

NEW YORK STATE 2014 PROCESSING SNAP BEAN CULTIVAR TRIAL REPORT
Large Sieve Bean – 3-4 Sieve Bean – Whole Bean

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PROCEDURE AND MATERIALS

Location: NYS Agricultural Research Farm – field 22, Geneva - soil type - Honeoye silt loam

Planting Dates: Large Sieve – 5/29, 3-4 sieve beans – 6/9, Whole type – 6/20

Row Width: 30 inches, Row length: 30 ft. **In-row Spacing:** 1 5/8 inches (6-8 plants/ft.)

Conventional Tillage

Fertilizer: 350#/A of 15-5-10 with Zn and Mn

Herbicide: Treflan preplant & Dual post plant **Planter** - Two Row Monosem Vacuum Planter

Plot Size: 1 row - 4 replications (Replicated entries), 1 row – two replications (Observation entries).

The objective of this trial was to compare a number of green and wax snap bean varieties for yield and other quality characteristics. This was accomplished in cooperation with the snap bean processors in New York and Ontario Canada in an attempt to find new, higher quality, and disease resistant varieties that are adapted to our climate and soil conditions. A demonstration field day was held on August 21st to view all entries planted on 6/25.

For both replicated and observation entries, yield of five feet per replication was obtained by pulling the plants and hand picking them. Multiple harvests were made to plot yield increase and also seed size increase. An FMC snipper and grader were used to snip and grade the harvested pods. Each replicated entry was processed (canned and frozen) for later evaluation by the processors and seedsmen. Comments from this cutting are not included in the report.

Soil moisture was good for all plantings and no irrigation was needed throughout the season. High temperatures in early July did not seem to affect pod set. **Six inches of rainfall the last week of July and hail on 7/31 knocked down the 3-4 sieve trial.** We harvested this trial a bit immature for processing as I anticipated high levels of grey and white mold if I waited. White mold was only a minor problem in the large sieve and whole bean plantings although excessive moisture was the norm for most of the season. See the weather insert at the end of the summary for a breakdown of temperatures and precipitation over the growing season.

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Nitrogen fertilizer was increased by 20 pounds per acre over past years trials.

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Table 1 - Processing Snap Bean Cultivar List

Large Sieve

Venture std	Syngenta
Accelerate	Pure Line
6159	A&C
BA0999	Seminis
SV1098GV	Seminis
4641	Syngenta
4644	Syngenta
GB60R	Pure Line
GB 39-1	Pure Line
6137	A&C
Huntington (std)	Syngenta
BA1001	Seminis
Pismo (SB4556)	Syngenta
2012B512	Brotherton
Silverado	Crites
Golden Goal (PV833)	Crites (wax)
Chisolm	HM

3-4 Sieve

6140	A&C
SV1136GF	Seminis
BSC898	Brotherton
HMX 2117	HM
Wyatt	HM
Achiever	Syngenta
Ambition	Syngenta
Bison (PV801)	Crites
Cabot	HM

3-4 Sieve Continued

BA0958	Seminis
Bowie	HM
Sybaris (SV1007GG)	Seminis
BA1006	Seminis
Sony	Brotherton
Caprice (std)	HM
2011B515	Brotherton
Messi (PV844)	Crites
2219	Pure Line
7343	Pure Line
Baltimore (PV819)	Crites
BSC897	Brotherton
Napoleon	A&C
Pike	HM
2012B525	Brotherton
Rimember (PV766)	Crites
Comper	Vilmorin
Cassidy	HM
Flavor Sweet	HM
ASR1302	Storm
Oakley	HM

Whole (2-3 sieve)

SWB 75-1	Pure Line
Kendo	Brotherton
SWB2-1	Pure Line
Masai (std)	Syngenta
Polder	Vilmorin

Table 2. Yield Characteristics (large bean planting date 5/29)

Cultivar	Days to harv	Heat units to harv.	Cull % by wt.	% 2 sieve	% 3 sieve	% 4 sieve	% 5 sieve	%6 sieve	% 2-4 sieve	Plants per foot	4 sieve seed length (mm)	5 sieve seed length (mm)	T/A
Venture std	54	943	0.7	6	5	26	37	25	37	6.5	81	102	5.9
	55	966	1.1	3	4	18	35	38	25	6.9	93	114	7.7
Accelerate	55	966	0.7	8	30	48	10	4	86	7.0	91	98	7.6
	57	1013	1.5	6	14	68	11	1	88	6.8	103	113	7.8
6159	55	966	2.1	8	14	54	18	6	76	6.6	89	107	6.3
	57	1013	1.1	10	13	49	21	7	72	6.2	98	115	6.4
BA0999	56	992	0.1	5	17	69	8	0	91	7.6	99	115	7.7
	58	1025	0.2	4	13	73	10	0	90	7.3	103	120	8.3
SV1098GV	57	1013	0.5	12	20	59	9	0	91	6.6	91	112	6.5
	59	1040	1.1	4	10	72	13	0	87	7.2	108	122	9.0
4641	57	1013	1.7	16	24	55	6	0	94	6.9	81	112	6.0
	59	1040	1.9	11	28	57	4	0	96	6.8	103	132	7.9
4644	57	1013	1.0	9	14	58	18	1	81	7.0	89	105	8.2
	59	1040	1.7	7	12	64	16	1	83	7.2	106	127	8.7
GB60R	59	1040	1.1	10	24	58	7	0	93	6.9	103	116	6.9
	62	1088	0.3	11	15	59	13	3	84	7.0	99	114	6.9
GB 39-1	58	1025	0.3	16	19	50	14	1	85	6.3	89	102	6.0
	60	1061	0.4	11	9	40	35	6	59	7.4	105	115	7.0
6137	56	992	0.7	22	18	46	11	3	86	6.3	83	99	5.7
	58	1025	0.6	17	15	48	17	4	80	7.3	92	108	6.7
	60	1061	0.5	7	10	42	35	7	58	7.0	106	115	8.1
Huntington (std)	58	1025	1.2	12	15	55	16	1	83	6.3	79	93	6.9
	60	1061	0.5	9	7	53	26	4	69	6.9	92	105	9.5
BA1001	57	1013	0.5	13	23	58	5	0	95	6.6	74	88	7.6
	59	1040	0.5	10	15	68	7	0	93	6.8	84	92	7.0
	62	1088	0.6	7	7	49	32	4	64	6.9	105	104	9.1
Pismo	57	1013	1.3	21	19	53	7	0	93	6.0	75	93	6.1
	59	1040	0.4	11	13	61	14	0	85	7.1	92	103	7.9
	62	1088	0.5	5	6	55	32	3	65	7.0	103	117	9.2
2012B512	59	1040	0.5	27	38	33	2	0	98	6.5	90	na	6.4
	62	1088	0.5	15	27	55	3	0	97	6.9	102	124	8.0
Silverado	59	1040	1.4	19	24	51	6	0	94	7.0	84	na	6.2
	63	1099	0.6	10	10	50	28	3	69	7.6	92	104	8.4
Golden Goal	59	1040	0.3	15	18	54	11	3	86	6.4	81	102	2.0
	63	1099	0.2	14	11	32	35	9	56	7.4	79	101	4.9
Chisolm	58	1025	0.7	17	17	50	15	1	84	5.4	73	78	4.9
	62	1088	0.5	5	7	35	38	14	48	5.8	83	90	7.8
	64	1112	0.3	4	4	21	40	31	29	5.7	75	94	7.9

