



2011 Pennsylvania Soybean Performance Report

Soybean tests are conducted annually to provide information regarding the performance of soybeans grown in Pennsylvania. This report summarizes performance results for 2011. The shorter season varieties (Groups II and III) were tested at the Russell E. Larson Agricultural Research Center at Rock Springs in Centre County. The longer maturing varieties (Groups III and IV) were tested at the Southeast Agricultural Research and Extension Center located in Lancaster County. Both Glyphosate-resistant (Roundup Ready) varieties as well as non-Roundup Ready varieties were tested at both locations. The following soybean variety trials were implemented for the 2011 season: Early (MG 3.3 and earlier) full-season Roundup Ready in Lancaster County; Late (MG 3.4 and later) full-season Roundup Ready in Lancaster County; full-season non-Roundup Ready in Lancaster County; double crop Roundup Ready in Lancaster; Early (MG 3.0 and earlier) full-season Roundup Ready in Centre County; late full-season (MG 3.1 and later) Roundup Ready in Centre County; full-season non-Roundup Ready in Centre County. Both non-Roundup Ready trials had some Liberty Link varieties entered as well as at least one Roundup Ready variety which was used as a check for comparison against the other varieties. Individual trial results were measured separately and therefore it is highly recommended that comparisons among varieties be limited to within-trial comparisons and not across the different trials.

Procedures. The private seed company entries in this test were those chosen by the companies for testing. The plots in both the Centre County and Lancaster County trials had 5 rows, each planted 20 feet long. Rows were spaced 14 inches apart. Each plot was trimmed to 18 feet and the 3 middle rows were harvested. All trials at both locations were planted in tilled ground. The full-season Lancaster County trials were planted on May 12th, the Centre County trials were planted on May 31st, and the double-crop trial in Lancaster County was planted on July 5th. Seeding rates of the Centre County and the full season Lancaster County trials were adjusted to obtain approximately 150,000 plants per acre. The double crop trials were seeded at a rate to achieve approximately 200,000 plants per acre. Varieties in each trial were replicated four times.

The following observations were made for some or all of the tests (Tables 1-6):

Yield was based on 60 lbs. per bushel and adjusted to 13 percent moisture.

Maturity is the date when approximately 95 percent of pods had reached their mature color.

Height is the average length of plants from the ground to the tip of the main stem.

Lodging was rated in all tests as follows:

- 1 = almost all plants erect.
- 2 = all plants leaning slightly or a few plants down.
- 3 = all plants leaning moderately, or 25-50 percent of the plants down.
- 4 = all plants leaning considerably, or 50-80 percent of the plants down.
- 5 = almost all plants down.

Seed quality was rated according to the following scale:

- 1 = very good
- 2 = good
- 3 = fair
- 4 = poor
- 5 = very poor

Seed size represents the approximate number of seeds in one pound.

Crude Protein (CP) is expressed as a percent of the soybean at 13% moisture.

Oil is expressed as a percent of the soybean at 13% moisture.

Interpretation of results

Variety performance differences are caused partially by genetic differences and partially by soil variation and other environmental variations which cannot be adequately controlled. Thus, small differences in performance may have no significance. Multiple-year averages are a more valid indication of the performance of a specific variety than are data for a single year. Statistical procedures have been used for the most important characteristics to allow meaningful comparisons of variety averages at a particular location. A standard least significant difference (LSD) value is provided for comparing varieties. Any difference between two variety averages that exceeds the LSD value is considered significant and not simply a result of uncontrolled environmental variation.

Traditionally, LSD values have been calculated at the 0.05 level of confidence, which means that when differences between varieties exceed the LSD, we can be 95% confident that the differences are not due to chance. The downside of this approach is that it leads to the conclusion that many varieties in the test have similar yield performance, when there really may be differences in the yield potential. Many universities have switched to a less conservative 0.25 level for the LSD, thus reducing the chance of concluding that varieties are not different, when a true difference exists among the lines. In this report, we present the LSD values at both the 0.05 level and the 0.25 level for your consideration.

The value of coefficient of variation (CV) is a measure of relative variation useful in evaluating the precision achieved in an experiment. In grain and forage trials, for example, the CV value for yield is often between 5 and 15 percent. Confidence in the reliability of the experimental results declines as the CV value increases. Uncontrollable or immeasurable variations in soil fertility, soil drainage, and other environmental factors contribute to increased CV values.

Results

During 2011, yields at the Lancaster County site were considerably higher than the 2010 season. Unusually high rainfall during August and September most likely helped pod fill in the full season trials and especially the double-crop trials, which averaged 56.5 bushels per acre.

Yields in the Centre County trials were comparable to the 2010 trials, with the Early and Late RR trials averaging 65.8 and 69.0 bushels per acre respectively. Beginning in late June and continuing well into July at the Centre County location, the weather turned hot and dry and included a 30 day period with no measurable rainfall. By late July, some timely rainfalls returned and undoubtedly helped in attaining very respectable yields in these trials.

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Table 1.

