



NORTH DAKOTA Farm Research

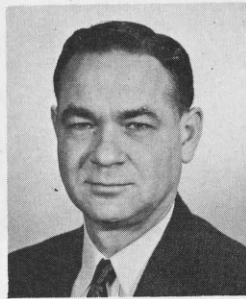
Bimonthly
Bulletin

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From the DIRECTOR



A. G. HAZEN

This issue of Farm Research includes information relative to the quality of our 1969 wheat production in North Dakota.

Wheat quality is not a simple or single characteristic of wheat. It is not something which can be determined easily, and it is variable not only between varieties but also between geographic locations and different seasons of weather. Once produced and harvested, wheat quality can be affected further by storage and transportation conditions.

To arrive at a valuable and enduring judgment of wheat quality, one must keep in mind two principal parties. These are the producer of the wheat and the first purchaser of the wheat who will begin its processing — the miller.

Many years of experience have demonstrated that plant breeding techniques can greatly influence wheat quality. While breeding a new variety cannot in itself guarantee every crop produced from the variety will be either equal or entirely consistent in quality, these same years of experience have provided ample evidence that plant breeding provides the best single potential for quality control and consistent quality. Giving careful attention to quality together with disease and other environmental factors which can be controlled is why plant breeding techniques have been so successful in developing and maintaining what we regard today as desired wheat quality standards.

A judgment of hard red spring wheat quality is the result of analyzing some twenty factors which can be measured in the laboratory. Some of these factors are considered more important to quality than others, but it is the combination of all of them which constitutes the basis for judgment.

Measurement starts with the kernels of wheat where test weight, 1,000 kernel weight, kernel size, protein content, and enzymes are the principal factors.

In changing the raw kernel to a milled wheat flour, additional factors of flour yield (pounds of flour from pounds of kernels), conditioning properties, ease of milling, ash content, protein content of the flour (some wheat kernels have more

(Continued on Page 8)

In This Issue

Present Agronomic Status of Triticale	3
Lodorm Green Needlegrass Replaces Green Stipagrass	5
Lodorm Green Needlegrass — A New Variety For Revegetating Rangeland	6
Wheat Breeding at NDSU	9
The Quality of North Dakota's 1969 Hard Red Spring Wheat	10
Quality Factors of the 1969 Durum Crop	20
1969 Annual Report of the North Dakota Agricultural Experiment Station	29

ON THE COVER

Charles Berry, graduate student in the Department of Cereal Chemistry and Technology, adds compressed yeast to form a broth. This is an important step in the process of continuous baking that ends in laboratory analysis of the quality in the final baked loaf product.

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