

## CORN HYBRID YIELD RESPONSE ON A LEEPER SILTY CLAY LOAM SOIL

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**ABSTRACT:** The 2001 growing season was excellent for corn production. Pioneer 3394 had lower yield than the other 5 hybrids. Pioneer 31R88, Pioneer 34B24, Pioneer 32K61, and Pioneer 3223 showed no difference in yield. HS 9843 and Pioneer 3223 showed no difference in yield. All hybrids had test weights of 56.5 lb/bu or higher. Seed moisture at harvest indicated Pioneer 31R88 had 17.1%, which was higher than the other hybrids. Pioneer 34B24 had seed moisture of 14.7% and was lower than Pioneer 31R88, Pioneer 32K61, Pioneer 3223, and HS 9843. Days from planting to 50% tassel ranged from 65 to 69 days.

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**MATERIALS AND METHODS:** Six corn hybrids were evaluated for yield potential on a Leeper silty clay loam soil (Table 1). The study was conducted as a randomized complete block design with four replications. Plot size was four 30 inch rows by 500 ft. Fertilizer (P and K) were applied based on soil test recommendations. Soil test results indicated a high level of P and medium K level. Potash (K<sub>2</sub>O) at 200 lb/ac was applied broadcast to the soil surface on 10/30/01. Liquid N solution (32% N) at 160 lb N/ac was applied sidedress (6 inches from the row and 2 inches deep) on 5/08/01. Land preparation consisted of disking corn stubble 9/28/00; doalling 11/11/00; bedding 11/12/00; paratilling 11/15/00; and rebedding 11/20/00. Corn hybrids were planted 4/23/01 at 28,000 seed/ac in 30 inch rows. Gramoxone (paraquat) + atrazine + surfactant at 0.75 + 2.0 lb ai/ac + 0.4 pt/ac was applied preemergence on 4/23/01. Lorsban (chlorpyrifos) 15G at 1.3 lb ai/ac was applied in-furrow at planting. Evik (ametryn) at 1.8 lb ai/ac was applied post direct broadcast to corn 10 to 16 inches tall on 5/26/01.

The center 2 rows of each plot was harvested with a plot combine equipped with a corn head. The grain was weighed, and seed moisture and test weight were determined with a Dickey John<sup>®</sup> GAC II seed analyzer. The grain yields were adjusted to bu/ac at 15% seed moisture. All data was statistically analyzed and treatment means were separated using Fisher Protected LSD at the 5% probability level.

**RESULTS AND DISCUSSION:** The 2001 growing season was favorable for corn production. Yields ranged from a low of 100 bu/ac for Pioneer 3394 to 140 bu/ac for Pioneer 31R88. Pioneer 3394 had lower yield than the other 5 hybrids in the study. Pioneer 31R88, Pioneer 34B24, Pioneer 3223, and Pioneer 32K61 had similar yield. Pioneer 31R88, Pioneer 34B24, and Pioneer 32K61 had higher yield than HS 9843. Pioneer 3223 and HS 9843 yields, however, were similar. Pioneer 31R88 had a seed moisture of 17.1, higher than all other hybrids. Pioneer 34B24 had 14.7% seed moisture at harvest, lower than Pioneer 31R88, Pioneer 32K61, Pioneer 3223, and HS 9843. Pioneer 3394 and 34B24 had similar seed moisture. Days from planting to 50% of the plants tasseled ranged from 65 to 69 days. Seed test weight ranged from 56.5 to 59.5 lb/bu.

**Table 1.** Corn hybrid yield response on a Leeper silty clay loam soil in 2001, Verona, MS.

Hybrid	Brand	Plants/ac X 1000	DAP to 50% tassel <sup>2</sup>	% SM <sup>1</sup>	bu/ac	BTW lb/bu <sup>3</sup>
1) 31R88	Pioneer	23.1	65	17.1	140	56.6
2) 34B24	Pioneer	22.6	65	14.7	138	57.1
3) 32K61	Pioneer	23.7	65	15.4	136	59.5
4) 3223	Pioneer	22.3	69	15.9	133	57.0
5) HS9843	AgriPro	22.5	68	15.9	124	56.5
6) 3394	Pioneer	<u>20.1</u>	<u>65</u>	<u>15.3</u>	<u>100</u>	<u>56.9</u>
	Mean	22.4	66	15.7	128	57.3
	LSD (.05)	N	2	0.6	11	0.6
	% CV	8.6	2	2	6	1

<sup>1</sup> % SM = percent seed moisture at harvest, 9/12/01.

<sup>2</sup> DAP to 50% tassel means days after planting to 50% of the plants had tassels.

<sup>3</sup> BTW lb/bu means bushel test weight in pounds/bu.