Non-RR Soybean Variety Performance in Lancaster County, 2011

Source	Entry	Seed Treatment	Yield, bu/A	Height (in.)	Maturity Date	Lodging (1-5, 1=best)	Seeds per lb.	Seed Quality (1-5, 1=best)	Crude Protein % @ 13% H2O	Oil % @ 13% H2O	2 Yr Avg. Yield, bu/A (2010-11)	3Yr Avg. Yield, bu/A (2009-11)
Crissinger Seeds	440 STS SB	Rancona, Metastar, Storcide II,	56.6	33	1-Oct	2.3	3368	2.0	37.3	18.7		
Dyna-Gro	36LL39*		55.4	29	30-Sep	2.3	2254	3.0	39.8	18.4	55.4	
Dyna-Gro	34LL37*		54.7	34	26-Sep	2.5	2937	3.0	35.6	19.3	54.7	
Dyna-Gro	38LL42*		53.9	37	29-Sep	2.5	2813	3.0	37.9	17.8		
T.A. Seeds	TS3609L*		53.2	37	25-Sep	2.5	3093	2.5	35.7	19.2	53.2	53.2
Crissinger Seeds	390 SB	Rancona, Metastar, Storcide II,	52.4	32	25-Sep	2.5	3419	3.0	39.2	17.2		
T.A. Seeds	TS3929L*		50.9	30	1-Oct	2.5	3193	3.0	35.9	19.1		
T.A. Seeds	TS4229L*		49.0	42	1-Oct	2.8	3644	3.0	38.1	18.9		
NK Brand	35-T9 (check)		49.0	34	24-Sep	2.5	2728	3.0	35.1	20.6		
Ohio State University	Wooster (MG 3.9)		48.2	38	27-Sep	3.0	2859	2.5	37.5	18.5		
Ohio State University	Prohio (MG 4.1)		48.2	37	23-Sep	3.3	3035	3.0	36.4	18.5		
Mean			52.0	35	27-Sep	2.6	3031	2.8	37.1	18.7	54.4	53.2
LSD (.05)			NS									
LSD (.25)			4.1									
CV %			8.3									

*Liberty Link Variety

Prepared by: Mark Antle and Greg Roth, Department of Crop and Soil Sciences.

Table 2.

Early Roundup Ready Soybean Variety Performance in Lancaster County, 2011 (MG 3.3 and earlier)

Source	Entry	Seed Treatment	Yield, bu/A	Height (in.)	Lodging (1-5, 1=best)	Seeds per lb.	Seed Quality (1-5, 1=best)	Crude Protein % @ 13% H2O	Oil % @ 13% H2O	2 Yr Avg. Yield, bu/A (2010-11)
Hisoy	HS 31A03	Cruiser Maxx	88.4	45	4.8	2580	2.5	35.5	19.9	
Steyer	3102R2		81.9	46	4.8	2528	4.5	38.8	20.6	
Hisoy	HS 32A14	Cruiser Maxx	80.7	47	3.5	2745	3.0	36.7	18.5	
Pioneer	93Y13*	Cruiser, Trilex, Allegiance	79.8	45	3.3	2667	3.0	37.1	18.1	
Dyna-Gro	37RY33	Acceleron	79.6	48	3.5	2661	2.5	36.5	18.8	
Doebler's	RPM DB3309RR	Gaucho, Trilex 2000	79.5	46	4.5	2609	3.5	37.6	19.1	70.2
Channel	3303R2	Acceleron SY	79.0	46	3.5	2748	3.0	36.0	20.6	
Hisoy	HS 33A14	Cruiser Maxx	78.6	51	4.3	2866	3.0	36.0	20.1	
Pioneer	93Y05	Cruiser, Trilex, Allegiance	77.3	41	3.5	2585	3.5	37.7	18.6	
Steyer	2801R2		76.6	41	3.8	2640	3.0	35.4	20.2	
Dyna-Gro	38RY32	Acceleron	75.1	47	4.0	2585	3.0	37.0	18.3	
T.A. Seeds	TS3229R2		74.7	46	3.8	2392	4.0	38.1	19.4	
Hubner	H31-10R2	Acceleron FI	74.4	46	4.0	2802	3.0	37.0	17.9	
Chemgro	C3244R2		74.3	48	3.8	2725	2.5	36.5	19.0	
Hubner	H33-11R2	Acceleron FI	73.3	46	4.0	2459	3.0	36.5	19.4	
Hisoy	HS 27A14	Cruiser Maxx	73.2	42	4.8	2503	3.0	36.9	18.2	
Hubner	H28-10R2	Acceleron FI	73.2	45	3.8	2652	3.0	37.5	18.4	
Steyer	3203R2		72.4	45	3.8	2565	3.0	38.8	18.7	
Doebler's	RPM DB3010RR	Gaucho, Trilex 2000	71.7	47	3.8	2921	3.0	36.5	18.5	
Pioneer	93M11*	Cruiser, Trilex, Allegiance	70.3	41	3.8	2500	3.0	35.5	19.9	
NK Brand	SK28-B4*	Cruiser Maxx	69.7	42	4.3	2677	2.5	35.8	18.9	
T.A. Seeds	TS2890R		68.3	44	4.3	2568	4.0	37.4	20.2	
Steyer	2702R2		58.1	44	4.0	2511	4.0	35.9	20.6	
Mean			75.2	45	4.0	3093	3.2	36.8	19.2	
LSD (.05)			8.7							
LSD (.25)			5.1							
CV %			8.2							

*Entered by PA Soybean Board

Prepared by: Mark Antle and Greg Roth, Department of Crop and Soil Sciences.