See page 6 for column descriptions.

Column Descriptions for Tables 2, 4, and 6.

Cultivar – Data is based on four replications for entries in the replicated study and two plots for observation entries. Harvest sample was from five feet of row.

Seed Source –Brotherton=Brotherton Seed Co.; Crites M.=Crites Moscow Growers; HM=Harris Moran; Pure Line Seeds; Rogers=Syngenta Seeds-Rogers Brand; Seminis=Semini's Vegetable Seeds-Processor Division; Vil. - Vilmorin

Days to Harvest – The number of days from planting until harvest. Multiple harvests were made.

Degree Day Units Base 50 Degrees F. – The number of heat degree day units from planting until harvest.

% Culls – Based on the USDA specifications for culls #2 grade (misshapen) and pod rot or blemishes.

Percentage 2 sieve – Pods were snipped and graded after harvest. This was the percentage of 2 sieve pods.

Percentage 3 sieve - Pods were snipped and graded after harvest. This was the percentage of 3 sieve pods.

Percentage 4 sieve - Pods were snipped and graded after harvest. This was the percentage of 4 sieve pods.

Percentage 5 sieve - Pods were snipped and graded after harvest. This was the percentage of 5 sieve pods.

Percentage 6 sieve - Pods were snipped and graded after harvest. This was the percentage of 6 sieve pods.

Percentage 2-4 sieve – This was the sum of the 2-4 sieve percentages.

Seed Size of the 2 sieve pods – One seed from ten 2 sieve pods were collectively measured in millimeters as a maturity index.

Seed Size of the 3 sieve pods – One seed from ten 3 sieve pods were collectively measured in millimeters as a maturity index.

Seed Size of the 4 sieve pods – One seed from ten 4 sieve pods were collectively measured in millimeters as a maturity index.

Seed Size of the 5 sieve pods – One seed from ten 5 sieve pods were collectively measured in millimeters as a maturity index.

Plant Population listed as plants per foot – Desired population was 6-7 plants per foot.

Yield listed as tons per acre – The yield from the harvest sample (prior to being snipped) extrapolated to a per acre basis.

Table 3. Plant and Pod Characteristics (Large Sieve Beans)

Cultivar	Plant Ht. (in.)	Plant Width (in.)	Plant Habit Rating	Pod Color (raw) rating	Unsnipped Pod Length (in.)	Pod Shape Rating	Pod Location Rating	Pod Straight. Rating
Venture std	11	17	2	na	6 - 6.5	R - Cr	M - H	3.5
Accelerate	13	17	3.5	na	5.5 - 6	R to Cr	M	3.5 - 4
6159	15	16	3.5 - 4	na	5.5 - 6.25	R	M - H	3.5 - 4
BA0999	15	21	3	na	5 - 5.5	R	M - H	4
SV1098GV	15	19	3.5	na	5.5 - 6	R	M - H	3.5
4641	16	20	4	na	4.75 - 5.25	R	M - H	4
4644	17	20	4	na	5 - 5.5	R	M - H	4
GB60R	14	21	2.5	na	5	R to O	M - H	3.5 - 4
GB 39-1	15	18	2.5	na	5 - 5.5	R	M - H	4
6137	14	22	3.0	na	6 - 6.5	R	H	3.5 - 4
Huntington (std)	16	20	3.5 - 4	na	5 - 5.5	R - Cr	M	3.5 - 4
BA1001	13	22	2.5 - 3	na	5.5 - 6	R	M - H	3.5 - 4
Pismo	16	20	3.5 - 4	na	5 - 5.5	R - Cr	M - H	3.5 - 4
2012B512	16	20	3.5 - 4	na	5 - 5.5	R - Cr	M - H	3.5 - 4
Silverado	18	20	4	na	5.75 - 6.25	R	M - H	3.5 - 4
Golden Goal	14	21	2.5 - 3	na	5.5 - 6	R	M - H	3.5 - 4
Chisolm	17	18	4	na	6 - 6.5	R	M - H	3.5

Column Descriptions

Average plant height - The average plant height at harvest in inches.

Average plant canopy width - The average plant width at harvest in inches.

Plant Habit Rating - 5=very erect plant, 3= acceptable, 1=totally recumbent plant

Pod Color Rating - DG=dark green, MG=medium green, LG=light green. (uncooked)

Unsnipped pod length - The average length of the largest pods in inches.

Pod Shape Rating - R=round, CR=creased, O=oval

Pod Location Rating - H= pods high on the plant, M=pods located in the center of the plant canopy, L=pods touching the ground

Pod Straightness Rating - 5=very straight, 3= acceptable, 1=very curved or twisted

Additional Comments - Large Sieve Beans (in order of maturity)

Venture – early season standard, poor plant habit, long, rough, round to creased pods, at least 30% six sieve pods and also roughly 30% six sieve pods, very good yield.

Accelerate – earlier maturity, decent plant habit, loaded with pods, long round to creased, straight pods, very good yield.

6159 – earlier maturity, good plant habit, good set, long, straight, uniform pods, good yield.

BA0999 – earlier maturity, decent plant habit, round, straight pods, very good to excellent yield.

SV1098GV – decent plant habit, long, round pods, excellent yield.

