Determining Percent of Germination of 2014 Wheat Samples as a Function of Falling Number

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Our purpose was to determine if falling numbers had any impact on germination rate in spring wheat and Kamut samples. Falling number is the internationally recognized standard for determining sprout damage. Falling number is essential for measuring grain production quality-the lower the falling number, the lower the quality of flour. The Perten Glutomatic Falling Number Apparatus measures the time that a plunger falls to the bottom of a glass tube filled with a heated slurry of flour and water. The average falling number should be approximately 350-450 seconds. Shorter time indicates high levels of enzyme activity, which inhibits the success of the bread making quality. This experiment showed that our falling number hypothesis, that all grain samples would have a falling number range of 350-450 seconds was incorrect. Our second and third hypothesis was shown to be correct, as higher falling numbers correlated with both a greater percentage of germination as well as vigor in Kamut and spring wheat samples. Pearson's correlation coefficient of 0.759 showed positive correlation between falling number and germination in both spring wheat and Kamut samples. T-tests comparing all samples had a very high significance, and if this test was repeated we would likely get similar results.

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