

**ROUNDUP READY  
SOYBEAN MATURITY GROUP III TRIAL IN 2004**

**N.W. Buehring, M.P. Harrison, R.R. Dobbs**

Northeast Branch Experiment Station; North Mississippi Research and Extension Center;  
Mississippi State University; Verona, MS 38879.

**ABSTRACT:** Fifteen Roundup Ready maturity group III varieties were evaluated in 16-inch rows on a Marietta silt loam soil in 2004. The environmental growing conditions for maturity group III soybeans were unfavorable during the early growing season with 163 and 211% of normal rainfall in May and June, respectively. All varieties began blooming in late May and maturity ranged from 8/11/04 to 8/26/04. Plant height at maturity ranged from 20 to 29 inches. Yields ranged from 31.7 to 56.1 bu/ac with a study mean yield of 44 bu/ac. Asgrow AG 3905, Armor GP470, Terral TV 39RS3, Asgrow AG 3702, and Progeny 3900RR were not different in yield from the highest yield of 56.1 bu/ac for Pioneer 93M90. The lowest yielding variety was NK S39-K6 with 31.7 bu/ac which was similar to Asgrow AG 3802, DK 3964 RR, Deltapine DP 3861RR and Armor 39-E9 which had yields ranging from 33.6 to 40.0 bu/ac. The preliminary data indicated that maturity group III soybean varieties have potential for North Mississippi. Variety selection based on yield and appropriate disease resistance is highly important for successful soybean production.

**CITATION:** Buehring, N.W., M.P. Harrison, and R.R. Dobbs. 2005. Roundup Ready Soybean maturity group III trial in 2004. Annual Report 2004 of the North Mississippi Research and Extension Center. Mississippi Agricultural & Forestry Experiment Station Information Bulletin 419:72-74.

**KEYWORDS:** Soybean, maturity group III

**MATERIALS AND METHODS:** The study was conducted in 2004 on a Marietta silt loam soil, Verona, MS. The experiment was conducted as a randomized complete block design with four replications. Plot size was 3 (16-inch) rows x 20 ft. Fertilizers P and K were applied based on soil test recommendations. Granular potash (K<sub>2</sub>O) at 200 lb/ac, zinc-sulfate (31%) at 10, and superphosphate (P<sub>2</sub>O<sub>5</sub>) at 100 lb/ac as a blend mixture were applied surface broadcast on 10/24/03. The study area was chiseled 1/04/03; doaled (row conditioner) 11/15/03 and 3/25/04. The study was planted no-till on 4/22/04 in 16-inch rows with a seeding rate of 220,000 seed/ac. Roundup WEATHERMAX (glyphosate) + Clarity (dicamba) at 1.0 to 0.25 lb ai/ac was applied as a postemergence burndown application on 3/13/04. Roundup WEATHERMAX at 0.85, 0.72 and 0.85 lb ai/ac were applied 5/11/04, 5/24/04, and 6/11/04 respectively. Maturity date and plant height at maturity were recorded. The varieties were harvested within 5 to 7 days after maturity with a plot combine. Following harvest, the grain was cleaned with a 3-sieve seed cleaner, weighed, and seed moisture and test weight were determined with a Dickey John<sup>®</sup> GAC 2000 grain analysis computer. Yields were adjusted to 13% seed moisture. The data was subjected to Analysis of Variance and treatment mean yields were separated using Fisher Protected LSD calculated at the 5% significance level.

**RESULTS AND DISCUSSION.** Rainfall during the growing season was 6.60, 7.38, and 2.70 inches for May, June, and July, respectively. All varieties began flowering in late May. Soybean maturity ranged from 8/11/04 to 8/26/04. Plant height at maturity ranged from 20 to 29 inches. Yields ranged from 31.7 to 56.1 bu/ac with an overall mean of 44 bu/ac (Table 1). Pioneer 93M90, Asgrow AG 3905, Armor GP470, TV 39RS3, Progeny 3900RR, and Asgrow AG 3702 produced the highest yields of 47.7 to 56.1 bu/ac. These varieties were not different in yield but were higher than DP 3861 RR, Armor 39-E9, and NK S39-K6 yields of 31.7 to 36.3 bu/ac. The DP 3861RR, Armor 39-E9 and NK S39-K6 yields, however, were equal to Asgrow AG 3802, and Delta King DK 3964RR. The preliminary data indicated that maturity group III soybeans have potential for North Mississippi. However, variety selection for resistance to appropriate diseases and selection for high yield is essential for successful soybean production.

**COOPERATORS:** None

**PUBLICATIONS:**

Buehring, N.W., M.P. Harrison, and R.R. Dobbs. 2003. Soybean maturity group III trial. 2002 Annual Report 2003 of the North Mississippi Research and Extension Center. Mississippi Agricultural & Forestry Experiment Station Information Bulletin 398:86-87.

Buehring, N. W., M. P. Harrison and R. R. Dobbs. 2004. Soybean maturity group III Trial. Annual Report 2003 of the North Mississippi Research and Extension Center. Mississippi Agricultural & Forestry Experiment Station Information Bulletin 405:88-89.

Table 1. Roundup Ready Maturity Group III soybean variety trial planted April 22, 2004  
on a Marietta silt loam soil, Verona, MS.

Variety	Brand	2003 Bu/ac	2004 Bu/ac	2004 Maturity date	2004 Plant ht (inch)
93M90	Pioneer	-----	56.1	8/16	26
AG 3905	Asgrow	-----	55.4	8/16	23
GP470	Armor	-----	51.7	8/26	29
TV 39RS3	Terral	-----	50.8	8/18	25
AG 3702	Asgrow	44.1	49.6	8/16	25
3900RR	Progeny	-----	47.7	8/16	28
DPX 3950RR	DPL	-----	42.9	8/16	23
AG 3906	Asgrow	-----	41.4	8/16	22
DK 3968RR	Delta King	34.6	41.3	8/16	20
AG 3802	Asgrow	-----	40.0	8/11	23
DK 3964RR	Delta King	-----	40.0	8/16	28
DP 3861RR	DPL	30.5	36.3	8/11	20
39-E9	Armor	37.3	33.6	8/16	22
NK S39-K6	NK	-----	31.7	8/11	23
		LSD (P=.05)	9.5		
		CV	15.1		
		Grand Mean	44.0		

Shaded values are not significantly different from the highest value.

E2204 Table 1 (10-22-04)