

all over the United States requires that surveyors travel constantly, following the wheat harvest as it progresses around the country. The soft red winter, hard red winter and hard red spring harvests often occur at the same time in different parts of the country, and surveyors must criss-cross the nation to obtain samples.

The samplers pick up wheat samples from elevators and log all pertinent information related to location and any information gleaned from elevator operators regarding yields, test weights, sprout, insect problems, weather damage, etc. Samplers often back-track repeatedly due to rain delays or varietal differences to provide the best, most representative sampling of the crop. At the end of each day, the samplers ship collected samples by overnight delivery to the laboratory. At the lab, they are tested for an extensive list of parameters.

Each wheat sample is tested for moisture, ash, protein, falling number value, thousand-kernel weight, and an area composite for grade. Once tested for these characteristics, the samples are segregated first by area (as shown in Fig. 2), then by protein and falling number values. Once segregated, the samples are composited and milled into flour, with mill settings that mimic commercial milling conditions as closely as possible. Currently, CII Laboratory Services is gauging the demand for splitting the existing 21 HRW areas and eight HRS areas further (in half or thirds) to provide more detail.

The flour derived from each area's wheat samples is then measured using numerous rheological tests, including, but not limited to, farinograph, amylograph, and alveograph. In addition to the standard moisture, ash, protein, and falling number values, many other tests are performed on the flour, such as color, wet and dry gluten, sedimentation, etc. values. Figure 3 shows a complete list of tests performed. Sample results

are grouped based on protein content (11.5–12.5 and >12.5%) and falling number (<250 or >250). In a typical wheat report, the wheat information is expressed as percent distribution. For example, 38.5% of the wheat tested in an area had a protein content between 14.1 and 14.5%. An example of the Crop Quality Survey can be viewed online at www.ciiilab.com (click on Demo Crop Survey).

All analyses are posted online as soon as the tests are completed (daily updated information) during the harvest, providing the

source of the rapid information required to effect a smooth and economical transition from one crop year to another for all participants.

The value of the survey exerts itself throughout the year as mills attempt to provide the lowest cost blends for their customers and bakeries try to maintain consistent high-quality production. It is only through the accumulation of knowledge and its application that better wheats can be bred, more efficient production can be accomplished, and a competitive global position can be maintained.

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| • Wheat Moisture | • Farinograph Tolerance | • L (alveograph) |
| • Wheat Protein (12% mb) | • Farinograph Absorption | • W (alveograph) |
| • Flour Yield | • Farinograph M.T.I. | • L (color) |
| • Flour Moisture | • Bake Volume | • A (color) |
| • Flour Protein (14% mb) | • Bake Grain | • B (color) |
| • Flour Ash (14% mb) | • Bake Texture | • Kernel Size (0/7) |
| • Wet Gluten | • Sedimentation | • Kernel Size (0/9) |
| • Falling Number | • Amylograph (65 g) | • Kernel Size (T/9) |
| • Farinograph Peak | • P (alveograph) | • Starch Damage |

Fig. 3. Wheat flour tests performed to illustrate the performance of the year's crop in a particular area. (Copyright CII Lab Services 1996-2003)



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An advertisement appeared here in the printed version of the journal

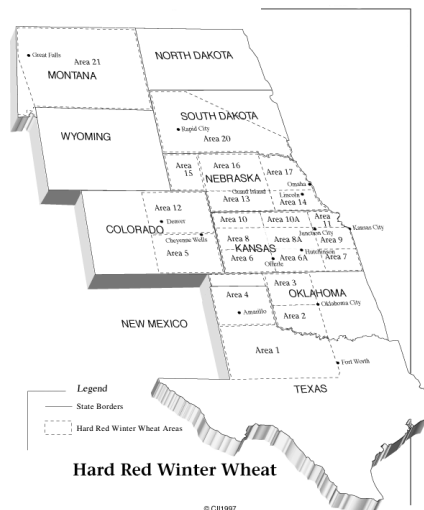


Fig. 2. Historical hard red winter wheat areas used to survey this wheat class. (Copyright CII Lab Services 1996-2003)