

From the DIRECTOR



A. G. HAZEN

With jet aircraft travel, satellite transmission of sound and pictures, and millions of interested people, the world of today is indeed a small one. Man's ingenuity brings almost instantly daily happenings from all over the total world into the home of virtually every citizen of the United States. This makes international relations perhaps more important to us than ever before in our history. International relations is a relationship among nations not entirely unlike the relationship among members of a family, citizens of a community, or the population of our nation. While it may seem remote to many of us, international relations is nevertheless important and something which deserves attention.

It is highly unlikely that the men responsible for enactment of the Morrill Act of 1862, the Hatch Act of 1887, and the Smith-Lever Act of 1914 into federal laws, which still serve today as the foundation of our Land Grant Universities in the several states, really had international relations in mind as an important aspect of their visions. However, this unique combination of laws and the resulting agricultural capabilities have made available opportunities to serve international relations in a very meaningful way.

At the present time the College of Agriculture, North Dakota State University, has an enrollment of 59 foreign students pursuing both Master of Science and Ph.D. degrees. Additionally, there are 131 American graduate students, making a total of 190. Your Agricultural Experiment Station currently supports with modest stipends 26 of the foreign and 62 American students who are identified as Graduate Research Assistants. These students participate very actively in the needed brainpower and manpower of the agricultural research program for North Dakota and the surrounding area.

The foreign graduate students come from 20 different countries of the world. The largest number from a single foreign country is eight from the Republic of China. All of the graduate students must excel in academic performance before being

(Continued on Back Page)

In This Issue

The Value of Quality Premiums Paid to North Dakota Wheat Farmers	3
Farmland Values in North Dakota Continue to Climb	8
Results of the Bowman-Slope Hail Suppression Program	11
Disposal of Sugar Refining Lagoon Effluents in Fargo Silty Clay Loam	17
Report of Trials Using Injectable Vitamins on Steer Calves and on Cows	21
Off-Station Small Grain Research at the Williston and Dickinson Stations	23
Production Costs for Sunflowers in the Red River Valley	27

On The Cover: Checking for protein is one of the most important steps in identifying high quality wheat. North Dakota sells wheat into the export market mainly because of its high protein content. William J. Rumpca of the Cereals Technology and Chemistry Department examines a protein distillation flask in the continuous search for better wheats.



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covered. If the gross income was over \$35.05 the excess would be a return to management.

The difference between total production costs with and without fertilizer was \$5.20. All but three costs changed when fertilizer was added. The added costs included the fertilizer and a fertilizer attachment added to the planter, the cost of fertilizer handling time, and the extra cost to handle the increased output. Output must increase enough to at least cover the extra costs of using fertilizer, \$5.20 in this example. If output did not increase enough to cover this cost, then the practice should be dropped or analyzed to see what adjustments are needed to make the practice profitable.

What additional equipment is required for sunflowers in addition to the typical small grain equipment? The producer must have row cultivating equipment and must invest in a sunflower harvest attachment for his combine or hire the work done.

Sunflowers generally are grown under contract. Production costs help us make a better analysis of production or marketing contracts.

Farming is highly competitive so business adjustments must be studied constantly and decisions made on what to do, how to do it, how much to do, and when to do it. Production costs and returns provide the guides for making production decisions. The cost information presented here can be

used as a guide for the individual farmer to make a decision as to how sunflowers might fit into his cropping program. You are encouraged to use your own costs where possible. Each farm has a different mix or amount and quality of resources to use. Therefore, costs vary from farm to farm and the most profitable crop combination differs from farm to farm.

FROM THE DIRECTOR (from page 2)

admitted to a graduate program of study. Thus both the foreign and American students represent a high level of intelligence and competence. We believe this mix of students at the graduate level is mutually highly desirable. The foreign student brings to our faculty, students, and agricultural research program many ideas and inspirations which serve to make our total program more meaningful and useful. They also bring a willingness to work as they learn. At the same time, they are at liberty to pick and choose those items of knowledge and technique which can be made useful in their native country when they return.

History clearly indicates the value of education as it affects the general welfare of mankind. The modest sum utilized for Graduate Research Assistants pays handsomely in dividends right back into North Dakota as well as making a very positive contribution to international relations and the agriculture of our sister nations.

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