4641 – very good plant habit, shorter, straight pods, still had lots of three sieve pods, very good yield.

4644 – very good plant habit, straight, round pods, excellent yield.

GB60R – basically no change in sieve distribution, seed size or yield over three days, plant habit needs to be better, round to oval, straight pods, very good yield.

GB 39-1 – plant habit needs to be better, at least 30% five sieve, round, straight pods, very good yield.

6137 – decent plant habit, very long, straight pods found high on the plant, at least 30% five sieve, very good to excellent yield.

Huntington – good plant habit, large sieve industry standard, round to creased pods found in the middle of the plant, excellent yield.

BA1001 – industry standard, plant habit could be a bit better, at least 30% five sieve, long, round, straight pods, excellent yield.

Pismo – good plant habit, round to creased, straight pods, at least 30% five sieve, excellent yield.

2012B512 – good plant habit, very nice plant and pod package, more of a four sieve bean (very few five sieve), very good yield.

Silverado – late maturity, very good plant habit, long, straight pods, very good yield (probably could have been harvested one more time).

Golden Goal (wax) – plant habit could be better, long, round pods, at least 30% five sieve, poor yield (split set).

Chisolm – late season, very good plant habit, good set, very long, round pods, at least 30% five sieve, seed sizes up slowly, very good yield.

Snap Bean Desc. Provided by the Seed Source (Large Beans)

Venture – Syngenta, early large sieve.

Accelerate – Pure Line; 54 days to maturity; 10% 3 sieve, 40% 4 sieve, 50% 5 sieve; resistant to BCMV, Aphanomyces; tolerance to Brown Spot, Curly Top, Wisconsin Central Sands Root Rot Complex.

6159 – Abbott & Cobb; GP; approximate days to maturity E-M; pod length 5.5 – 6”; pod color D; average sieve size 4-5; sieve size distribution ~50% 5 sieve.

BA0999 – Seminis, 52 days to maturity, 65% 1-4 sieve, 35% 5-6 sieve, 5.5 inch pod length, deep green pod color; Breeder Comments: One of two new first earlies. Quality, color, and holding ability superior to any other early. Yield potential and performance make this line suitable for first early, back fill, or double crop use. geographic fit observed across the MW, NE, and Southeast. Excellent performance in Texas heat set trials. The sieve size split makes 0999 potentially suitable for a high recovery of cut beans.

SV1098GV – Seminis, 56 days to maturity, 50% 3-4 sieve and 50% 5-6 sieve, 5.5 inch pod length, deep green pod color, IR for BCMV/Pss. Breeder comments – Broad adaptation with moderate to slow seed development. Plant habit moderate to compact plant type.

4641 – Syngenta; large sieve.

4644 – Syngenta; large sieve.

GB60R – Pure Line; 4 - 5 sieve bean; (similar maturity to Caprice’s 56 day maturity); blue lake type; resistant to BCMV and possibly Curly Top.

GB 39-1 – Pure Line; 4 – 5 sieve bean; (similar maturity to Caprice’s 56 day maturity); blue lake type; resistant to BCMV and possibly Curly Top.

6137 – Abbott & Cobb; mid season; bush blue lake type; BBL/GP; 56-58 days to maturity; pod length 5.5 - 6”; pod color M-D; average sieve size 4-5; sieve size distribution ~40% 5 sieve.

Huntington – Syngenta, 56 day 5 sieve Blue Lake type, smooth straight pods, very erect plant with beans off the ground, good yielder which has demonstrated tolerance to the Midwest virus complex, IR to Bacterial Brown Spot, HR to Bean Common Mosaic, picks very clean with a good percentage of the beans without stems, leaves tend to show some bronzing at maturity with no affect to yield. Early results from Geneva CMV trial shows limited yield reduction from CMV infection.

BA1001 – Seminis, 58 days to maturity, 60% 1-4 sieve, 40% 5-6 sieve, 5.6 inch pod length, medium green pod color; Breeder Comments: One of two new Aphanomyces resistant root rot lines that are built on a Tendercrop Hercules/Titan platform. Yields have been equal to or exceed Hercules and Titan under non-root rot conditions. in De Forest, WI trials. Performance in research plots at Geneva, NY under virus conditions has been excellent. Geographic fit observed across the Midwest, Northeast, and Southeast.

PISMO-SBR4556 – Syngenta, Huntington type with potentially a higher distribution of 4 sieves. Excellent yield potential and pod placement (1-2 “ higher than Huntington in most environments.

2012B512 – Brotherton; late maturity; plant height 23”; pod length 4 -5.5” and dark in color; sieve sizes 50% 4 sieve and 50% 5 sieve; T for heat and BBS; R for BCMV.

Silverado (PV-832) – Crites, mid-early; 57 days to maturity; 4-5 sieve with ~30% 5 sieve; pods are 5.5 – 6” and are medium dark green and are sitting on an erect plant.

Golden Goal (PV-833) – Crites; mid-season 4 sieve wax bean with ~10% 5 sieve; plants are very vigorous and the pods are up to 6” long.

Chisholm – Harris Moran, 55 days, straight, smooth pods; medium dark green; slow seed development; upright plant, mid high pod position; 5.9 inch pod length; 20% three sieve, 45% four sieve and 35 % five sieve; HR for Bean Common Mosaic and Curly Top; IR for Halo Blight and Bacterial Brown Spot.

