



# San Juan County

WASHINGTON STATE UNIVERSITY  
EXTENSION

## Barn Owl Wheat Grain Quality Analysis 2019

**Table 1. Wheat Grain Quality.** Mean  $\pm$  standard deviation (SD) from the mean for each treatment

Observation	Control	Compost	Fertilizer	$p^1$
<b>Grain Quality Variable</b>				
Test Weight (lb/ bu)	59.9 $\pm$ 0.3	59.6 $\pm$ 0.2	59.9 $\pm$ 0.5	NA
Hardness (SKCS 4100)	56.3 $\pm$ 5.6	54.5 $\pm$ 4.6	56.0 $\pm$ 4.5	0.693
Single Kernel Weight (mg)	35.1 $\pm$ 3.4	37.0 $\pm$ 4.5	38.9 $\pm$ 5.1	0.123
Size (mm)	2.7 $\pm$ 0.1	2.7 $\pm$ 0.1	2.8 $\pm$ 0.1	NA
Wheat Protein (%)	<b>9.2 <math>\pm</math> 0.6<sup>a</sup></b>	<b>9.1 <math>\pm</math> 0.5<sup>a</sup></b>	<b>10.2 <math>\pm</math> 0.5<sup>b</sup></b>	<b>0.000002</b>
Milling Flour Yield (%)	63.1 $\pm$ 0.3	63.0 $\pm$ 0.5	63.2 $\pm$ 0.2	0.489
Break Flour (%)	40.7 $\pm$ 1.3	40.7 $\pm$ 1.0	40.2 $\pm$ 0.5	0.34387
Flour Ash (%)	0.4 $\pm$ 0.01	0.4 $\pm$ 0.01	0.4 $\pm$ 0.02	NA
Mill Score	<b>75.5 <math>\pm</math> 0.9<sup>ab</sup></b>	<b>74.8 <math>\pm</math> 0.6<sup>a</sup></b>	<b>76.1 <math>\pm</math> 0.8<sup>b</sup></b>	<b>0.00169</b>
Flour Protein (%)	7.8 $\pm$ 0.6	<b>7.8 <math>\pm</math> 0.4</b>	<b>8.9 <math>\pm</math> 0.5</b>	<b>0.000001</b>
Mixograph Absorption (%)	<b>58.3 <math>\pm</math> 0.8<sup>a</sup></b>	<b>58.7 <math>\pm</math> 0.9<sup>a</sup></b>	<b>60.2 <math>\pm</math> 0.8<sup>b</sup></b>	<b>0.0002</b>
Absorption (%)	<b>61.0 <math>\pm</math> 1.4<sup>a</sup></b>	<b>61.2 <math>\pm</math> 1.3<sup>ab</sup></b>	<b>62.5 <math>\pm</math> 1.0<sup>b</sup></b>	<b>0.0244</b>
Mix Time (min)	3.4 $\pm$ 0.4	3.7 $\pm$ 0.4	3.4 $\pm$ 0.5	0.313
Loaf Volume (cc)	<b>723 <math>\pm</math> 33<sup>a</sup></b>	<b>741 <math>\pm</math> 33<sup>a</sup></b>	<b>800.0 <math>\pm</math> 32<sup>b</sup></b>	0.000095
Crumb Grain (scale 1 - 9)	<b>6.0<sup>a</sup> <math>\pm</math> 1.0</b>	<b>5.7 <math>\pm</math> 0.7<sup>ab</sup></b>	<b>5.0 <math>\pm</math> 0.7<sup>b</sup></b>	0.0351
Potential Loaf Volume (cc)	75.0 $\pm$ 48.7	94.4 $\pm$ 18.1	82.6 $\pm$ 19.1	0.432

<sup>1</sup>The probability value associated with the treatment in the analysis of variance. For observations where a significant treatment effect ( $p \leq 0.05$ ) was indicated, values are highlighted in bold. Pairwise statistically significant differences calculated using Tukey's Honestly Significant Difference (Tukey's HSD) test are indicated by different letter superscripts. Values that are not available are indicated as NA.