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**2008 NEW YORK STATE SOYBEAN  
VARIETY YIELD TESTS**

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## **SOYBEAN VARIETY YIELD TESTS IN 2008**

### **Introduction**

The annual testing of soybean varieties was conducted at four locations in New York in 2008. Roundup Ready varieties in Maturity Groups I and II were planted at two locations in central/western New York, the Aurora Research Farm in Cayuga Co. and on the Henry Everman Farm just north of Dansville in Livingston Co. Roundup Ready varieties in Maturity Group I and II were also tested at two locations in Northern New York, the Miner Institute at Chazy in Clinton Co. and on Ron Robbin's farm in Sackets Harbor in Jefferson Co. Similar Group II varieties were not tested across the Northern NY sites. All seed companies that are known to be distributing soybeans in New York were invited to enter their selections in the tests for a fee. The seed companies chose at which sites they wanted their varieties to be tested.

We planted Group I and Group II entries in separate tests at Aurora on 9 May and in separate tests at Dansville on 20 May. We planted Group I and II varieties in separate tests at Sackets Harbor on 16 May and at Chazy on 23 May. Each individual plot at all sites consisted of ten 20-ft. rows spaced 7 inches apart. Each entry was planted at a seeding rate of 200,000 seeds/acre with four replications at Aurora, Dansville, and Sackets Harbor and with six replications at Chazy. A randomized complete block experimental design was used for all tests. We used 22 fluid oz/acre of Roundup WeatherMax about 5 weeks after planting for weed control at all sites. Aphid numbers were low throughout the year. White mold was noted at all the sites this year but was a severe problem at the Dansville site. All varieties at all sites were monitored for phenological development beginning in early September.

Yields were determined by harvesting an 18-foot section of the seven center rows of each plot at all sites with a Hege small plot combine. Plant height and lodging scores (1.0 - 5.0 rating with 1.0= no lodging and 5.0=complete lodging) were taken at

harvest. In addition, white mold ratings (1.0=no white mold and 5.0=severe white mold) were taken at the Dansville site. The Group I test was harvested on 25 September and the Group II test on 6 October at the Aurora site. Group I and Group II tests were harvested on 13 October at the Dansville site. The Group I and II varieties were harvested on 15 October at Sackets Harbor and on 24 October at the Chazy site. All soybeans were cleaned with a small clipper seed cleaner and tested for moisture. All yields were adjusted to 13% moisture. We used the ANOVA test to determine significance for yield, seed moisture, lodging score, and height. All means were separated by Fisher's protected LSD (0.05) when significance occurred.

### **Aurora and Dansville**

The 2008 growing season at both locations was dry throughout May and the first half of June (Table 1). Both sites then received more than 12 inches of precipitation from mid-June until mid-August. Both sites then received less than 3 inches of precipitation from mid-August through September.

May was exceedingly cool but warm conditions prevailed at both sites during June and July. August was extremely cool, which coupled with the wet conditions during late July and the first half of August, resulted in some white mold at the Aurora site and severe white mold at the Dansville site. Fortunately, September was a warm month and the Group II varieties attained physiological maturity at the Aurora site by 23 September and at Dansville by 1 October. Despite the wet growing conditions during pod and seed development (R4-R6 growth stages), soybean yields were somewhat lower than expected at both sites, probably because of white mold incidence. Group I soybeans averaged 64 bu/acre and Group II varieties averaged 61 bu/acre at the Aurora site. At the Dansville site, where white mold was severe, Group I varieties averaged 55 bu/acre and Group II averaged 60 bu/acre.

When averaged across sites, HS199RR from GROWMARK FS and AG0808, a Group 0 Asgrow brand variety, yielded above-average in the Group I tests at both sites (Tables 2 and 3). A strong site x variety interaction was observed, however in the Group I tests. S18-Y3, an NK brand, had the highest yield at the Aurora site but the lowest yield at the Dansville site. Also, HS188RR from GROWMARK FS, SG1727 from Seedway, and TS1790R from T.A. Seeds yielded above-average at Aurora but not at Dansville. Conversely, HS122aRR from GROWMARK FS, TS1440R from T.A. Seeds, and AG1406, an Asgrow brand, yielded above-average at Dansville but not at Aurora.

