen L. Hayer

DIRECTOR

to



POSTAGE AND FEES PAID
United States Department of Agriculture

R. L. WITZ
ENGINEERING DEPARTMENT