

From the DIRECTOR



A. G. HAZEN

Hard red spring wheat exports over the decade 1961 to 1971 have risen from about 30 million bushels to more than 113,000,000 bushels in 1970-71. Much of the increased exports has resulted from the salesmanship of our marketing experts. But a high quality product, in demand on the export market, makes the selling job easier.

The need for quality existed 10 years ago when marketing people in North Dakota started building the export market. With markets becoming more competitive for hard red spring wheat and durum, the demand for high quality remains. But even high quality wheat is not enough to offset the effects of strikes which tie up our coastal ports causing customers to turn to other markets they can depend on for consistent supplies of grain.

Factors affecting the total market for spring wheat and durum have a direct impact on North Dakota wheat farmers. This state traditionally produces more than half of the hard red spring wheat and about 85 percent of the nation's durum. Because of competition and partially as the result of recent coastal dock strikes, the total demand for spring wheat is now forecast for 240 million bushels annually. Durum need on an annual basis is set at about 80 million bushels.

Wheat crops far in excess of market demands mean depressed prices, such as producers have been experiencing this year. During the last two years, North Dakota wheat farmers produced spring wheat 40 to 50 million bushels short of actual market demands. During the 1971 season, wheat producers went 100 million bushels over the market demands.

Using current yields as a guide, we could produce our traditional share of the total hard red spring wheat market needs on about 4.5 million acres. In 1971, North Dakota farmers harvested 6.4 million acres of hard red spring wheat. Using average yields for durum, we could have produced our share of the market on about 2 million acres. We harvested about 2.3 million acres in 1971.

(Continued on page 40)

In This Issue

Quality Factors of the 1971 Durum Crop	3
The Quality of North Dakota's 1971 Hard Red Spring Wheat	10
The Continuous Bread Baking System: An Additional Criterion for Wheat Quality Evaluation	21
Agronomic Performance of Triticale in North Dakota	29
Infectious Bovine Rhinotracheitis: Immunization and Relationship to Incidence of Abortion	31
Crop Production Costs and Profit Returns	33
Annual Report of the North Dakota Agricultural Experiment Station	37

On The Cover: Dr. Ned D. Bayley, center, director of science and education for the United States Department of Agriculture, Washington, D.C., sees some of the evidence of the high quality of North Dakota's hard red spring wheat during a recent tour of NDSU wheat quality laboratories. Prof. Orville Banasik, chairman of the Department of Cereal Chemistry and Technology, at right, shows him and Director Arlon G. Hazen of the North Dakota Agricultural Experiment Station a sample loaf of bread baked in the laboratory oven as a test of wheat quality.

NORTH DAKOTA
Farm Research
Bimonthly
Bulletin

Vol. 29, No. 3

January - February, 1972

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

H. Roald Lund

EDITORS

Robert A. Jarnagin

J. J. Feight

Gary Moran

Dorothea McCullough

Farm Research

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

Albert L. Hayes

DIRECTOR

to

POSTAGE PAID
U.S. DEPARTMENT OF
AGRICULTURE



R. L. WITZ
AGRIC. ENG. DEPT.

Geigy Chemical Corporation
Pfizer and Company
Peter J. Schweitzer Division, Kimberly Clark Corporation
G. D. Searle and Company
Shell Chemical Company
Frito Lay, Incorporated
Thomson Hayward Chemical
United State Rubber Company
Velsicol Chemical Corporation
Chevron Chemical Company
Harold Schafer
Leo Anderson
Penn Salt Chemical Corporation
Moorhead State College
Colorado State University
Basin Electrical Power Cooperative
Central Power Cooperative Research
North Dakota Beef Cattle Improvement Association
Cargill Incorporated
Union Carbide Corporation
Ralston Purina
Ansul Company
Sunflower Weed Research
Stauffer Chemical Company
American Hoechst Company
Diamond Shamrock Chemical
Olin Agricultural Division
Gulf Oil Foundation
Pillsbury Company
Garrison Diversion Conservancy District
Model Cities, Fargo
North Dakota Business and Industrial Development
Commission
North Dakota State Wheat Commission
Legislature Research Committee
State Game and Fish Department
Hail Insurance Adjustment Research Association
North Dakota Outdoor Recreation Agency
Kennecott Copper Corporation
Shell Development Company
North Dakota State Water Commission
Eli Lilly and Company
State Entomologist
Dow Chemical Company

Phillips Petroleum Company
Joseph McAvoy Memorial
Ford Motor Company
Western Rain Bird Sales Incorporated
Eimco Corporation
Melroe Company
Hart-Carter Company
Permasep Products Division
Hoffman LaRoche
Elanco

FROM THE DIRECTOR —

(Continued from page 2)

Fitting production to the demand is never easy. On the other hand, wheat producers can ill afford the luxury of being unconcerned about the size of the market and the total demand for their commodity as it relates to their production.

We must make every effort to maintain quality and to expand utilization. We must continue our efforts to expand our export markets and continue to maintain or increase our domestic consumption, however frustrating the domestic market might be. Marketing experts say that durum semolina for use in the manufacture of such pasta products as macaroni and spaghetti appears to have the best future so far as consumption of a wheat food is concerned here in the United States.

However challenging the effort is to increase the demand for wheat as a commodity, North Dakota producers are not inclined to give up readily. No one has a greater stake in the demand and markets for wheat than the producer himself.