Project Title:

Growth, Yield and Quality Performance of Six Spring Wheat Entries

Objective:

To determine the growth, yield, and quality performance of six spring wheat entries.

Personnel:

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Summary:

Six spring wheat entries (EXP21509, Reg Hale, Reg WB9668, WB9303, WB9623, and WSU Bush) were planted at the Northwestern Agricultural Research Center (field management information is presented in Table 1).

 Among the six entries tested, WB9623 and WSU Bush produced the highest yields, but had the lowest grain protein concentrations, reflecting the inverse relationship between these traits (Figures 1, 2). In contrast, Reg WB9668 and WB9303 showed the highest grain protein concentrations, but the lowest yields.

There is no significant difference in height and falling number values among entries (Table 2). Reg Hale, and Reg WB9668 had numerically higher falling number values than the rest of the entries (>330 seconds, an economically desirable value). Among the six entries, WB9623 and Reg Hale are the top performers based on the agronomic parameters (Table 2).

Table 1. Field Management Information

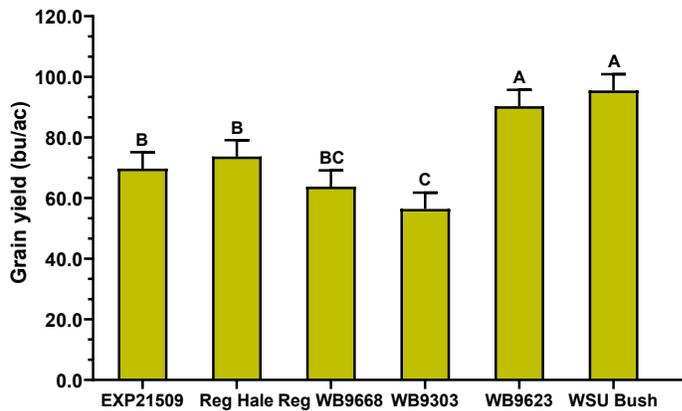|			
Seeding date:	4/22/2025 (112 Julian)	**Field Location:**	R6
Seeding rate:	24 seeds/ft^2	**Harvest date:**	8/13/2025 (225 Julian)
Previous crop:	Barley	**Soil type:**	Creston Silt loam
Herbicide:	Axial Bold Cleansweep	**Tillage:**	Conventional
Insecticide:	N/A	**Soil residual nutrient (N, P, K lb/A):**	66-8-140 (Fall 2024)
Fungicide:	N/A	**Nutrient fertilizer applied (N, P, K lb/A):**	246-77-161 (Spring 2025)

Figure 1. Grain yield of six spring wheat entries. The same letter assignment denotes nonsignificance at α=0.05.
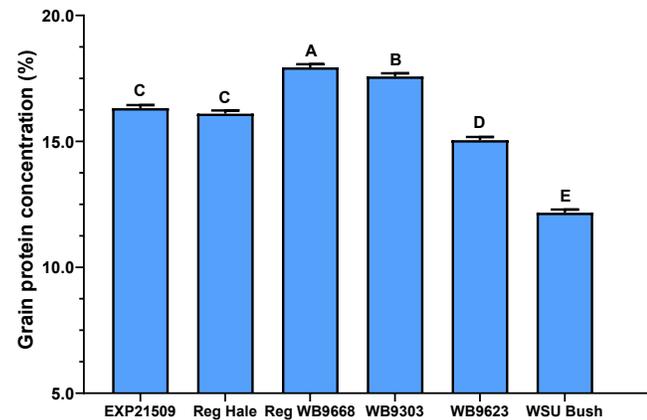

Figure 2. Grain protein concentration of six spring wheat entries. The same letter assignment denotes nonsignificance at α=0.05.

Table 2. Agronomic Performance of Six Spring Wheat Entries

Entry	PLNT HT (in)	TWT (lbs/bu)	TKW (g)	FN (seconds)
EXP21509	25.3a	61.0b	45.7c	308a
Reg Hale	25.0a	62.1a	52.2a	341a
Reg WB9668	28.0a	60.6bc	41.5d	343a
WB9303	27.7a	59.5c	45.7c	242a
WB9623	25.0a	61.6ab	50.8ab	296a
WSU Bush	27.1a	62.2a	49.2b	326a
Mean	26.4	61.2	47.5	309
F value	0.70	8.69	44.84	5.01
Pr>F	0.63	0.0004	<0.0001	0.33

Note: Values with the same letter within column are not significantly different at P<0.05

PLNT HT: Plant Height, TWT: Test Weight, TKW: Thousand Kernel Weight, FN: Falling Number