**Table 4. Yield Characteristics (3-4 sieve trial planted 6/22)
in order of largest to smallest sieve size**

Cultivar	Days to harv.	Heat units harv	Cull %	% 2 sieve	% 3 sieve	% 4 sieve	% 5 sieve	% 6 sieve	% 2-4 sieve	Plts. per foot	3 sieve seed length (mm)	4 sieve seed length (mm)	T/A
6140	56	1032	0.6	9	19	44	22	6	73	6.7	69	84	7.1
	58	1070	1.4	10	11	42	28	9	63	6.8	77	84	6.9
SV1136GF	56	1032	0.2	14	17	43	21	4	75	5.8	67	77	5.9
	58	1070	0.7	14	16	44	22	4	74	6.4	75	85	6.5
BSC898	58	1070	1.6	15	19	48	17	2	81	6.1	66	85	6.5
	60	1104	2.6	15	20	46	18	1	81	6.9	76	86	6.0
HMX 2117	56	1032	0.4	15	23	49	13	0	87	5.5	70	86	6.7
	58	1070	1.5	16	21	49	14	0	86	6.9	74	90	7.5
	60	1104	1.8	13	16	52	18	1	81	6.9	88	98	7.7
Wyatt	58	1070	0.8	12	20	52	17	0	83	6.8	72	83	7.4
	60	1104	1.6	10	17	56	15	2	83	7.1	82	95	7.7
Achiever	57	1050	0.6	16	20	49	13	0	85	5.8	72	91	5.9
	59	1088	1.7	15	9	50	15	1	74	7.1	82	100	6.9
Ambition	57	1050	1.2	25	28	40	7	0	93	6.3	70	86	5.2
	59	1088	1.0	20	23	42	13	0	85	7.1	88	108	5.8
Bison	58	1070	0.8	19	24	42	13	2	85	6.8	68	87	6.6
	60	1104	0.9	17	23	44	13	4	83	7.2	78	93	7.3
Cabot	57	1050	1.1	24	28	37	11	1	88	6.3	64	80	6.1
	59	1088	2.9	17	25	44	13	1	86	5.8	78	91	5.8
BA0958	58	1070	2.5	19	25	45	11	0	89	6.3	74	87	6.6
	60	1104	2.0	14	32	41	12	1	87	7.1	86	99	7.2
Bowie	58	1070	1.3	18	25	43	12	1	86	6.3	63	84	7.6
	60	1104	0.7	15	22	50	11	2	87	7.4	78	95	7.7
Sybaris	59	1088	1.9	19	28	47	6	0	94	5.2	72	87	5.9
	61	1119	0.9	13	20	57	10	0	90	6.5	78	94	7.5
BA1006	58	1070	2.0	23	30	37	7	3	89	6.2	79	99	5.8
	60	1104	2.0	19	28	44	9	0	90	7.3	85	106	6.6
Sony	58	1070	0.7	20	33	42	5	0	95	6.4	71	76	7.1
	60	1104	0.6	15	30	49	5	0	95	6.6	74	86	7.3
Caprice	58	1070	0.8	23	30	42	5	0	95	6.3	65	81	6.9
	60	1104	0.6	22	28	45	5	0	95	6.9	73	94	7.0

Table 4 continued:

Cultivar	Days to harv.	Heat units harv	Cull %	% 2 sieve	% 3 sieve	% 4 sieve	% 5 sieve	% 6 sieve	% 2-4 sieve	Plts. per foot	3 sieve seed length (mm)	4 sieve seed length (mm)	T/A
2011B515	59	1088	2.5	32	31	33	5	0	95	6.5	72	86	4.5
	61	1119	1.7	27	35	34	4	0	96	6.8	80	91	5.4
Messi	59	1088	0.9	30	35	32	3	0	97	6.0	76	84	5.1
	60	1104	0.4	24	33	39	4	0	96	6.5	82	92	5.7
2219	58	1070	0.8	27	36	35	2	0	98	6.6	67	85	5.8
	60	1104	0.5	22	37	39	2	0	98	7.2	75	91	6.4
7343	58	1070	0.8	25	34	38	3	0	97	6.0	63	79	5.8
	60	1104	1.0	24	35	39	3	0	97	7.7	77	93	6.5
Baltimore	59	1088	0.6	24	31	42	3	0	97	7.0	77	92	5.6
	61	1119	0.2	27	36	35	2	0	98	7.6	84	100	6.5
BSC897	58	1070	1.5	31	37	31	2	0	98	6.3	75	90	6.1
	60	1104	0.3	27	37	34	2	0	98	7.1	89	98	5.8
Napoleon	58	1070	0.2	39	35	26	1	0	99	5.8	83	92	5.7
	60	1104	0.2	32	34	32	2	0	98	7.5	86	102	6.7
Pike	59	1088	0.5	37	37	26	0	0	100	6.0	81	92	5.4
	61	1119	0.2	26	43	31	0	0	100	7.1	83	93	6.6
2012B525	58	1070	0.9	47	34	18	0	0	100	6.0	62	79	4.4
	60	1104	0.0	40	36	24	0	0	100	6.7	76	89	5.2
Rimember	59	1088	0.7	39	39	23	0	0	100	6.3	82	86	5.8
	61	1119	0.2	32	44	24	0	0	100	7.4	88	95	6.9
Comper	59	1088	1.5	53	23	22	2	0	98	5.2	85	91	4.9
	61	1119	2.1	54	27	18	1	0	99	6.5	91	97	6.5
Cassidy	59	1088	1.3	42	37	21	0	0	100	6.6	84	93	5.9
	61	1119	0.4	31	44	25	0	0	100	7.1	88	95	7.0
Flavor Sweet	59	1088	0.3	53	35	12	0	0	100	6.0	79	92	5.3
	61	1119	0.0	43	42	15	0	0	100	7.1	85	99	6.2
ASR1302	57	1050	0.8	51	37	10	2	0	98	7.1	83	93	5.9
	59	1088	1.3	47	43	10	0	0	100	7.4	92	108	5.5

Whole bean

Oakley	59	1088	1.1	88	12	0	0	0	100	6.3	93	na	5.2
	61	1119	0.5	86	14	0	0	0	100	6.9	98	na	6.0

See page 6 for column descriptions.

Large hail hit this planting just days before harvest & influenced habit rating and plant height.