Table 3.

Late Roundup Ready Soybean Variety Performance in Lancaster County, 2011 (MG 3.4 and later)

Source	Entry	Seed Treatment	Yield, bu/A	Height (in.)	Maturity Date	Lodging (1-5, 1=best)	Seeds per lb.	Seed Quality (1-5, 1=best)	Crude Protein % @ 13% H ₂ O	Oil % @ 13% H ₂ O	2 Yr Avg. Yield, bu/A (2010-11)	3Yr Avg. Yield, bu/A (2009-11)
NK Brand	S36-B6	Cruiser Maxx	78.7	46	28-Sep	3.5	2661	2.5	34.4	20.0	67.4	75.5
Mid Atlantic Seeds	MAS3599RR	P250, Cruiser Maxx, Acceleron	77.9	46	27-Sep	3.5	2321	2.5	36.6	20.5		
Mid Atlantic Seeds	MAS3511RRII	P250, Cruiser Maxx, Acceleron	77.5	45	27-Sep	3.5	2722	3.0	35.4	18.9	64.6	
NK Brand	S34-N3	Cruiser Maxx	76.7	44	25-Sep	3.3	2514	3.0	37.9	17.7		
Hubner	H39-12R2	Acceleron FI	75.1	44	30-Sep	4.0	2712	3.5	36.5	17.9		
Channel	3402R2	Acceleron SY	75.0	40	24-Sep	2.8	2475	3.0	36.8	18.5		
Doebler's	RPM DB3809RR	Gaicho, Trilex 2000	74.7	44	28-Sep	3.0	2661	2.5	35.7	20.5	64.6	
NK Brand	S35-T9	Cruiser Maxx	74.6	49	27-Sep	4.0	2154	2.5	36.6	19.5	66.4	72.4
Asgrow	AG4232	Acceleron	74.4	48	8-Oct	3.0	2983	3.0	34.5	18.8		
Mid Atlantic Seeds	MAS3802NRR	P250, Cruiser Maxx, Acceleron	74.2	49	29-Sep	3.5	2495	3.0	38.1	18.1		
Dyna-Gro	38RY35	Acceleron	73.6	45	26-Sep	4.0	2855	3.5	36.3	18.2	64.2	
NK Brand	S39-A3	Cruiser Maxx	73.4	45	27-Sep	4.0	3247	3.0	36.0	18.1	63.7	73.5
Hisoy	HS 42T80	Cruiser Maxx	73.4	45	30-Sep	3.8	2357	3.0	36.8	19.4	60.9	68.8
T.A. Seeds	TS3989RS		73.3	47	30-Sep	3.5	2352	3.0	34.6	20.1	63.3	73.0
Asgrow	AG4130	Acceleron	73.0	40	4-Oct	2.8	2732	2.5	34.9	19.0	60.2	
Channel	3905R2	Acceleron SY	73.0	41	26-Sep	3.5	2735	3.0	35.8	18.0		
Hubner	H36-12R2	Acceleron FI	72.9	38	27-Sep	3.0	2314	3.5	37.8	18.2		
Dyna-Gro	34RY36	Acceleron	72.8	48	26-Sep	4.0	2506	3.5	36.6	18.5		
T.A. Seeds	TS4299RS		72.6	42	28-Sep	3.5	2436	3.0	36.8	19.0	60.7	68.6
Mid Atlantic Seeds	MAS3781NRR	P250, Cruiser Maxx, Acceleron	72.5	47	28-Sep	4.0	2475	3.5	38.2	18.2	62.7	70.7
Hisoy	HS A326	Cruiser Maxx	72.5	41	26-Sep	3.3	2230	3.0	34.0	19.9		
Asgrow	AG3731	Acceleron	72.2	37	27-Sep	2.8	2210	3.0	37.4	18.7		
NK Brand	S38-H8	Cruiser Maxx	72.1	33	29-Sep	1.5	2615	3.0	34.1	19.7	62.6	
Steyer	3402R2		72.1	44	23-Sep	3.8	2420	3.0	37.8	17.7	63.1	71.0
Steyer	3403R2		72.1	47	25-Sep	4.3	2451	2.5	36.9	18.7		
Hisoy	HS 39A03	Cruiser Maxx	71.4	40	4-Oct	3.5	2370	3.0	36.6	18.3		
Chemgro	C3444R2		71.4	39	25-Sep	3.8	2514	3.0	38.4	18.6	66.5	
Hisoy	HS 38A02	Cruiser Maxx	71.0	36	28-Sep	2.5	2470	3.0	36.5	18.8		
NK Brand	S39-U2	Cruiser Maxx	71.0	39	27-Sep	4.0	2921	2.5	35.9	18.6		
T.A. Seeds	TS3829R2		70.1	46	27-Sep	3.8	2441	3.0	36.8	18.7		
Dyna-Gro	32RY34	Acceleron	69.4	47	26-Sep	3.8	3153	4.0	35.3	18.7		
Doebler's	RPM DB3509RR	Gaicho, Trilex 2000	69.4	45	26-Sep	3.3	2433	3.0	35.1	19.7		
Mid Atlantic Seeds	MAS4077RR/STS	P250, Cruiser Maxx, Acceleron	69.0	44	1-Oct	3.3	2606	2.5	34.1	20.1		
Hisoy	HS 34A14	Cruiser Maxx	68.8	36	23-Sep	2.0	2286	3.0	39.1	18.3		
Hisoy	HS 41A02	Cruiser Maxx	68.7	42	4-Oct	2.8	2259	3.0	36.3	18.5	57.2	
Steyer	4203R2		68.7	44	5-Oct	3.3	2553	3.0	35.8	19.1		
Chemgro	C3945R2		68.7	41	30-Sep	3.0	2952	2.5	34.9	18.4		
Asgrow	AG3832	Acceleron	68.2	36	27-Sep	2.5	2331	4.0	36.9	18.8		
Channel	4101R2	Acceleron SY	68.2	45	5-Oct	3.0	2497	3.0	36.6	18.3		
Dyna-Gro	36RY38	Acceleron	67.7	33	28-Sep	2.3	2370	3.5	39.0	18.4		
Mid Atlantic Seeds	MAS4304NRRII	P250, Cruiser Maxx, Acceleron	67.7	46	9-Oct	3.0	2758	3.0	35.1	19.3		
Chemgro	C3744R2		66.7	36	30-Sep	2.5	2600	3.0	37.7	18.6	61.5	
Channel	3701R2	Acceleron SY	66.5	35	29-Sep	1.5	2548	3.5	37.1	18.7	59.7	
T.A. Seeds	TS4129R2		66.1	39	5-Oct	2.8	2577	3.5	35.4	19.4		
Asgrow	AG3931	Acceleron	66.0	46	3-Oct	3.5	2782	3.0	34.3	19.0		
Asgrow	AG4032	Acceleron	65.8	38	29-Sep	2.3	2345	3.0	35.8	19.2		
Mid Atlantic Seeds	MAS3955RR	P250, Cruiser Maxx, Acceleron	65.7	36	4-Oct	1.5	2765	2.5	36.6	18.4	55.6	63.9
Mid Atlantic Seeds	MAS3701NRRII	P250, Cruiser Maxx, Acceleron	65.4	49	27-Sep	4.0	2768	3.0	36.4	19.2		
Hubner	H34-11R2	Acceleron FI	65.3	32	22-Sep	2.3	2565	3.5	37.0	18.4	64.1	
Hubner	H34-12R2	Acceleron FI	64.6	33	26-Sep	1.5	2362	3.5	36.8	18.9		
Steyer	3802R2		64.2	37	1-Oct	2.0	2352	2.5	38.5	18.3		
Mid Atlantic Seeds	MAS4399RR/STS	P250, Cruiser Maxx, Acceleron	60.8	44	8-Oct	3.3	2895	3.0	34.1	19.7	53.0	64.1
Mean			70.7	42	28-Sep	3.1	2560	3.0	36.3	18.8	62.1	70.1
LSD (.05)			8.4									
LSD (.25)			4.9									
CV %			8.4									

