

MSU Conducted Industry Wheat Trials For Wheat Quality Testing of Advanced Lines

Project GREEN No.: GR04-081

Team Leader: Perry K.W. Ng

Team Members: Edward Tanhehco and Rick Ward

Project justification

In the United States, wheat contributes more than \$7 billion to the gross domestic product (GDP). Farmers produce approximately 57 million metric tons of wheat annually in the U.S. and about one-third is soft wheat. Nearly two-thirds of the nation's wheat crop is grown in the Midwest and eastern United States. About 50 percent of the soft wheat grown in this region is exported. In Michigan, soft wheat contributes more than \$100 million each year to the state's economy and the milling industry adds another \$1.5 billion. Most of the wheat grown here is soft white wheat and the majority of the crop is consumed within the state. Consistent, high quality crops are needed to help maintain and improve Michigan's soft wheat market.

Objective

Improve wheat quality (milling and baking attributes) in MSU wheat breeding lines via coordinating quality evaluation by the Michigan wheat industry of advanced lines from strip trial tests and assessing acceptability for potential release.

Results and Accomplishments

- a. Quality parameters for grain, flour, dough properties and baking were used to evaluate the quality of nine wheat varieties.
- b. A detailed report on quality evaluation of wheat varieties was published in January 2005. It was made available to all Michigan wheat-related industries and presented at the Michigan State Millers' Association winter meeting in January 2005.
- c. Results from solvent retention capacity assays have identified certain wheat lines possessing unique protein quality. Traditional assays would not have identified these wheat lines.
- d. Information flow through both verbal and printed routes has increased among Michigan's wheat industry on MSU wheat lines with respect to quality attributes.

Impacts

Quality information about soft wheat varieties grown in Michigan in 2004 has become more readily available for the soft wheat industry; and millers have been sharing the quality evaluation report with their customers about the crop for that particular year.

Summary Statement

A wheat quality-testing program is needed to establish and maintain good, consistent quality wheat. Information on wheat quality is essential for Michigan's wheat industry and wheat breeders to have more comprehensive information available to make planting decisions.

Funding Partnerships

Project GREEN awarded \$5,000 to this project, which secured \$10,000 in funding from the Michigan State Millers' Association. The direct support leverage factor for this project was two.