

Seeding Rate Effect on Yield and other Agronomic Traits of Soybean-2011

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Seeding rate trials were embedded in the soybean variety trials at the Langdon Research Extension Center and the off-station trial in Walsh County near Voss. Seeding rates were adjusted for seed size and germination (90%) and ranged from 125,000 to 250,000 pure live seed per acre (pls/a). The variety Dyna-Gro 30RY04 (maturity group 00.4) was planted at Langdon while Dyna-Gro 30YR07 (maturity group 00.7) was planted at Voss. Planting dates were May 20 and June 1 for Langdon and Voss, respectively. Both locations were not affected by the frost and harvest dates were September 28 and September 29 for Voss and Langdon, respectively.

The LSD 5% and CV% were determined using all data from the entire variety trial at both locations. Seeding rate appeared to have little effect on maturity dates at both locations. Plant height, lodging, protein and oil differences among seeding rates were non-significant at both Langdon and Voss. The yield at the 125 and 150,000 pls/a seeding rates at Voss were significantly lower than 200, 225, and 250,000 pls/a seeding rates. The lowest seeding rate at Langdon had a significantly lower yield than the two highest seeding rates. There was no significant differences in yield between the 150 and 250,000 pls/a seeding rates. Results from these two studies indicate that a seeding rate between 175 and 200,000 pls/a would result in optimum yields.

Walsh County - Voss

Seeding Rate pls/a	Maturity Date	Height (in)	Protein %	Oil %	Yield bu/a	2-site Yield Average bu/a
125,000	7-Sep	28.9	31.4	21.3	46.2	52.8
150,000	8-Sep	30.5	31.5	21.3	46.4	53.7
175,000	7-Sep	28.9	31.4	21.3	48.9	56.3
200,000	7-Sep	29.5	31.3	21.5	50.6	57.7
225,000	7-Sep	30.1	31.0	21.4	50.5	57.9
250,000	7-Sep	29.1	31.4	21.3	50.5	58.1
Mean	7-Sep	29.5	31.3	21.4	48.9	
CV %	1.1	4.7	1.0	1.0	5.3	
LSD 5%	1.5	2.0	0.6	0.4	3.6	

Langdon

Seeding Rate pls/a	Maturity Date	Height (in)	Lodging 0-9	Protein %	Oil %	Yield bu/a
125,000	13-Sep	42.6	2.1	33.9	19.8	59.4
150,000	11-Sep	41.6	0.9	33.7	19.8	61.0
175,000	12-Sep	41.9	1.4	33.9	19.9	63.6
200,000	12-Sep	41.2	1.0	33.5	19.8	64.7
225,000	12-Sep	41.8	1.2	33.6	19.7	65.2
250,000	12-Sep	40.9	2.4	33.8	19.7	65.7
Mean	12-Sep	41.7	1.5	33.7	19.8	63.3
CV %	1.1	4.1	50.6	1.6	1.5	6.2
LSD 5%	1.8	2.4	1.9	1.1	0.6	5.4