

SYMPOSIUM

Protein Improvement in Cereals and Oilseeds Through Traditional and Modern Genetic Approaches Presented at the 69th AACC Annual Meeting, Minneapolis, MN

Introduction

Proteins of cereal and oilseed crops are highly important both because of their nutritional value and their functional properties. To maintain and improve protein quality and quantity, it is continually necessary to breed new varieties. Traditional breeding technologies, which have been and continue to be highly successful, involve crosses, mutations, selection, and screening. These approaches may soon, however, be increasingly augmented with modern approaches such as recombinant DNA technology, tissue culture, and protoplast fusion, which open exciting new avenues for protein improvement.

For these reasons, a symposium was held at the 69th Annual Meeting of the AACC, which we organized and co-chaired on behalf of the Protein Division of the AACC. This symposium brought together speakers who provided an up-to-date perspective of the problems, history, achievements, and potential of both technologies. A continuing need for traditional breeding approaches in cereal and oilseed protein improvement exists, but

modern genetic approaches now considerably affect our understanding of plant protein biosynthesis, structure, functionality, and regulation and may significantly enhance the quality and quantity of all cereal and oilseed proteins.

Because these presentations provided a comprehensive perspective of methods for protein improvement in cereals and oilseeds, interest was expressed in their publication. We therefore decided, with Dr. Y. Pomeranz, Editor-in-Chief, to publish manuscripts describing as many of these topics as possible in a protein issue of *CEREAL CHEMISTRY*. In addition, contributors of other significant protein-related papers from symposia and technical sessions at the 69th Annual Meeting were asked to submit manuscripts. The result brings together cereal protein research from some of the foremost laboratories in the world and describes advanced methods being used to address current problems. Such state-of-the-art research will further enhance our understanding of cereal protein structures and properties and will improve the quality, value, and utilization of our most important food commodities.

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