Table 5. Plant and Pod Characteristics - 3-4 sieve type

Cultivar	Plant Ht. (in.)	Plant Width (in.)	Plant Habit Rating	Pod Color (raw) Rating	Unsnipped Pod Lgth (in.)	Pod Shape Rating	Pod Location Rating	Pod Straight. Rating
6140	15	23	2.5-3	M	5.0-6.0	R	M-H	3.5
SV1136GF	14	22	2.5-3	M - D	5.5-6	R	H	4
BSC898	11	19	2	M-D	4.75-5.5	R	H	3.5
HMX 2117	14	25	2	D	5.0-6.0	R	H	3.5-4
Wyatt	16	23	3	D	5.5-6	R	M - H	4-4.5
Achiever	14	19	3	D	5-5.5	R	M - H	3.5-4
Ambition	11	25	1.5	D	5.5-6	R	H	4
Bison	15	20	3	D	5-5.5	R	M - H	3.5-4
Cabot	14	23	2.5-3	D	5.5-6	R	H	3.5-4
BA0958	12	23	2.5	D	5-5.5	R-O	H	4
Bowie	17	21	3.5	D	5-5.5	R	H	4
Sybaris	12	19	2.5	D	5-5.5	R	H	3.5
BA1006	13	19	3	D	4.75-5.25	R	H	3.5-4
Sony	12	21	2	M	4.25-4.75	R	H	4-4.5
Caprice	16	21	3	M-D	4.75-5.25	R	M - H	4
2011B515	17	21	3	D	4.5-5	R	H	3.5-4
Messi	18	19	4	D	5.75-6.25	R	M - H	4
2219	18	18	4-4.5	M-D	4.5-5	R	M-H	4
7343	16	25	2.5-3	M-D	4.75-5.25	R	H	3.5-4
Baltimore	20	22	3.5-4	D	5.5-6	R	H	4-4.5
BSC897	14	21	2-2.5	M	5-5.5	R-O	H	3.5-4
Napoleon	12	19	2.5	M	4-4.5	R	M - H	4
Pike	13	21	2.5	D	4.5-5	R	M - H	4
2012B525	13	19	2.5-3	M-D	4.5-4.75	R - O	M - H	3.5-4
Rimember	15	18	3-3.5	D	5-5.5	R	H	3.5-4
Comper	16	19	3	M-D	4-4.5	R	H	3.5-4
Cassidy	17	22	3.5	D	4.75-5.25	R	M - H	3.5-4
Flavor Sweet	16	22	2.5-3	M-D	4-4.5	R	H	4
ASR1302	12	19	2.5	M	4.25-4.75	R	H	4
Oakley	13	21	2.5	D	4.5-5	R	M - H	4

Column Descriptions

Average plant height - The average plant height at harvest in inches.

Average plant canopy width - The average plant width at harvest in inches.

Plant Habit Rating - 5=very erect plant, 3= acceptable, 1=totally recumbent plant

Pod Color Rating - D=dark green, M=medium green, L=light green. (uncooked)

Unsnipped pod length - The average length of the largest pods in inches.

Pod Shape Rating - R=round, CR=creased, O=oval

Pod Location Rating - H= pods high on the plant, M=pods located in the center of the plant canopy, L=pods touching the ground

Pod Straightness Rating - 5=very straight, 3= acceptable, 1=very curved or twisted

Additional Comments (3-4 sieve)

Many of these cultivars should have been harvested a few days later but the hail event knocked down many of the plants and caused injury to the pods. This would have resulted in major rot issues if they had not been harvested.

6140 – long pods that were a bit lighter green than most others, good yield (roughly 20-30% five sieve and a few sixes – should have been planted in large sieve trial).

SV1136GF – medium to dark green, long, straight pods found high on the plant, roughly 20% five sieve pods, good yield.

BSC898 – plants knocked down by hail, pods glossy, a hint of fiber, pods high on the plant, pods mostly three – four split (15-20% fives), good yield.

HMX2117 – plants knocked down by hail, long, dark green, straight, glossy pods found high on the plant, roughly 15% five sieve, very good yield.

Wyatt – plant/pod package quite nice, glossy, uniform pods, a bit of fiber, very straight pods, long pods, high yield.

Achiever – dark green, straight, glossy pods, a hint of fiber, high percentage of four sieve pods with 10-15% five sieve, good yield.

Ambition – plants knocked down by hail, long, dark green, straight, glossy pods, hint of fiber, pods high on the plant.

Bison – decent plant habit dark green, straight pods, 10-15% five sieve, very good yield.

Cabot – dark green, long, straight, glossy pods, a hint of fiber, pods high on the plant, 10-15 % five sieve, decent yield.

BA0958 – plants knocked down by hail, dark green, round to oval, glossy, straight pods found high on the plant, about 10% five sieve, very good yield.

Bowie – good plant habit, dark green, uniform, straight pods found high on the plant, a hint of fiber, about 10% five sieve, very good yield.

Sybaris – plants knocked down by hail, dark green, round pods found high on the plant, most pods were three - four sieve with a few five sieve, very good yield.

BA1006 – decent plant habit with pods high on the plant, shorter, dark green, straight pods, good yield.

Sony – plants knocked down by hail, medium green, shorter, very straight pods found high on the plant, very good yield.

Caprice – commercial standard, good plant habit, most four sieve with a few five sieve, glossy, straight pods, very good yield.

Addition comments 3-4 sieve continued:

2011B515 – a hint of fiber, higher percentage of culls, dark green, shorter, straight pods found high on the plant, did not yield.

Messi – very good plant habit, long, straight, glossy pods, hint of fiber, good plant/pod package but lower yield, mostly a three four sieve distribution.

2219 – very good to excellent plant habit, shorter, medium to dark green, straight pods, even distribution of 2-3-4 sieve pods good yield.

7343 – plants knocked down a bit, medium to dark green, straight pods found high on the plant, even distribution of 2-3-4 sieve pods, good yield.

Baltimore – good plant habit, long, dark green, glossy, very straight pods found high on the plant, plant/pod package very good, good yield.

BSC897 – plants knocked down by hail, a bit of fiber, medium green, round to oval, straight pods found high on the plant, distribution of two, three and four sieve pods, decent yield.

Napoleon – plants knocked down by hail, good set, short, straight, very uniform pods, good yield.

Pike – plants knocked down by hail, dark green, shorter, uniform, straight pods, a hint of fiber, even distribution of two, three and four sieve pods, good yield.

2012B525 – decent plant habit, smaller sieve (mostly two and three sieve pods), round to oval, straight pods, did not yield.

Rimember – decent plant habit, pods dark green, straight, quite uniform pods found high on the plant, very good yield.

Comper – decent plant habit, smaller sieve (mostly two and three sieve), short, quite uniform, straight pods found high on the plant, good yield.

Cassidy – decent plant habit, dark green, shorter, round, straight, uniform pods, even distribution of two, three and four sieve pods, very good yield.

Flavor Sweet – small sieve, shorter, straight pods found high on the plant, decent yield.

ASR1302 – plants knocked down by hail, smaller sieve (mostly 3 sieve), medium green, shorter, straight pods found high on the plant, decent yield.

