

CONVENTIONAL SOYBEAN VARIETY TRIALS

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ABSTRACT: Four studies were conducted comparing the performance, and growth characteristics of Group IV and Group V maturity soybeans on a Grenada Silt Loam soil in 2001. Varieties were evaluated in separate studies comparing maturity groups of early planting systems. In Study One four Group IV soybean varieties were compared under a conventional herbicide program for performance in North Mississippi. In Study Two, four soybean varieties were evaluated under an ESPS (early season planting system) comparing the performance of Group IV varieties to early Group V varieties for North Mississippi. In Trial Three, early Group V varieties were compared to late Group V varieties on performance for North Mississippi. In Trial Four, three experimental Group V varieties were compared to four standard Group V varieties grown under a conventional herbicide program for performance in North Mississippi.

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KEYWORDS: Soybeans, DPL, Group IV, Group V, Varieties.

MATERIALS AND METHODS: In the spring of 2001 a soybean trial with Delta and Pine Land Company and Mississippi State University was done at the North Mississippi Branch Experiment Station. The varieties (Group IV and V) and protocol for this study were made available by DPL. This test was conducted on Grenada Silt Loam soils with 0-2% slope. The test was planted no-till into a stale seedbed previously in cotton on 38 inch rows. Each plot consisted of four rows, 20 feet in length, replicated three times. A burndown herbicide of Roundup (glyphosate) was broadcast applied two weeks before the first of the varieties were planted at 1.0 lb.ai/ac. The first group of soybeans planted was the IV's which were planted April 20. The group V beans were planted on June 6. All seed were counted and packaged to achieve a recommended seeding rate and planted with a John Deere no-till planter equipped with Almaco Seed Cones. Following both plantings a preemerge herbicide of Squadron (pendimethalin & imazaquin) at 0.87 lb. ai/ac was applied broadcast. The entire plot area received a blanket application of 200 lbs. of 0-20-20 blended fertilizer per acre. A mid-season grass herbicide of Fusilade DX (fluazifop) at 0.25 lb. ai/ac was sprayed for control of seedling johnsongrass. Yield was taken on the Group IV soybeans on October 5 and Group V soybeans on November 5. The two center rows of each plot were harvested with a small plot combine with a sacking attachment. Each plot was bagged and numbered for future weighing. All bags were dried to ambient temperature before weighing. Weights were converted to yield in bushels per acre (60 pounds per bushel).

RESULTS AND DISCUSSION: Test one showed no significant differences between varieties for all Group IV conventional soybeans. The top yielding variety was Pioneer 9482 with 41 bu/ac. The lowest yielding variety was Deltapine 3478 with a yield of 28 bu/ac. All varieties were in the late maturity group. In test two, ESPS set, comparing late Group IV to early Group V, no significant differences were noticed between maturity groups. Yields varied from 33 to 53 bu/ac. Test three was comparing different maturity dates among Group V soybeans. No measurable differences were noted when comparing early Group V to late Group V beans. The lowest yield for this test was 43 bu/ac. for Pioneer 95B33, an early variety. Asgrow 5959, which is a late maturing variety, was the highest yielding at 57 bu/ac. Test four compared experimental Group V varieties to conventional Group V soybeans. Although the experimental varieties yielded slightly higher than the conventionals, statistically no differences were noticed within the test. Yields ranged from 26 to 46 bu/ac. A complete list of varieties and maturity groups are in Table 1.

Table 1. Soybean Yields From Different Varieties and Maturity Groups

Test 1

Variety	Brand	Yield bu/ac	Maturity
DP 3478	Deltapine	28	Late IV
DP 4748-s	Deltapine	35	Late IV
DP 4909	Deltapine	40	Late IV
P 9482	Pioneer	41	Late IV

LSD (0.05) NS

Test 2

Variety	Brand	Yield bu/ac.	Maturity
DP 3478	Deltapine	53	Late IV
DP 5510-s	Deltapine	43	Early V
P 9492	Pioneer	42	Late IV
P 95B33	Pioneer	33	Early V

LSD (0.05) NS

Test 3

Variety	Brand	Yield bu/ac.	Maturity
DP 5110-s	Deltapine	53	Early V
DP 5354	Deltapine	53	Early V
P 95B33	Pioneer	43	Early V
DP 5655	Deltapine	49	Late V
DP 5989	Deltapine	51	Late V
A 5959	Asgrow	57	Late V

LSD (0.05) NS

Test 4

Variety	Brand	Yield bu/ac.	Maturity
DP 96-16909-s	Deltapine	43	Experimental
DP 97-18411-s	Deltapine	42	Experimental
DP 97-2737	Deltapine	37	Experimental
DP 5806-rr	Deltapine	26	Late V
AG 5901-rr	Asgrow	27	Late V
A 5959	Asgrow	27	Late V

LSD (0.05) NS