

Barn Owl Wheat Amendment and Seeding Rate Trial 2019

Table 1. Amendment for 2019. Mean \pm standard deviations (SD) for treatments

Observation	Control	Compost	Fertilizer	p^1
Agronomic				
Grain Yield (lbs./ acre)	1806 \pm 337^a	2182 \pm 283^b	1878 \pm 381^a	0.025
Height (cm)	109.6 \pm 5.1	112.4 \pm 3.1	110.4 \pm 4.9	0.360
Lodging	2.6 \pm 1.8	2.78 \pm 2	6.4 \pm 8.1	NA
Percent cover and biomass				
6-18 Stand Count	42.3 \pm 20.8	42.7 \pm 19.1	36 \pm 18.6	0.712
6-18 Wheat % Cover	61.1 \pm 14.6	63.1 \pm 19.8	57.7 \pm 15.7	0.796
6-18 Weeds % Cover	22.9 \pm 12.5	28.9 \pm 12.1	32.5 \pm 13.1	NA
7-23 Wheat % Cover	55 \pm 17	55.6 \pm 10.1	55 \pm 18.2	0.996
7-23 Weeds % Cover	29.4 \pm 12.7	32.8 \pm 14.6	36.1 \pm 16.7	0.645
7-23 Wheat Biomass (g)	189 \pm 53.1	195.3 \pm 48.2	172.8 \pm 49.7	0.641
7-23 Weeds Biomass (g)	24.1 \pm 21.4	41.6 \pm 32.8	52.7 \pm 27.3	0.115
7-23 Nightshade Biomass (g)	17.9 \pm 21.5	30.2 \pm 28.6	36.3 \pm 24.9	0.288
Soil characteristics				
Infiltration T2 (sec.)	269 \pm 281.1	284.3 \pm 255.9	186.4 \pm 169	0.622
Soil organic matter (%)	6.57 \pm 0.35	5.93 \pm 0.77	6.87 \pm 1.01	0.425
pH	5.93 \pm 0.12	6 \pm 0.1	5.87 \pm 0.15	0.051
NO ₃	13.97 \pm 4.25^{ab}	10.4 \pm 2.02^a	15.17 \pm 2.63^b	0.026
NH ₄	5.93 \pm 0.80	6.3 \pm 0.89	7.43 \pm 2.24	0.249

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. Values that are not available are indicated as NA.

^{a, b, c}Differences between letters following mean treatment and standard deviation values represent statistically significant post-hoc differences between treatments using Tukey's HSD (honestly significant difference) test.

Table 2. Seeding rate for 2019 (lbs./ acre). Mean \pm standard deviations (SD) for treatments

Observation	Low — 60	Medium — 120	High — 180	p^1
Agronomic				
Grain Yield (lbs./ acre)	1747 \pm 280^a	2007 \pm 412^{ab}	2113 \pm 315^b	0.040
Height (cm)	110.7 \pm 6.3	111 \pm 4.1	110.8 \pm 4.1	0.987
Lodging	3.7 \pm 4.6	5.44 \pm 7.5	2.67 \pm 1.6	NA
Percent cover and biomass				
6-18 Stand Count	20.4 \pm 2.3	41.7 \pm 13.2	58.9 \pm 12.7	NA
6-18 Wheat % Cover	43.3 \pm 11.9^a	64.7 \pm 10.4^b	73.9 \pm 8.5^b	0.001
6-18 Weeds % Cover	34.2 \pm 15.7	27.5 \pm 12.7	22.7 \pm 6.6	0.105
7-23 Wheat % Cover	43.3 \pm 8.3^a	57.8 \pm 13.0^b	64.4 \pm 14.9^b	0.001
7-23 Weeds % Cover	43.9 \pm 14.7^a	28.9 \pm 8.9^b	25.6 \pm 13.1^b	0.011
7-23 Wheat Biomass (g)	141.7 \pm 30.5^a	202.7 \pm 31.4^b	212.8 \pm 51.6^b	0.002
7-23 Weeds Biomass (g)	60.7 \pm 33.7^a	29.8 \pm 15.6^b	27.9 \pm 24.6^b	0.022
7-23 Nightshade Biomass (g)	47.9 \pm 30.3^a	16.6 \pm 15.2^b	20 \pm 17.0^b	0.008

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