When average across sites, AG2108, an Asgrow brand; HS20R80 and HS217RR from GROWMARK FS; 33D27 from UAP; and the check variety, 92M33 from Pioneer, yielded above-average in the Group II tests at both sites (Tables 4 and 5). A strong site x variety interaction, however, was also observed in the Group II test. The varieties, S20-P5 and S24-NJ1, NK brands, and AG2606 and AG2403, Asgrow brands, had above-average yields at Aurora. In contrast, HS2766(NRR) from GROWMARK FS; AG2002, AG2406, AG2802, and AG2110, Asgrow brands; TS2890R from T.A. Seeds; 38G23 from UAP; S21-N6, an NK brand; SG2205 from Seedway; and TS2490R from T.A. Seeds had above-average yields at Dansville but not at Aurora.

### **Chazy and Sackets Harbor**

The Sackets Harbor and Chazy sites were also exceptionally wet this year with both sites receiving 11-12 inches of precipitation from mid-June through August. Lodging was a significant problem at the Sackets Harbor site but there was minimal lodging at Chazy. Nevertheless, Chazy had below average yields for that site (61 and 63 bu/acre for Group I and Group II varieties, respectively), in part because of a frost on the morning of September 23. The Sackets Harbor site had average yields (51 and 49 bu/acre for Group I and Group II varieties, respectively). Frost occurred during the first

week of October at Sackets Harbor so some Group II varieties, which had not attained physiological maturity at that time because of the cool August conditions, had reduced yields.

There was a strong site x variety interaction with no Group I varieties yielding above-average at both sites. The varieties HS199RR, 122aRR, SG 1405 from Seedway, and TS1440R had above-average yields at Sackets Harbor. The varieties AG0808, TS1790R, S18-Y3, AG1406, and HS188RR had above-average yields at Chazy.

Only eight of the 14 Group II varieties that were grown at Sackets Harbor were grown at Chazy so each site should be looked at individually. At Sackets Harbor, HS217RR, S21-N6, TS2490R, and AG2406, AG2002, and 31D20 from UAP yielded above-average. At Chazy, S20-P5, AG2108, AG2002, HS217RR, and 31D20 yielded above-average.

### **Conclusion**

Soybean acreage increased to about 235,000 in New York in 2008. With the current price above \$8/ bushel, we expect soybean acreage to increase slightly next year. We invite all seed companies to enter their varieties at a modest fee in our New York soybean variety testing program. We wish to provide the ever-increasing number of NY soybean growers the best information on variety selection for New York growing conditions so we ask the seed companies to consider entering more varieties for the 2009 tests. Thank-you for your support in 2008.

Table 1. Monthly precipitation and growing degree days (GDD) at Aurora, Dansville, Chazy, and Sackets Harbor during the 2006 growing season.

Month	Precipitation				GDD (86-50 F)			
	Aurora	Dansville	Chazy*	Sackets Harbor**	Aurora	Dansville	Chazy*	Sackets Harbor**
May	1.39	1.28	1.67	2.74	236	257	256	222
June	3.81	4.85	5.86	3.00	586	568	476	495
July	5.44	5.19	4.79	4.39	677	647	648	571
August	3.03	4.89	4.29	4.68	547	521	505	497
Sept.	1.81	2.65	1.95	2.96	414	414	372	366
<b>Seasonal</b>	<b>15.48</b>	<b>18.86</b>	<b>18.56</b>	<b>17.77</b>	<b>2460</b>	<b>2407</b>	<b>2259</b>	<b>2151</b>

\* June and August data is from Plattsburg

\*\* Sackets Harbor data is from Watertown

Table 2. Yield, seed moisture, lodging score, and height of Group I Roundup Ready soybean varieties harvested at Aurora, NY on September 25, 2008.