Prepared by: Mark Antle and Greg Roth, Department of Crop and Soil Sciences.

Table 4.

Non-RR Soybean Variety Performance in Lancaster County, 2011

Source	Entry	Seed Treatment	Yield, bu/A	Height (in.)	Maturity Date	Lodging (1-5, 1=best)	Seeds per lb.	Seed Quality (1-5, 1=best)	Crude Protein % @ 13% H2O	Oil % @ 13% H2O	2 Yr Avg. Yield, bu/A (2010-11)	3Yr Avg. Yield, bu/A (2009-11)
Crissinger Seeds	360SB	Rancona, Metastar, Storcide II,	64.1	38	13-Oct	1.0	2023	2.0	37.2	17.5		
Dyna-Gro	34LL37		63.5	38	17-Oct	1.0	2084	2.0	37.6	17.8		
NK Brand	S36-B6 (Check)		61.7	37	13-Oct	1.0	2114	2.0	37.2	17.8		
Crissinger Seeds	Dennison	Rancona, Metastar, Storcide II,	61.3	34	13-Oct	1.0	2236	2.0	36.5	18.2	65.1	
T.A. Seeds	TS3609L		60.1	44	13-Oct	1.0	2609	2.0	36.8	17.0	64.7	67.5
T.A. Seeds	TS3929L*		58.2	35	15-Oct	1.0	2160	2.0	36.4	17.7		
IowaState University	R1R2		58.2	31	6-Oct	1.0	2571	2.0	37.5	17.1		
IowaState University	S1S2		58.2	31	6-Oct	1.0	2568	2.0	33.8	18.2		
Ohio State University	Wyandot-Rag2-Rmd		56.7	33	7-Oct	1.0	2914	2.0	35.0	18.5		
Iowa State University	R1S2		55.4	32	6-Oct	1.0	1802	2.0	37.1	18.0		
Ohio State University	Wyandot		54.9	32	6-Oct	1.0	2609	2.0	35.5	17.7		
Iowa State University	S1R2		53.7	29	6-Oct	1.0	1974	2.0	37.4	17.4		
Mean			58.8	34	10-Oct	1.0	2305	2.0	36.5	17.7	64.9	67.5
LSD (.05)			4.8									
LSD (.25)			2.8									
CV %			5.7									

