Brabender® CWB

Let's Make Quality Pasta with the Glutograph®-E

A key factor in determining the quality of pasta is the gluten content of wheat flour. Successful prediction of end product quality from wheat flour in its raw state is the key to economics of the whole manufacturing process in terms of money, time and labor. Making a reliable statement about performance of flour in the processing line greatly depends on the evaluation of its rheological properties which is a picture of its gluten quality. The Glutograph®-E is a potential instrument to predict the gluten strength and end use quality of wheat cultivars in breeding programs, at country elevators as well as for product development processes. This technical note presents a brief recipe outline, demonstrating the inclusion of the Glutograph®-E in a pasta extrusion process line.

RECIPE

Ingredients:

Glutographic input

Wheat flour/semolina

Additives and /or optional ingredients

Water

Instructions:

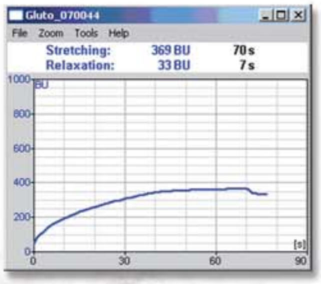
1. Prepare the wet gluten sample and place between the two parallel, round corrugated plates of the Glutograph®-E. Total time including sample preparation and running a test is approximately 7 min.

2. Run the test following the instructions given on the touchscreen of the Glutograph®-E. The upper plate of the Glutograph®-E stands still while the lower plate turns with a constant force. As the lower plate is deflected against the upper one, this constant force or shear stress

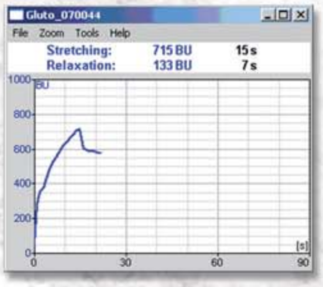
stretches the sample depending on the strength of gluten. After having reached a certain deflection, the sample is released and recovers according to its elasticity. The Glutograph®-E score is recorded in seconds. The stronger the gluten, the longer the time it takes to stretch to the set point of deflection.

3. Record the output in your database. Output is given in the form of two simple technical parameters and a Glutograph®-E curve. The parameters - Shear Time (ST) determines the extension\stretching properties of sample while Relaxation Time (RT) determines the elasticity of the sample.
4. Analyze the results. ST and RT give important information about the performance of dough in a product process line. Dough characteristics like water absorption, stability, stickiness and machine handling properties can be very well predicted using Glutograph®-E parameters.
5. Based on the Glutographic assessment, tailor dough properties with additives and make operational adjustments.
6. Run the prepared dough enriched with Glutographic input on a pasta extrusion line with confidence and enjoy a smooth processing operation in your manufacturing facility.
7. Finish the production process with drying operations followed by packaging of dried pasta.

The Glutograph®-E predictions go beyond the processing line. Cooking properties have also been found to be correlated with Glutograph®-E parameters. Doughs with strong gluten characteristics yield firm pasta while weak gluten reduces the quality of pasta and the resulting pasta is soft and mushy.



Strong gluten curve



Weak gluten curve

The Glutograph®-E is a promising tool for quality evaluation of wheat flour in terms of dough strength and extensibility. Important predictions about the performance of dough in a process line and end product quality can be made with this technically simple method. The Glutograph®-E may serve as an important investment in your research facility or wheat processing lines. Contact our sales team to run a free demonstration and see how the Glutograph®-E can make a difference in your production process.