BRAND/COMPANY	VARIETY	YIELD	MOISTURE	LODGING	HEIGHT
		bu/acre	%	1-5 rating	cm.
NK	S18-Y3	71.3	13.40	1.05	92.50
GROWMARK FS	HS188RR	71.2	12.70	1.05	97.75
GROWMARK FS	HS199RR	68.0	18.18	1.13	98.00
Asgrow	AG0808	66.3	11.88	1.05	96.50
Seedway	SG 1727	65.5	12.85	1.08	94.50
T.A. Seeds	TS1790R	65.0	16.98	1.15	99.25
Asgrow	AG1406	62.7	12.33	1.13	89.00
GROWMARK FS	HS122aRR	61.2	13.28	1.18	97.50
Seedway	SG 1405	56.3	12.23	1.18	91.00
T.A. Seeds	TS1440R	52.1	12.88	1.23	88.00
<b>Avg.</b>		<b>64</b>	<b>13.7</b>	<b>1.1</b>	<b>94.4</b>
<b>LSD 0.05</b>		<b>5</b>	<b>1.2</b>	<b>0.1</b>	<b>4.1</b>

Table 3. Yield, seed moisture, lodging score, and height of Group I Roundup Ready soybean varieties harvested at Dansville, NY on October 13, 2008.

BRAND/COMPANY	VARIETY	YIELD	MOISTURE	LODGING	HEIGHT	WHITE MOLD
		bu/acre	%	1-5 rating	cm	1-5 rating
GROWMARK FS	HS199RR	69.0	11.23	2.18	103.00	2.00
GROWMARK FS	HS122aRR	68.4	11.63	3.25	103.50	2.13
Seedway	SG 2018	59.2	11.03	2.50	103.25	2.13
T.A. Seeds	TS1440R	58.0	11.33	2.45	106.50	1.88
Asgrow	AG1406	57.6	11.63	3.05	101.50	2.50
Asgrow	AG0808	57.6	11.55	1.83	107.50	1.75
GROWMARK FS	HS188RR	47.9	11.25	2.13	101.25	2.25
T.A. Seeds	TS1790R	46.7	11.53	2.38	105.25	2.63
Seedway	SG 1727	41.9	11.40	2.13	100.50	2.25
NK	S18-Y3	39.4	11.55	2.50	99.75	2.88
<b>Avg.</b>		<b>55</b>	<b>11.4</b>	<b>2.4</b>	<b>103.3</b>	<b>2.2</b>
<b>LSD 0.05</b>		<b>9</b>	<b>0.3</b>	<b>1.0</b>	<b>4.3</b>	<b>0.6</b>

Table 4. Yield, seed moisture, lodging score, and height of Group II Roundup Ready soybean varieties harvested at Aurora, NY on October 6, 2008.

VARIETY	BRAND	YIELD	MOISTURE	LODGING	HEIGHT
		<u>bu/ac</u>	<u>%</u>	<u>1-5 rating</u>	<u>cm</u>
Asgrow	AG2108	68.9	13.75	1.08	94.50
Pioneer	92M33	68.8	13.90	1.20	101.50
GROWMARK FS	HS20R80	68.8	14.28	1.23	100.25
NK	S20-P5	68.5	13.60	1.68	91.25
NK	S24-NJ1	68.0	13.90	1.13	94.00
GROWMARK FS	HS217RR	67.3	13.45	1.05	89.50
UAP	33D27	62.3	15.80	1.75	105.75
Asgrow	AG2606	62.1	14.68	1.13	104.50
Asgrow	AG2403	60.7	14.05	1.08	85.25
Asgrow	AG2406	60.2	13.40	1.10	95.00
Seedway	SG 2205	60.1	13.75	1.15	92.00
T.A. Seeds	TS2490R	60.1	13.85	1.08	85.50
NK	S21-N6	60.1	13.60	1.88	86.50
Asgrow	AG2002	59.6	13.28	1.13	94.75
GROWMARK FS	HS2766(NRR)	58.6	15.93	1.35	108.50
Asgrow	AG2802	58.6	16.58	1.73	113.00
Asgrow	AG2110	58.6	13.55	1.95	89.50
T.A. Seeds	TS2190R	56.7	13.43	1.25	95.50
UAP	38G23	54.3	13.95	1.88	95.25
UAP	31D20	51.8	16.65	1.15	94.75
T.A. Seeds	TS2890	48.8	17.00	1.48	96.00
UAP	34Y25	46.6	14.20	1.83	87.25
<b>Avg.</b>		<b>61</b>	<b>14.4</b>	<b>1.4</b>	<b>95.5</b>
<b>LSD 0.05</b>		<b>7</b>	<b>0.9</b>	<b>0.8</b>	<b>7.8</b>