*Liberty Link Variety

Prepared by: Mark Antle and Greg Roth, Department of Crop and Soil Sciences.

Table 5.

Early Roundup Ready Soybean Variety Performance in Centre County, 2011 (MG 3.0 and earlier)

Source	Entry	Seed Treatment	Yield, bu/A	Height (in.)	Maturity Date	Lodging (1-5, 1=best)	Seeds per lb.	Seed Quality (1-5, 1=best)	Crude Protein % @ 13% H2O	Oil % @ 13% H2O	2 Yr Avg. Yield, bu/A (2010-11)	3Yr Avg. Yield, bu/A (2009-11)
Chemgro	C3044R2		72.8	36	9-Oct	1.0	2272	2.5	35.8	18.2	70.7	
Pioneer	93Y05	Cruiser, Trilex, Allegiance	71.2	33	10-Oct	1.0	2511	3.0	33.4	18.8		
Channel	2903R2	Acceleron SY	70.0	32	9-Oct	1.0	2350	2.5	36.4	17.3		
NK Brand	SK28-B4*	Cruiser Maxx	69.9	32	8-Oct	1.0	2866	2.5	33.4	18.7		
Asgrow	AG2632	Acceleron	69.7	34	8-Oct	1.0	2545	2.5	35.8	17.7		
Dyna-Gro	34RY27	Acceleron	69.1	34	3-Oct	1.0	2500	3.5	36.6	17.6		
Pioneer	93Y13*	Cruiser, Trilex, Allegiance	68.9	33	11-Oct	1.0	2517	3.0	36.0	18.0		
Channel	2800R2	Acceleron SY	68.8	33	7-Oct	1.0	2627	2.5	37.1	17.2	69.5	
T.A. Seeds	TS2599R2		68.5	35	6-Oct	1.0	2275	2.0	36.3	18.4		
Hubner	H28-10R2	Acceleron FI	67.6	32	9-Oct	1.0	2806	3.0	38.8	16.3		
Doebler's	RPM DB3010RR	Gaicho, Trilex 2000	67.5	38	10-Oct	1.0	2261	3.0	36.5	18.1		
T.A. Seeds	TS2890R		67.4	31	8-Oct	1.0	2350	3.0	37.6	17.6	67.6	63.8
Chemgro	C2745R2		66.7	32	6-Oct	1.0	2400	3.0	36.0	17.3		
Asgrow	AG2830	Acceleron	66.4	32	9-Oct	1.0	2425	2.5	34.0	19.0	67.1	
Hubner	H31-10R2	Acceleron FI	66.2	33	8-Oct	1.0	2542	3.0	35.6	17.5	67.3	
Asgrow	AG3030	Acceleron	66.0	33	10-Oct	1.0	2446	2.5	36.7	17.7	63.5	
Steyer	2201R2		65.8	31	5-Oct	1.0	2174	2.5	37.8	17.8		
Hisoy	HS 27A14	Cruiser Maxx	65.7	33	7-Oct	1.0	2355	2.5	35.7	17.2		
Steyer	2702R2		64.9	34	4-Oct	1.0	2539	2.0	36.3	17.7		
Asgrow	AG2731	Acceleron	64.8	27	6-Oct	1.0	2219	3.0	37.9	17.7		
Dyna-Gro	39RY30	Acceleron	64.5	34	9-Oct	1.0	2379	2.0	36.8	17.1	66.9	
Pioneer	93M11*	Cruiser, Trilex, Allegiance	64.1	34	10-Oct	1.0	2752	3.0	36.6	18.1	65.1	
Asgrow	AG2931	Acceleron	63.6	35	9-Oct	1.0	2834	3.0	35.5	17.7	64.4	
Steyer	2501R2		62.2	33	5-Oct	1.0	2389	2.5	37.5	16.8		
Hubner	H27-10R2	Acceleron FI	61.4	35	9-Oct	1.0	2571	2.5	36.9	16.6		
Dyna-Gro	38RY28	Acceleron	60.8	34	8-Oct	1.0	2802	2.5	36.9	17.3		
Doebler's	RPM DB2511RR	Gaicho, Trilex 2000	59.7	28	4-Oct	1.0	2636	2.5	33.7	19.5		
T.A. Seeds	TS2229R2		58.3	29	29-Sep	1.0	2189	2.5	35.5	19.2		
T.A. Seeds	TS1719R2		56.0	24	23-Sep	1.0	2594	3.0	35.5	18.6		
Mean			65.8	32	6-Oct	1.0	2487	2.7	36.2	17.8	66.9	
LSD (.05)			6.9									
LSD (.25)			5.7									
CV %			7.4									

*Entered by PA Soybean Board

Prepared by: Mark Antle and Greg Roth, Department of Crop and Soil Sciences.

