

Impact of Seed Size and Planting Depth on Soybean Performance

Blaine G. Schatz

Table 1. Influence of planting depth, seed size and the interaction of planting depth by seed size on soybean performance.

Factor	Early	Later	First	Second	Plant	Pod	Plant	Days	Seeds/	Seed	Seed	Test	Seed
	Visual	Visual	Plant	Plant									
	%	%	plants	plants	0 to 9	cm	inch			%	%	lb/bu	bu/ac

Planting Depth

1.25 inches	20.9	80.2	0.53	1.08	0.3	8.0	26.4	111.2	3399	17.1	34.8	58.0	32.7
2.50 inches	27.9	75.3	0.58	1.01	0.3	8.3	27.2	111.1	3362	17.2	34.9	57.4	31.5
(48 Obs/Trmt)													
LSD.10	**	**	NS	NS	NS	NS	NS	NS	NS	NS	NS	**	NS
LSD.05	**	**	NS	NS	NS	NS	NS	NS	NS	NS	NS	**	NS

Seed Size

Small seed (4834)	22.0	68.4	0.54	1.08	0.3	8.0	26.4	112.0	3392	17.1	34.8	57.6	30.2
Large seed (2894)	26.7	87.1	0.56	1.01	0.30	8.3	27.2	110.4	3371	17.2	34.9	57.8	33.9
(48 Obs/Trmt)													
LSD.10	2.20	3.2	NS	NS	NS	NS	0.7	0.3	NS	NS	NS	0.15	1.3
LSD.05	2.70	3.8	NS	NS	NS	NS	NS	0.4	NS	NS	NS	0.18	1.6
LSD.01	3.60	5.1	NS	NS	NS	NS	NS	0.6	NS	NS	NS	NS	2.1

Planting Depth

Seed Size

1.25 inch	Small (4834)	18.2	71.7	0.57	1.01	0.30	8.3	26.3	112.1	3411	17.1	34.8	57.2	29.9
	Large (2894)	23.5	88.8	0.58	1.01	0.30	7.8	26.6	110.3	3388	17.2	34.9	57.6	33.0
2.50 inch	Small (4834)	25.8	65.2	0.52	1.15	0.30	7.7	26.5	111.8	3372	17.1	34.8	57.9	30.5
	Large (2894)	29.9	85.4	0.55	1.00	0.30	8.8	27.8	110.5	3353	17.2	35.0	58.0	34.7
(24 Obs/Trmt)														
LSD.10		NS	NS	NS	NS	NS	1.0	NS	NS	NS	NS	NS	NS	NS
LSD.05		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Planting Date = June 2 ; Harvest Date = October 15 ; Previous Crop = Spring Wheat

Table 2. Interaction of soybean variety and seed size on soybean performance.

Variety	Seed Size	Early	Later	First	Second	Plant Lodge	Pod Height	Plant Height	Days to PM	Seeds/ pound	Seed Oil	Seed Protein	Test Weight	Seed Yield
		Visual Stand	Visual Stand	Plant Stand	Plant Stand									
ND 03-8688 RR	Small seed (5085)	21.6	71.9	0.76	1.10	0.8	8.0	25.7	117.9	3430	17.5	33.1	55.9	34.9
ND 03-8688 RR	Large seed (2981)	23.3	88.8	0.35	0.96	0.9	9.0	26.2	116.3	3364	17.2	33.1	56.5	37.5
RG600 RR	Small seed (4856)	16.6	62.5	0.61	0.96	0.30	6.4	25.0	106.4	3636	17.3	34.4	57.6	26.1
RG600 RR	Large seed (3177)	18.3	86.9	0.53	0.94	0.10	6.6	24.3	104.5	3698	16.9	34.7	57.7	29.0
RG603 RR	Small seed (5085)	24.1	71.3	0.49	1.09	0.00	7.0	25.7	109.5	3226	16.9	36.0	58.4	28.4
RG603 RR	Large seed (2981)	28.1	85.6	0.78	1.02	0.40	6.9	27.3	108.1	3275	17.3	36.3	58.4	31.7
RG603 RR ASF	Small seed (5085)	22.6	65.6	0.61	1.12	0.1	8.9	26.3	110.4	3195	17.0	36.5	58.4	30.1
RG603 RR ASF	Large seed (2981)	28.3	89.4	0.63	1.03	0.1	9.0	27.4	109.0	3190	17.2	36.5	58.3	33.9
RG604 RR	Small seed (4595)	26.6	79.4	0.36	1.02	0.00	7.8	28.1	111.6	3598	17.2	34.4	57.8	33.2
RG604 RR	Large seed (2892)	38.8	88.1	0.57	1.07	0.00	8.9	28.4	111.1	3586	17.1	34.5	58.2	33.8
RG607 RR	Small seed (4548)	20.4	60.0	0.42	1.22	0.60	9.8	27.5	116.0	3243	16.7	34.5	57.3	28.5
RG607 RR	Large seed (2972)	23.8	83.8	0.52	1.02	0.30	9.5	29.7	113.3	3111	17.4	34.5	57.7	37.3
(8 Obs/Trmt)														
	LSD.10	NS	NS	0.21	NS	NS	NS	NS	0.9	NS	NS	NS	NS	3.2
	LSD.05	NS	NS	0.26	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	LSD.01	NS	NS	0.34	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	MEAN	24.4	77.8	0.55	1.04	0.30	8.1	26.8	111.2	3381	17.2	34.9	57.7	32.1
	C.V.%	27.0	12.0	46.8	24.2	140	25.7	8.8	0.9	3.8	3.3	1.9	0.8	11.9

Planting Date = June 2 ; Harvest Date = October 15 ; Previous Crop = Spring Wheat