Table 5. Yield, height, lodging score, and seed moisture of Group II Roundup Ready soybean varieties harvested at Dansville, NY on October 13, 2008.

VARIETY	BRAND	YIELD	MOISTURE	LODGING	HEIGHT	WHITE MOLD
		<u>bu/ac</u>	<u>%</u>	<u>1-5 rating</u>	<u>cm</u>	<u>1-5 rating</u>
GROWMARK FS	HS2766(NRR)	67.8	12.23	4.63	115.50	3.13
Asgrow	AG2002	66.8	10.60	3.00	106.50	2.63
Asgrow	AG2108	66.7	11.38	3.38	103.50	2.63
Asgrow	AG2406	65.7	10.53	2.45	105.25	2.00
Asgrow	AG2802	65.3	12.48	4.75	118.00	3.75
Asgrow	AG2110	64.1	11.00	2.88	104.75	2.50
Pioneer	92M33	64.0	11.18	2.13	109.75	2.13
GROWMARK FS	HS20R80	63.5	10.80	2.45	110.25	2.63
UAP	33D27	63.1	12.23	4.88	117.50	3.25
T.A. Seeds	TS2890	63.0	11.80	3.50	110.25	2.50
UAP	38G23	62.8	11.28	2.63	102.75	2.88
NK	S21-N6	62.1	11.00	2.38	104.75	3.00
GROWMARK FS	HS217RR	60.8	11.18	3.38	105.50	2.50
Seedway	SG 2205	60.7	11.08	2.15	100.00	1.75
T.A. Seeds	TS2490R	60.2	11.20	2.88	102.00	2.25
Asgrow	AG2403	56.3	11.10	2.25	102.25	2.25
UAP	31D20	55.2	10.75	2.63	109.25	2.38
UAP	34Y25	55.0	11.80	3.25	106.25	2.13
Asgrow	AG2606	52.3	11.38	4.70	110.25	3.75
NK	S24-NJ1	52.2	11.23	3.75	103.25	2.88
T.A. Seeds	TS2190R	48.6	11.00	2.63	105.00	2.00
NK	S20-P5	43.0	11.20	4.13	107.50	3.38
<b>Avg.</b>		<b>60</b>	<b>11.3</b>	<b>3.2</b>	<b>107.3</b>	<b>2.6</b>
<b>LSD 0.05</b>		<b>10</b>	<b>0.4</b>	<b>1.1</b>	<b>8.0</b>	<b>0.9</b>

Table 6. Yield, seed moisture, lodging score, and height of Group I Roundup Ready soybean varieties harvested at Sackets Harbor, NY on October 15, 2008.

BRAND/COMPANY	VARIETY	YIELD	MOISTURE	LODGING	HEIGHT
		bu/acre	%	1-5 rating	cm.
GROWMARK FS	HS199RR	57.4	15.45	2.33	110
GROWMARK FS	HS122aRR	55.9	15.00	3.00	131
Seedway	SG 1405	55.7	14.90	3.00	121
T.A. Seeds	TS1440R	54.8	15.33	3.13	121
T.A. Seeds	TS1790R	50.5	15.10	3.00	113
Asgrow	AG0808	50.3	14.98	2.70	125
NK	S18-Y3	50.0	14.85	2.90	109
Asgrow	AG1406	49.7	15.03	2.58	104
Seedway	SG 1727	43.0	15.20	2.95	108
GROWMARK FS	HS188RR	39.2	15.40	2.78	102
<b>Avg.</b>		<b>51</b>	<b>15.1</b>	<b>2.8</b>	<b>114</b>
<b>LSD 0.05</b>		<b>8</b>	<b>0.5</b>	<b>0.4</b>	<b>16</b>

Table 7. Yield, seed moisture, lodging score, and height of Group I Roundup Ready soybean varieties harvested at Chazy, NY on October 24, 2008.