Oakley – plants knocked down by hail, small sieve (should have been planted in whole bean trial), dark green, uniform, straight pods, good yield for smaller sieve.

Snap Bean Descriptions Provided by Seed Source (3-4 Sieve type)

6140 – Abbott & Cobb; BBL/GP; early maturity; pod length 5.5 – 6”; pod color M-D; average sieve size 3-4; sieve size distribution ~50% 4 sieve.

SV1136GF – Seminis, 54 days to maturity, 80% 1-4 sieve and 20% 5 and 6 sieve, 5.3 inch pod length, deep green pod color, HR for BCMV/CI/Ae/Psp³. Breeder comments – Early maturity, cut or whole large whole bean, 3rd generation root rot resistant. Excellent pod placement on an erect compact to medium sized determinate bush.

BSC898 – Brotherton, medium maturity; 20 inch plant height; dark green, 3-5 inch pods; 20% 3 sieve, 60% 4 sieve and 20% 5 sieve; R for BCMV, AN and CT; T for BBS and heat.

HMX 2117 (BR# 1653) – Harris Moran; 55 days to maturity; 20% 3 sieve size, 60% 4 sieve size, 20% 5 sieve size; **status** – 2; HR for BCMV, BCTV and Ua, IR for Pss.

Wyatt – Harris Moran, 54 days to maturity, excellent plant vigor, upright plant, attractive, dark green, straight pods high on the plant; 5.75 inch pod length, 30% 3 sieve, 60% 4 sieve and 10% 5 sieve, HR for BCMV 1, Curly Top, Psp, Pss and Xap.

Achiever – Syngenta; 3 – 4 sieve

Ambition – Syngenta; 54 days to maturity; well-adapted to all production areas and sets well in most heat conditions; long, straight and smooth dark green pods; displays strong seedling vigor; consistent high yields with long shelf-life; excellent quality and appearance in size and shape for reduced culls; pod length 5.5”; avg. 3.5 – 4” sieve size; HR for BCMV

Bison – Crites; mid-early 4 sieve bean with 10% 5 sieve; pods are 5.5 – 6” long and very dark.

Cabot – Harris Moran, attractive, round, straight pods; high quality end product, consistent performance, 55 days to maturity, upright plant, pod position mid high, 5.5 inch pods, 25% three sieve, 60% four sieve, 15% five sieve, medium dark green color, HR for Bean common mosaic, rust and common blight; IR for Curly top, Halo Blight and Bacterial Brown Spot.

BA0958 (FMGC6V0958) – Seminis, 57 days to maturity, 90% 3-4 sieve, 10% 5-6 sieve, 5.8 inch pod length, medium green pod color, HR for BCMV and IR for Pss. . Breeder comments – A fresh market variety also suitable for processing that is similar to Caprice in sieve size distribution and color. Erect plant with straight, smooth pods well off the ground.

Bowie (HMX 7118) – Harris Moran, 56 days to maturity; upright plant habit; mid to high pod location; 5.5 inch pod length; (30% 3 sieve, 60% 4 sieve, 10% 5 sieve); medium dark green pods; R for Bean common mosaic, Curly Top, Halo Blight and Bacterial brown spot; IR for Common Blight.

Sybaris (SV1007GG) – Seminis, 56 days to maturity, 56 days to maturity, 100% 1-4 sieve, 5.6 inch pod length, deep green pod color, HR for BCMV/Ua³. Breeder comments – All the pods in this line are concentrated in the 3’s and 4’s. this line may have more quality than Valentino. Pod placement is excellent.

BA1006 (FMGC61006) – Seminis, 55 days to maturity, 90% 3-4 sieve, 10% 5-6 sieve, 5.8 inch pod length, medium green pod color, HR for BCMV and IR for Pss. Breeder comments – A fresh market variety also suitable for processing that is similar to Caprice in sieve size distribution and color. Plant habit more compact and 1-2 days earlier than BA0958. Compact plant habit makes this line less prone to lodging under high fertility conditions.

Sony – Brotherton, midseason, 50% 3 sieve and 50% 4 sieve; 21 inch plant height; 4.5-5.5 inch, dark green pods; R for BCMV and AN; T for BBS and heat.

Snap Bean Descriptions Provided by Seed Source (3-4 Sieve type) continued:

Caprice (HMX 0944) - Harris Moran, 56 days to maturity, straight smooth pods, high yield in virus pressure, slow seed development, 25 % 3 sieve, 60% 4 sieve pods, 15 % five sieve, upright plant habit, pod position-mid high, pod length 5.5 in., even set, straight medium dark green pods, tolerates BBS and common blight, sets well in high fertility, has shown some degree of virus tolerance. HR for Bean common mosaic, Anthracnose, Halo blight, and Common blight, IR for Bacterial brown spot.

2011B515 – Brotherton, mid to full season; 50% 3 sieve and 50% 4 sieve; 17 inch plant height; 4.5-5.5 inch, dark green pods; R for BCMV and HB; T for BBS and heat.

Messi – Crites; mid-late; very dark 3-4 sieve on a super erect plant; pods are 5-6" long and very straight.

2219 – Pure Line; approximately 58 days to maturity

7343 – Pure Line; approximately 58 days to maturity; may be resistant to BCMV

Baltimore (PV819) – Crites; 57 days to maturity, mid-early 3-4 sieve bean with approximately 50% 4 sieve; pods are 5 – 5.5" long and have an attractive dark color; good disease package.

BSC897 – Brotherton, midseason maturity, 21 inch plant height; dark green, 4-6 inch pods; 20% 3 sieve, 60% 4 sieve and 20% 5 sieve; R for BCMV and AN; T for BBS and heat.

Napoleon – Abbott & Cobb; WP 54-56 days to maturity; pod length 3.5 – 4"; pod color M; average sieve size 3.

Pike (HMX 6108) – Harris Moran, 55 days to maturity; superior upright plant habit; excellent harvest-ability; consistent performance; high quality straight pods; medium dark-green pods; pod length 5.25 in.; pod position – mid high; 20% 2 sieve, 70% 3 sieve, 10% 4 sieve: HR for Bean common mosaic, curly top; IR for Halo blight, Bacterial brown spot and Common blight.

2012B525 – Brotherton, mid early maturity; 15 inch plant height; dark green, 4.0-5.0 inch pods; 40% 3 sieve and 60% 4 sieve; R for BCMV, AN and CT.

