



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
Grain Quality Variable				
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 (%)	9.2 \pm 0.6^a	9.1 \pm 0.5^a	10.2 \pm 0.5^b	0.000002
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	75.5 \pm 0.9^{ab}	74.8 \pm 0.6^a	76.1 \pm 0.8^b	0.00169
Flour Protein (%)	7.8 \pm 0.6	7.8 \pm 0.4	8.9 \pm 0.5	0.000001
Mixograph Absorption (%)	58.3 \pm 0.8^a	58.7 \pm 0.9^a	60.2 \pm 0.8^b	0.0002
Absorption (%)	61.0 \pm 1.4^a	61.2 \pm 1.3^{ab}	62.5 \pm 1.0^b	0.0244
Mix Time (min)	3.4 \pm 0.4	3.7 \pm 0.4	3.4 \pm 0.5	0.313
Loaf Volume (cc)	723 \pm 33^a	741 \pm 33^a	800.0 \pm 32^b	0.000095
Crumb Grain (scale 1 - 9)	6.0^a \pm 1.0	5.7 \pm 0.7^{ab}	5.0 \pm 0.7^b	0.0351
Potential Loaf Volume (cc)	75.0 \pm 48.7	94.4 \pm 18.1	82.6 \pm 19.1	0.432

¹The 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.