Table 6.



Department of Crop and Soil Sciences
College of Agricultural Sciences

Late Roundup Ready Soybean Variety Performance in Centre County, 2011 (MG 3.1 and later)

Source	Entry	Seed Treatment	Yield, bu/A	Height (in.)	Maturity Date	Lodging (1-5, 1=best)	Seeds per lb.	Seed Quality (1-5, 1=best)	Crude Protein % @ 13% H2O	Oil % @ 13% H2O	2 Yr Avg. Yield, bu/A (2010-11)	3Yr Avg. Yield, bu/A (2009-11)
Asgrow	AG3632	Acceleron	74.0	39	15-Oct	1.0	2412	2.5	35.8	17.3		
HiSoy	HS A326	Cruiser Maxx	73.8	36	14-Oct	1.0	2387	3.0	33.5	18.5		
HiSoy	HS 33A14	Cruiser Maxx	73.2	37	13-Oct	1.0	2309	2.0	36.4	17.4		
NK Brand	S36-B6	Cruiser Maxx	72.9	38	15-Oct	1.0	2387	3.0	33.3	18.6	71.2	69.3
HiSoy	HS 31A03	Cruiser Maxx	72.8	35	10-Oct	1.0	2225	2.0	34.2	18.7		
Dyna-Gro	34RY36	Acceleron	72.1	36	14-Oct	1.0	2428	2.0	35.9	17.8		
Doebler's	RPM DB3509RR	Gaucho, Trilex 2000	72.0	37	14-Oct	1.0	2387	2.0	32.2	19.0		
HiSoy	HS 38A02	Cruiser Maxx	72.0	37	15-Oct	1.0	2500	2.5	35.9	17.5		
Chemgro	C3744R2		71.3	38	15-Oct	1.0	2481	3.0	35.8	17.7	71.3	
HiSoy	HS 32A14	Cruiser Maxx	71.2	37	12-Oct	1.0	2511	2.5	36.7	16.6		
Asgrow	AG3631	Acceleron	71.1	37	14-Oct	1.0	2722	3.0	36.0	17.7		
Dyna-Gro	32RY34	Acceleron	70.9	40	12-Oct	1.0	2877	3.0	35.6	16.6		
Hubner	H34-11R2	Acceleron FI	70.6	33	12-Oct	1.0	2633	3.0	36.4	16.5	72.6	
Steyer	3403R2		70.4	39	13-Oct	1.0	2392	3.0	35.4	17.5		
Dyna-Gro	38RY35	Acceleron	70.3	30	13-Oct	1.0	2459	2.0	35.5	17.3	71.6	
Doebler's	RPM DB3309RR	Gaucho, Trilex 2000	70.3	35	11-Oct	1.0	2347	3.5	34.2	19.0	72.4	
Steyer	3602R2		69.8	34	15-Oct	1.0	2658	2.5	33.1	19.3		
NK Brand	S39-U2	Cruiser Maxx	69.7	38	15-Oct	1.0	2999	2.5	35.2	17.7		
Asgrow	AG3432	Acceleron	69.7	34	15-Oct	1.0	2343	2.0	35.0	18.1		
NK Brand	S39-A3	Cruiser Maxx	69.3	35	15-Oct	1.0	2778	2.5	33.9	18.1	70.7	68.7
Steyer	3102R2		68.8	37	11-Oct	1.0	2384	2.0	34.4	18.6	70.6	
Chemgro	C3444R2		68.0	37	13-Oct	1.0	2279	2.5	36.5	17.2	70.3	
Asgrow	AG3431	Acceleron	67.9	33	13-Oct	1.0	2588	2.0	35.9	17.3		
Chemgro	C3244R2		67.8	36	12-Oct	1.0	2615	2.5	36.7	16.5	67.2	
T.A. Seeds	TS3229R2		67.5	36	11-Oct	1.0	2646	3.0	35.2	17.1		
T.A. Seeds	TS3829R2		67.5	35	15-Oct	1.0	2343	2.5	36.1	17.2		
Hubner	H37-10R2	Acceleron FI	66.8	39	15-Oct	1.0	2374	3.0	36.6	17.6		
Hubner	H34-12R2	Acceleron FI	66.5	35	11-Oct	1.0	2481	3.0	37.2	16.6		
Dyna-Gro	37RY33	Acceleron	65.7	35	11-Oct	1.0	2331	2.0	36.8	17.5	69.4	
NK Brand	S38-H8	Cruiser Maxx	65.2	38	15-Oct	1.0	2956	2.5	32.8	18.4	64.4	
NK Brand	S35-T9	Cruiser Maxx	65.0	41	14-Oct	1.0	2441	2.0	33.7	18.9	66.3	66.7
Channel	3303R2	Acceleron SY	64.9	31	13-Oct	1.0	2481	2.0	35.8	16.8	68.7	
NK Brand	S34-N3	Cruiser Maxx	64.6	35	11-Oct	1.0	2365	2.5	35.6	17.2		
HiSoy	HS 34A14	Cruiser Maxx	64.0	33	12-Oct	1.0	2270	2.5	36.0	17.2		
Channel	3402R2	Acceleron SY	63.5	35	11-Oct	1.0	2410	2.0	36.3	17.0		
Asgrow	AG3231	Acceleron	61.7	33	10-Oct	1.0	2615	3.0	34.6	17.1		
Mean			69.0	36	13-Oct	1.0	2495	2.5	35.3	17.6	69.7	68.3
LSD (.05)			5.5									
LSD (.25)			3.2									
CV %			5.7									

