

SOYBEAN (*Glycine max*)
Soybean cyst nematode:
Heterodera glycines, race 1,3,5

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Performance Evaluation of Soybean Cyst Nematode Resistant Round-Up Ready Soybeans:

Seven cultivars and two numbered lines were evaluated for adaptation to Delaware growing conditions and resistance to race 1, 3, and 5 of the soybean cyst nematode (SCN). Variety evaluations were conducted at the Research and Education Center near Georgetown in Sussex County on land known to be infested with race 1 SCN, at a growers field infested with race 3 near Harrington, DE in Kent County, and at a growers field infested with race 5 near Laurel, DE in Sussex County. Plots were planted July 1 at Harrington, July 7 at Laurel, and July 12 at Georgetown. All the sites followed a previous soybean crop. Plots consisted of five rows, 23 feet long, spaced 15 inches apart. The plots were arranged in a randomized, complete block design with four replications. Twenty-one feet of all five rows of each plot were combine harvested Nov. 21 (Laurel), Nov. 24 (Harrington) and December 3 (Georgetown).

It was never determined why the yields were so low and the plants so short at the Laurel location.

Table 1- Georgetown

Brand	Variety	Yield Bu/A	Lodging ^a	Plant Height in.	Maturity Date	Pi ^b	Pf ^c	RI ^d
Georgetown, DE (Group III) Race 1 SCN								
Delta-Pine	DPX 3940RR	37 a ^e	2.5	24.3	10/16	408	120	0.29
Southern States	RT-3802	34 b	2.0	25.8	10/17	24	144	6.00
Vigoro	V36C4RR	32 bc	2.3	21.8	10/14	48	432	9.00
Southern States	RT-3799N	31 c	3.0	22.8	10/15	360	528	1.47
Group IV								
Clark	CL 482NRR	41 a	2.3	25.3	10/22	24	0	0.00
Clark	CL 441NRR	41 a	2.0	25.0	10/21	456	456	1.00
Public	MD99-1098-2RR	35 b	1.8	20.8	10/21	312	816	2.61
Group V								
Delta-Pine	DP 5634RR	38 a	2.0	23.5	10/24	24	0	0.00
Public	MD99-0687-3	35 b	2.0	21.8	10/23	336	192	0.57

Table 2- Harrington

Brand	Variety	Yield Bu/A	Lodging	Plant Height in.	Maturity Date	Pi	Pf	RI
Harrington (Group III) Race 3 SCN								
Delta-Pine	DPX 3940RR	40 a	2.3	24.0	10/12	360	2,040	5.70
Southern States	RT-3802	36 a	1.8	26.5	10/11	336	504	1.50
Vigoro	V36C4RR	36 a	1.3	20.3	10/13	168	216	1.28
Southern States	RT-3799N	31 b	2.3	23.3	10/13	768	624	0.81
Group IV								
Clark	CL 482NRR	47 a	1.5	28.0	10/19	624	600	0.96
Clark	CL 441NRR	42 b	1.0	27.5	10/16	648	3,288	5.07
Public	MD99-1098-2RR	37 c	1.0	21.8	10/18	168	4,056	24.14
Group V								
Delta-Pine	DP 5634RR	39 a	1.0	25.8	10/23	384	48	0.12
Public	MD99-0687-3	30 b	1.0	25.0	10/21	504	5,304	10.52

^a Lodging : 1= all plants erect, 9= all plants lodged.

^b Pi = Initial population (pre-plant) of SCNEggs / 0.5 pt soil.

^c Pf = Final population (post-harvest) of SCN eggs / 0.5 pt soil.

^d RI = Reproductive Index = Pf eggs/ Pi eggs.

^e Means followed by the same letter are not statistically different at $P=0.05$ (Tukey's multiple comparison).

Table 3- Laurel

Brand	Variety	Yield Bu/A	Lodging ^a	Plant Height in.	Pf ^b
Laurel (Group III) Race 5 SCN					
Delta-Pine	DPX 3940RR	12 ab ^c	1.0	12.8	292
Southern States	RT-3802	15 a	1.0	14.3	3,846
Vigoro	V36C4RR	9 b	1.0	12.0	2,880
Southern States	RT-3799N	12 ab	1.0	12.8	1,776
Group IV					
Clark	CL 482NRR	19 a	1.0	15.3	744
Clark	CL 441NRR	14 b	1.0	13.5	984
Public	MD99-1098- 2RR	19 a	1.0	12.8	1,104
Group V					
Delta-Pine	DP 5634RR	17 b	1.0	15.5	1,704
Public	MD99-0687-3	19 a	1.0	16.3	2,064

^a Lodging : 1= all plants erect, 9= all plants lodged.

^b Pf = Final population (post-harvest) of SCN eggs / 0.5 pt soil.

^c Means followed by the same letter are not statistically different at $P=0.05$ (Tukey's multiple comparison).