BRAND/COMPANY	VARIETY	YIELD	MOISTURE	LODGING	HEIGHT
		bu/acre	%	1-5 rating	cm.
Asgrow	AG0808	66.4	14.68	1.0	80.33
T.A. Seeds	TS1790R	65.3	15.28	1.0	80.50
NK	S18-Y3	64.8	15.35	1.0	79.67
Asgrow	AG1406	64.2	15.10	1.0	83.17
GROWMARK FS	HS188RR	63.5	14.55	1.0	80.50
Seedway	SG 1727	62.0	15.08	1.0	82.83
T.A. Seeds	TS1440R	61.7	15.43	1.0	73.50
GROWMARK FS	HS199RR	61.6	15.73	1.0	77.83
Seedway	SG 1405	58.5	15.50	1.0	74.50
GROWMARK FS	HS122aRR	57.7	15.22	1.0	73.17
<b>Avg.</b>		<b>63</b>	<b>15.2</b>	<b>1.0</b>	<b>79.3</b>
<b>LSD 0.05</b>		<b>6</b>	<b>0.8</b>	<b>0.0</b>	<b>6.0</b>

Table 8. Yield, seed moisture, lodging score, and height of Group II Roundup Ready soybean varieties harvested at Sackets Harbor, NY on October 15, 2008.

BRAND/COMPANY	VARIETY	YIELD	MOISTURE	LODGING	HEIGHT
		bu/acre	%	1-5 rating	cm.
GROWMARK FS	HS217RR	63.4	15.05	1.95	105
NK	S21-N6	55.7	15.60	2.83	119
T.A. Seeds	TS2490R	53.9	15.58	2.25	100
Asgrow	AG2406	53.1	15.13	1.90	112
Asgrow	AG2002	50.2	15.58	2.95	117
UAP	31D20	49.5	15.30	3.08	114
GROWMARK FS	HS20R80	49.3	15.63	2.75	116
T.A. Seeds	TS2890	48.3	17.38	2.90	123
NK	S20-P5	47.8	16.03	3.25	120
Asgrow	AG2108	47.2	15.50	2.70	110
T.A. Seeds	TS2190R	47.1	15.23	2.88	109
Seedway	SG 2018	43.5	15.43	2.75	126
Asgrow	AG2110	43.4	15.58	3.00	116
UAP	38G23	39.3	16.05	3.03	105
<b>Avg.</b>		<b>49</b>	<b>15.6</b>	<b>2.7</b>	<b>114</b>
<b>LSD 0.05</b>		<b>5</b>	<b>0.5</b>	<b>0.3</b>	<b>12</b>

Table 9. Yield, seed moisture, lodging score, and height of Group II Roundup Ready soybean varieties harvested at Chazy, NY on October 24, 2008.

BRAND/COMPANY	VARIETY	YIELD	MOISTURE	LODGING	HEIGHT
		bu/acre	%	1-5 rating	cm.
NK	S20-P5	67.9	16.05	1.0	87.50
Asgrow	AG2108	67.1	16.15	1.0	80.33
Asgrow	AG 2002	63.0	15.67	1.0	86.83
GROWMARK FS	HS217RR	61.4	15.15	1.0	70.17
UAP	31D20	61.2	15.50	1.0	82.83
Seedway	SG 2018	59.5	17.52	1.0	86.67
T.A. Seeds	TS2190R	57.6	18.03	1.0	86.67
GROWMARK FS	HS20R80	53.3	17.53	1.0	84.83
<b>Avg.</b>		<b>61</b>	<b>16.6</b>	<b>1.0</b>	<b>83.2</b>
<b>LSD 0.05</b>		<b>5</b>	<b>0.6</b>	<b>0.0</b>	<b>7</b>