Prepared by: Mark Antle and Greg Roth, Department of Crop and Soil Sciences.

Table 7.



Doublecrop Roundup Ready Soybean Variety Performance in Lancaster County, 2011

Source	Entry	Seed Treatment	Yield, bu/A	Height (in.)	Maturity Date*	Lodging (1-5, 1=best)	Seeds per lb.	Seed	Crude	Oil % @ 13% H2O	2 Yr Avg. Yield, bu/A (2010-11)	3Yr Avg. Yield, bu/A (2009-11)
								Quality (1-5, 1=best)	Protein % @ 13% H2O			
NK Brand	S36-B6	Cruiser Maxx	60.1	30	31-Oct	1.5	2580	2.5	38.5	17.3	49.0	
Asgrow	AG3631	Acceleron	58.8	31	31-Oct	2.0	2302	2.5	39.6	16.3		
NK Brand	S35-T9	Cruiser Maxx	58.6	32	31-Oct	3.0	2443	2.5	37.9	16.9		
Asgrow	AG3431	Acceleron	58.3	28	31-Oct	1.0	2295	2.5	36.8	17.2	47.4	
Hubner	H39-12R2	Acceleron FI	57.9	33	24-Oct	1.0	2395	2.0	37.3	16.8		
T.A. Seeds	TS3989RS		57.8	31	24-Oct	2.5	2056	2.0	36.8	18.0	49.6	49.3
Doebler's	RPM DB3309RR	Gaucho, Trilex 2000	57.6	30	31-Oct	3.0	2243	2.0	38.1	17.3		
Asgrow	AG3731	Acceleron	57.3	31	31-Oct	3.0	2367	2.5	36.6	18.5	45.8	
Asgrow	AG3632	Acceleron	57.0	28	31-Oct	2.0	2417	2.0	35.5	18.1		
Asgrow	AG3432	Acceleron	56.8	32	31-Oct	2.5	2511	2.0	37.1	18.5	47.9	
Hubner	H38-10R2	Acceleron FI	56.3	32	31-Oct	3.0	2176	2.5	38.9	16.9		
Dyna-Gro	34RY36	Acceleron	56.3	32	31-Oct	2.0	2405	2.0	38.1	16.8		
Dyna-Gro	38RY35	Acceleron	56.1	30	23-Oct	3.5	2536	2.5	38.0	17.5		
NK Brand	S39-A3	Cruiser Maxx	56.0	30	24-Oct	3.0	2577	2.0	38.8	17.5		
Dyna-Gro	37RY39	Acceleron	55.2	32	31-Oct	3.0	2465	2.5	38.2	16.6		
Doebler's	RPM DB3509RR	Gaucho, Trilex 2000	55.0	32	31-Oct	2.5	2268	2.0	37.8	16.4		
NK Brand	S39-U2	Cruiser Maxx	54.9	29	31-Oct	2.5	2223	2.0	36.5	18.3	46.2	47.5
Hubner	H418NRR/STS	Acceleron FI	54.8	33	31-Oct	2.5	2693	2.5	38.2	17.4		
Dyna-Gro	36RY38	Acceleron	54.6	29	31-Oct	2.5	2671	2.0	37.5	16.9	45.8	47.5
Doebler's	RPM DB3809RR	Gaucho, Trilex 2000	53.8	29	31-Oct	1.0	2365	2.5	36.3	17.7	48.5	52.3
T.A. Seeds	TS3829R2		53.7	30	31-Oct	3.5	2475	2.0	38.0	17.4	47.8	51.0
Mean			56.5	31	29-Oct	2.4	2403	2.2	37.6	17.3	47.5	49.5
LSD (.05)			ns									
LSD (.25)			ns									
CV %			7.0									

*Killing frost occurred on 29-Oct

Prepared by: Mark Antle and Greg Roth, Department of Crop and Soil Sciences.