Rimember – Crites, 57 days; mid-early 3 sieve bean with 10% 4 sieve; pods are 5" long and have a dark color; good resistance package;

Comper – Vilmorin, mid-early variety (Booster +2 days); upright plant habit; average height 45 – 50 cm; good vigor at emergence; good distribution of the pods in the plant; pods are straight and fleshy with round section and dark green color; pod length 4.25 – 4.75" at the harvesting stage sieve 2-3; 20% 6.5-8mm, 50% 8-9 mm and 30% 9-10.5 mm; HR for BCMV, Psp and Cl, IR for Xap

Cassidy (HMX6109) – Harris Moran, 55 days to maturity, very upright, 5.3 inch pod length, 20% 2 sieve, 70% 3 sieve, 10% 4 sieve, medium dark green pods, high quality, straight pods, R for Bean common mosaic virus and Curly top diseases, IR for Halo blight, bacterial brown spot and common blight diseases.

Flavor Sweet – Harris Moran, 55 days to maturity, upright plant, strong emergence vigor, pod position – mid high, 5 inch pod length, 85% 3 sieve, 15% 4 sieve, medium green pod color, good plant vigor, good quality straight pods, HR for BCMV 1, Cl and Psp.

ASR1302 – Storm Seeds; erect plant type; green in color; HU 1250; 20% 3 sieve, 80% 4 sieve; BCMV, anthracnose, Ua tolerance.

Oakley (HMX 9126) – Harris Moran; 55 days to maturity; **100% 2 sieve size**; status – 3; HR for BCMV, Psp, Pss and Ua.

Table 6. Yield Characteristics (Whole bean - planting date 6/20)

Cultivar	Days to harv.	Heat units Harv.	% 2 sieve	% 3 sieve	% 4 sieve	2 Sieve Seed Length (mm)	3 Sieve Seed Length (mm)	Plts per foot	T/A	Cull %
SWB 75-1	56	1030	75	24	1	57	72	6.4	3.7	1.5
	59	1068	62	35	2	71	86	6.9	4.5	1.0
Kendo	59	1068	88	11	1	58	77	6.5	4.1	1.0
	63	1126	70	30	0	79	na	7.0	5.4	0.4
SWB2-1	56	1030	96	4	0	59	67	6.6	3.5	0.9
	59	1068	93	7	0	64	78	7.4	4.7	0.9
Masai	56	1030	94	6	1	64	74	6.2	3.4	1.5
	59	1068	92	8	0	76	99	7.5	4.8	0.5
Polder	56	1030	96	4	0	63	80	6.8	3.4	1.4
	59	1068	94	6	0	78	94	7.4	5.0	1.1

Column explanations on page ?

Table 7. Plant and Pod Characteristics - Whole bean type

Cultivar	Plant Ht. (in.)	Plant Width (in.)	Plant Habit Rating	Pod Color (raw) rating	Unsnipped Pod Length (in.)	Pod Shape Rating	Pod Location Rating	Pod Straight. Rating
SWB 75-1	16	22	3	M	4-4.5	R-O	M-H	4
Kendo	18	20	3.5-4	D	4-4.25	R	M-H	4
SWB2-1	16	20	3.5	M-D	4.5-5	R-O	H	4.5
Masai	19	19	4.5	M-D	4-4.5	R-O	M-H	4
Polder	19	21	4	M-D	4-4.5	R-O	M-H	4

Column Descriptions

Average plant height - The average plant height at harvest in inches.

Average plant canopy width - The average plant width at harvest in inches.

Plant Habit Rating - 5=very erect plant, 3= acceptable, 1=totally recumbent plant
(Plant Habit was done one week after harvest.)

Pod Color Rating - DG=dark green, MG=medium green, LG=light green. (uncooked)
LY=light yellow, Y=Yellow, GY=golden yellow

Unsnipped pod length - The average length of the largest pods in inches.

Pod Shape Rating - R=round, CR=creased, O=oval

Pod Location Rating - H= pods high on the plant, M=pods located in the center of the plant canopy, L=pods touching the ground

Pod Straightness Rating - 5=very straight, 3= acceptable, 1=very curved or twisted

Additional Comments - Whole Bean

SWB 75-1 – acceptable plant habit, a 30% three sieve, shows seed bumps even when immature, round to oval, straight pods, pod color just a bit lighter than others, good yield.

Kendo – late season, good plant habit, about 30% three sieve, round, dark green, straight pods, good yield.

SWB 2-1 – good plant habit, medium to dark green, very straight pods located high on the plant, round to oval shape, mostly two sieve, pods a bit longer than others, good yield.

Masai – very good to excellent plant habit, good set, medium to dark green, uniform, straight pods, good yield.

Polder – very good plant habit, good set, round to oval, straight pods, mostly two sieve, good yield.

Descriptions Provided by the Seed Source - Whole Beans

SWB 75-1 – *Pure Line; 57 days to maturity; 40% 1-2 sieve size, 60% 3 sieve size; resistant to BCMV, Curly Top, Aphanomyces.*

Kendo – *Brotherton; late season; 17 inch plant height, dark green pods, 30% 1 sieve, 40% 2 sieve, 30% 3 sieve; 4-6 inch pod length, R for BCMV and AN, T for BBS and heat.*

SWB 2-1 – *Pure Line; 57 days to maturity; 35% 1-2 sieve size, 65% 3 sieve size; resistant to BCMV; tolerance to Brown Spot, Lygus, CMV, Fusarium Root Rot.*

Masai – *Syngenta; - 55 day maturity, a very small straight podded whole pack that yields well, pod smooth at prime, slightly fast seed development; excellent bush habit that can be planted in narrow rows, 3.9 inch pods, medium green pod color. Tender, flavorful pods averaging in the two to three sieve range set in the upper half of Masai's upright, small-leaf bush.*

Polder – *Vilmorin; whole bean, semi early variety (Booster + 3 days); sieve 2-3 and with dominance of 2; erect plant not susceptible to lodging; open plant habit; pods are straight with round section and dark green in color without string nor fiber; pod length 10 – 11 cm; 70% 6.5–8mm, 30% 8-9mm; Pod length - 10.5-11.5 cm; Resistances: HR for BCMV, Psp, and Xap;*

Table 8. 2014 Weather summary for Geneva NY.

