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Epix Seed Wheat Variety Trial 2022-2023

Report prepared by Nicole Fiorellino, Ph.D., Extension Agronomist, University of Maryland

The Epix Wheat trial was performed at Wye Research and Education Center, in Queenstown, Maryland in the 2022-2023 growing season. Seven varieties were entered (Table 1.) with one check included from Pioneer. Table 2 outlines the management of the trial, including preplant fertility and burn-down, in-season crop management, and harvest date. We followed the high management protocol provided by Epix Seed for the trial. All varieties were replicated three times within the trial, which was performed in a randomized complete block design, meaning each replicate of all varieties were blocked together in one range across the field. All varieties were randomized within each replicate and plots were 6' x 30". Plots were harvested with a Wintersteiger combine equip with HarvestMaster software to record grain weight, test weight, and moisture content at harvest. Yield data were analyzed using a mixed model analysis of variance with means separation of yield by variety determined using Tukey's Honest Significant Difference at P<0.05.

Table 3 presents monthly precipitation throughout the growing season. We had a generally mild winter and relatively dry spring, which was ideal for wheat production to minimize incidence of disease, including Fusarium Head Blight. Some Barley Yellow Dwarf Virus symptoms were observed locally and at the Research Center. Table 4 presents average yield in bushels per acre corrected to 13% moisture, average test weight in pounds per bushel, average moisture at harvest, and estimated heading date by variety, with Figure 1 visually displaying yield by variety, with error bars representing standard error of the mean. Extremely high yields were observed in these small plots in the trial this year. The remainder of the field where the study was located and other wheat fields at this location also yielded well in 2023. It is common to see increased yields on the small plot scale, but the high management of this trial likely helped increase yields. The Epix Experimental 64 variety was the highest yielding variety in the trial, with statistically similar yields to both Epix 1365 and Epix 4372, as indicated by the "a" subscript in each of these varieties. All other varieties in the trial had statistically lower yields than Epix Experimental 64.

Table 1. Varieties entered in the trial with average seed per pound and reported maturity rating.

Variety	Seeds per pound	Maturity
Epix 1375	12600	v. early
Epix 1365	11149	v. early
Epix 2356	11400	early
Epix 2392	13000	early
Epix Exp. 64	13250	medium
Epix 4372	12500	medium
P25R74	13000	medium



Table 2. Field operations in the trial for the 2022-2023 growing season.

Date	Operation
October 21, 2022	500 pounds of 6-10-36-5S
October 21, 2022	Glyphosate (24 oz/ac)
October 28, 2022	Planted at 1,650,000 live seed per acre with Great Plains 6' No-Till Drill
November 14, 2022	Prowl (3.5 pt/ac)
November 29, 2022	Quelex (0.75 oz/ac) + MSO (8 pt/100 gal)
March 1, 2023	15.3 gal/ac of 30% UAN with Streamjet nozzles
March 31, 2023	15.3 gal/ac of 30% UAN with Streamjet nozzles
May 7, 2023	Miravis Ace (13.7 oz/ac) + Scanner (2 pt/100 gal)
June 26, 2023	Harvest

Table 3. Monthly precipitation at Wye Research and Education Center.

Month	Precipitation, inches
October	4.55
November	2.21
December	5.19
January	1.89
February	2.05
March	1.56
April	4.96
May	1.37

Table 4. Average grain yield, corrected to 13% moisture, average test weight in pounds per bushel, average moisture at harvest, and estimated heading date for all varieties in the trials. There were statistical differences in grain yield, with varieties with different letter subscripts having significantly different yields.

Variety	Yield, bu/ac at 13% moisture	Test Weight, lb per bu	Moisture, % at harvest	Heading Date, estimate
Epix 1375	162 b	66.5	15.1	April 20
Epix 1365	165 ab	63.9	14.1	April 20
Epix 2356	161 b	65.8	14.6	April 24
Epix 2392	162 b	65.6	14.7	April 24
Epix Exp. 64	179 a	65.4	14.7	April 29
Epix 4372	168 ab	64.4	14.1	April 26
P25R74	160 b	63.8	13.0	April 29
Average	165	65.0	14.3	-



Figure 1. Average yields plus standard error of the mean for the varieties in the 2022-2023 Epix trials. Varieties with different letters have significantly different yields.