Table 8. Cultural Information

Russell E. Larson Agricultural Research Center, Centre County

Trial: Roundup Ready Early (MG 3.0 and earlier)
 Planting Date: May 31st
 Harvest Date: November 2nd
 Row Spacing: 14 inches
 Planted Plot Size: 5 rows wide x 20 feet length
 Harvested Plot Size: 3 middle rows x 18 feet length
 24 oz. per acre Roundup Powermax plus 16 oz. Select Max
 Herbicide: June 28 (post-emergence)
 Seeding Rate: 180,000 Seeds per acre
 Previous Crop: Corn
 Tillage: Conventional

Trial: Roundup Ready Late (MG 3.1 and later)
 Planting Date: May 31st
 Harvest Date: November 5th
 Row Spacing: 14 inches
 Planted Plot Size: 5 rows wide x 20 feet length
 Harvested Plot Size: 3 middle rows x 18 feet length
 24 oz. per acre Roundup Powermax plus 16 oz. Select Max
 Herbicide: June 28 (post-emergence)
 Seeding Rate: 180,000 Seeds per acre
 Previous Crop: Corn
 Tillage: Conventional

Trial: Non-Roundup Ready (MG II and III)
Planting Date: May 31st
Harvest Date: November 6th
Row Spacing: 14 inches
Planted Plot Size: 5 rows wide x 20 feet length
Harvested Plot Size: 3 middle rows x 18 feet length
Herbicide: 0.8 oz. Flumetsulam plus 1.6 pts Metolachlor per acre (preemergence)
Seeding Rate: 180,000 Seeds per acre
Previous Crop: Corn
Tillage: Conventional

Southeast Ag Research and Extension Center, Lancaster County

Trial: Roundup Ready Early (MG 3.3 and earlier)
Planting Date: May 12th
Harvest Date: October 24th
Row Spacing: 14 inches
Planted Plot Size: 5 rows wide x 20 feet length
Harvested Plot Size: 3 middle rows x 18 feet length
24 oz. per acre Roundup Powermax plus 16 oz. Select Max
Herbicide: June 13 (post-emergence)
Seeding Rate: 180,000 Seeds per acre
Previous Crop: Corn
Tillage: Conventional

Trial: Roundup Ready Late (MG 3.4 and later)
Planting Date: May 12th
Harvest Date: November 3rd
Row Spacing: 14 inches
Planted Plot Size: 5 rows wide x 20 feet length
Harvested Plot Size: 3 middle rows x 18 feet length
24 oz. per acre Roundup Powermax plus 16 oz. Select Max
Herbicide: June 13 (post-emergence)
Seeding Rate: 180,000 Seeds per acre
Previous Crop: Corn
Tillage: Conventional

Trial: Non-Roundup Ready (MG III and IV)
Planting Date: May 12th
Harvest Date: October 24th
Row Spacing: 14 inches
Planted Plot Size: 5 rows wide x 20 feet length
Harvested Plot Size: 3 middle rows x 18 feet length
Herbicide: 0.8 oz. Flumetsulam plus 1.6 pts Metolachlor per acre (preemergence)
.65 oz /Ac Classic plus .25% NIS plus 16 oz/Ac Select
on June 13 (post-emergence)
Seeding Rate: 180,000 Seeds per acre
Previous Crop: Corn
Tillage: Conventional

Trial:	Roundup Ready following Small Grain
Planting Date:	July 5th
Harvest Date:	November 20th
Row Spacing	14 inches
Planted Plot Size:	5 rows wide x 20 feet length
Harvested Plot Size:	3 middle rows x 18 feet length
Herbicide:	0.8 oz. Flumetsulam plus 1.6 pts Metolachlor per acre (preemergence) 24 oz. per acre Roundup Powermax on August 4th (post-emergence)
Seeding Rate:	240,000 Seeds per acre
Previous Crop	Barley
Tillage	Conventional

Table 9. Source of Entries

Company	Brand
Channel Bio Corp. https://www.channelbio.com	Channel
Chemgro Seeds http://chemgroseeds.com	Chemgro
Crissinger Seeds jdcritt@hotmail.com	
Doebler's PA Hybrids Inc. http://doeblers.com	Doebler's
Dyna-Gro Seed (CPS) http://dynagroseed.com	Dyna-Gro
Growmark FS http://home.growmarkfs.com	FS
Hubner Seed https://www.hubnerseed.com	Hubner
Mid Atlantic Seeds, Inc. Mas-office@comcast.net	Mid Atlantic
Monsanto http://asgrowanddekalb.com	Asgrow
Steyer Seeds http://www.steyerseeds.com	Steyer
Syngenta Seeds Inc. http://syngenta.com	NK Brand
T.A. Seeds http://taseeds.com	T.A. Seed

Prepared by: Mark Antle, Research Support Technologist and Greg Roth, Professor of Agronomy. Thanks to Cory Chelko for his help with the 2011 Pennsylvania Soybean Variety Trials.

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