Day	Max. Temp.	Min. Temp.	Mean Temp.	Precip.	Acc Precip.	Degree Days Base 50	acc dd units base 50
5/27/14	82	62	72	0	0	22	22
5/28/14	83	53	68	0	0	18	40
5/29/14	57	51	54	0	0	4	44
5/30/14	66	47	56.5	0	0	6.5	50.5
5/31/14	74	50	62	0	0	12	62.5
6/1/14	70	44	57	0	0	7	69.5
6/2/14	79	56	67.5	0	0	17.5	87
6/3/14	87	62	74.5	0.33	0.33	24.5	111.5
6/4/14	82	52	67	0.05	0.38	17	128.5
6/5/14	72	52	62	0	0.38	12	140.5
6/6/14	64	53	58.5	0	0.38	8.5	149
6/7/14	71	52	61.5	0	0.38	11.5	160.5
6/8/14	78	52	65	0	0.38	15	175.5
6/9/14	82	60	71	0.57	0.95	21	196.5
6/10/14	72	60	66	0	0.95	16	212.5
6/11/14	75	62	68.5	0.02	0.97	18.5	231
6/12/14	77	63	70	0.13	1.1	20	251
6/13/14	69	64	66.5	0.23	1.33	16.5	267.5
6/14/14	81	50	65.5	0.1	1.43	15.5	283
6/15/14	64	52	58	0	1.43	8	291
6/16/14	71	52	61.5	0	1.43	11.5	302.5
6/17/14	84	56	70	0	1.43	20	322.5
6/18/14	88	65	76.5	0.71	2.14	26.5	349
6/19/14	75	62	68.5	0.05	2.19	18.5	367.5
6/20/14	72	51	61.5	0	2.19	11.5	379
6/21/14	70	47	58.5	0	2.19	8.5	387.5
6/22/14	73	52	62.5	0	2.19	12.5	400
6/23/14	77	53	65	0	2.19	15	415
6/24/14	83	59	71	0	2.19	21	436
6/25/14	85	66	75.5	1.12	3.31	25.5	461.5
6/26/14	75	64	69.5	0.55	3.86	19.5	481
6/27/14	77	58	67.5	0	3.86	17.5	498.5
6/28/14	82	60	71	0	3.86	21	519.5
6/29/14	85	66	75.5	0	3.86	25.5	545
6/30/14	86	69	77.5	0	3.86	27.5	572.5
7/1/14	88	70	79	0	3.86	29	601.5
7/2/14	89	69	79	0.15	4.01	29	630.5
7/3/14	86	68	77	0	4.01	27	657.5
7/4/14	76	58	67	0.1	4.11	17	674.5
7/5/14	71	56	63.5	0	4.11	13.5	688
7/6/14	78	57	67.5	0	4.11	17.5	705.5
7/7/14	82	62	72	0	4.11	22	727.5
7/8/14	78	65	71.5	0.1	4.21	21.5	749
7/9/14	86	59	72.5	0.1	4.31	22.5	771.5
7/10/14	76	53	64.5	0.32	4.63	14.5	786
7/11/14	74	52	63	0	4.63	13	799

7/12/14	78	54	66	0	4.63	16	815
7/13/14	84	66	75	0	4.63	25	840
7/14/14	77	64	70.5	0.2	4.83	20.5	860.5
7/15/14	80	65	72.5	1.04	5.87	22.5	883
7/16/14	79	54	66.5	0.15	6.02	16.5	899.5
7/17/14	72	55	63.5	0	6.02	13.5	913
7/18/14	73	55	64	0	6.02	14	927
7/19/14	78	57	67.5	0	6.02	17.5	944.5
7/20/14	76	61	68.5	0.15	6.17	18.5	963
7/21/14	78	62	70	0	6.17	20	983
7/22/14	83	63	73	0	6.17	23	1006
7/23/14	87	65	76	0	6.17	26	1032
7/24/14	84	58	71	0.13	6.3	21	1053
7/25/14	69	54	61.5	0	6.3	11.5	1064.5
7/26/14	77	54	65.5	0	6.3	15.5	1080
7/27/14	83	59	71	0	6.3	21	1101
7/28/14	82	54	68	1.1	7.4	18	1119
7/29/14	64	54	59	2.82	10.22	9	1128
7/30/14	68	54	61	0.01	10.23	11	1139
7/31/14	73	52	62.5	0.84	11.07	12.5	1151.5

Hail event

8/1/14	76	51	63.5	0	11.07	13.5	1165
8/2/14	81	58	69.5	0	11.07	19.5	1184.5
8/3/14	83	62	72.5	0.14	11.21	22.5	1207
8/4/14	75	62	68.5	0.97	12.18	18.5	1225.5
8/5/14	79	60	69.5	0.05	12.23	19.5	1245
8/6/14	76	61	68.5	0.1	12.33	18.5	1263.5
8/7/14	74	58	66	0	12.33	16	1279.5
8/8/14	74	56	65	0	12.33	15	1294.5
8/9/14	75	54	64.5	0	12.33	14.5	1309
8/10/14	79	55	67	0	12.33	17	1326
8/11/14	80	59	69.5	0	12.33	19.5	1345.5
8/12/14	82	59	70.5	0.21	12.54	20.5	1366
8/13/14	73	63	68	0.24	12.78	18	1384
8/14/14	73	54	63.5	0.05	12.83	13.5	1397.5
8/15/14	68	53	60.5	0.07	12.9	10.5	1408
8/16/14	70	54	62	0	12.9	12	1420
8/17/14	71	59	65	0.17	13.07	15	1435
8/18/14	71	56	63.5	0	13.07	13.5	1448.5
8/19/14	70	49	59.5	0.03	13.1	9.5	1458
8/20/14	78	53	65.5	0.02	13.12	15.5	1473.5
8/21/14	75	64	69.5	0.18	13.3	19.5	1493
8/22/14	78	63	70.5	0.62	13.92	20.5	1513.5
8/23/14	78	63	70.5	0.24	14.16	20.5	1534
8/24/14	71	57	64	0	14.16	14	1548
8/25/14	77	56	66.5	0	14.16	16.5	1564.5
8/26/14	79	57	68	0	14.16	18	1582.5
8/27/14	82	58	70	0	14.16	20	1602.5
8/28/14	77	55	66	0	14.16	16	1618.5