NEW YORK STATE 2020 PROCESSING SNAP BEAN CULTIVAR TRIAL REPORT

(Large Sieve – 3/4 Sieve – Whole/Fine)

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PROCEDURE AND MATERIALS:

Location: Cornell AgriTech (Research North) – Geneva NY

Soil Type: Honeoye silt loam

Planting Dates: Large Sieve – 6/1; 3-4 sieve beans – 6/18; Whole/Fine – 7/16

Row Width: 30 inches, Row length: 30 ft.

In-row Spacing: 1 5/8 inches (6-8 plants/ft.)

Fertilizer: 300#/A of 15-5-10 with Zn and Mn

Tillage: Conventional

Herbicide: Dual post plant

Planter - Two Row Monosem Vacuum Planter

Plot Size: 1 row - 4 replications (Replicated entries)

Objectives and Season Summary:

The objective of this trial was to compare various 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. We did not have a field day this year because of COVID-19 restrictions.

For replicated 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 for later evaluation by the processors and seed company representatives.

The large sieve bean field was plowed just a touch wet, which led to a less than ideal seedbed and somewhat poor emergence. After planting on June 1st, there was about an 18-day dry spell, which likely led to drought stress that caused split sets and irregular pods. The large sieve trial was irrigated once at widespread flowering. Planting conditions for the 3-4 sieve trial were dry but rains in late June and the middle of July, likely had a positive impact on yield and quality. The whole/fine bean trial had the best planting conditions with an ideal seed bed and optimal soil moisture. The whole/fine bean trial also received more evenly dispersed rainfall over the growing season which was likely a factor in yield and quality. See the weather insert at the end of the summary for a breakdown of temperatures and precipitation over the growing season.

A socially distanced, vegetable "cutting", is planned for November 19th, where frozen peas, snap beans, and sweet corn will be put on display for processors and seed companies to evaluate. Large and 3-4 sieve snap beans were canned and will also be put on display. Our vegetable cutting is the final step of our program's evaluation. We evaluate the horticultural characteristics in the field and in raw products, but our vegetable cutting takes us all the way to quality evaluation on the plate.

Table 1: Processing Snap Bean Cultivar List

Large Sieve	
CR1218	Crites
Bridger	HM
SVGV2089	Seminis
Macallan	Syngenta
Huntington	Syngenta
Jackson	Brotherton
SFC-01(B17)	GVS
PV-857	Crites
GVSB43	GVS
SB4707	Syngenta
BA1001	Seminis
Chisolm	HM

Whole	
Flavor Sweet	HM
SV1286GW	Seminis
Dawson	Brotherton

Fine	
Denver	Vilmorin
Astute	Seminis
Vezer	Vilmorin
Loriot^	Seminis

^ Wax

3-4 Sieve	
HMX0175722	HM
Cabot	HM
SV1003GF^	Seminis
HMC016203*	HM
BSC897	Brotherton
HMX0175756	HM
HMX0164423	HM
GVSWB1	GVS
HMC017711	HM
Sybaris	Seminis
Affirmed	Seminis
HMX0186401	HM
HMC017541	HM
Silverado*	Crites
SVGF2074	Seminis
SVGG2106	Seminis
SVGF2091	Seminis
Jaguar	Crites
Echo	Brotherton

* Large Sieve

^ Wax

Column Descriptions for Tables 2, 4, 6, and 7.

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=Crites Moscow Growers; HM=Harris Moran; Pure Line Seeds; Syngenta=Syngenta Seeds; Seminis=Seminis Vegetable Seeds-Processor Division; Vilmorin=Vilmorin North America vegetable seeds; GVS=Gallatin Valley Seed Company.*

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.*

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 2: Yield Characteristics (LG. Sieve Beans - planted 6/01/20)

Cultivar	Days to Harv.	GDD to harv.	Avg. % 2 sieve	Avg. % 3 sieve	Avg. % 4 sieve	Avg. % 5 sieve	Avg. % 6 sieve	Avg. % 2-4 sieve	Avg. 4 sieve seed length (mm)	Avg. 5 sieve seed length (mm)	Avg. T/A	Avg. plants per ft.
CR1218	56	1207	16	17	50	17	0	84.5	84	100	1.7	4.8
CR1218	59	1285	11	12.5	29.5	32	15	52	77	106	2.3	4.3
Bridger	56	1207	24	10	11	40	15	86	85	100	1.3	4.4
Bridger	59	1285	9	10	26	33	22	46	80	98	3	3.9
SVGV2089	62	1349	10	12	47	22	9	69	87	104	3	4.3
SVGV2089	64	1401	3	6	28	42	21	37	90	114	4	5.1
Macallan	57	1237	25	13	36	23	3	74	65	81	1.7	5.4
Macallan	59	1285	10	15	19	40	16	43	67	92	2.7	4.9
Macallan	62	1349	17	9	38	24	12	64	79	91	3	4.4
Macallan	66	1439	4	4	31	41	20	39	80	100	6.3	4.9
Huntington	62	1349	13	10	47	25	5	70	84	103	3.6	4.1
Huntington	65	1421	9	8	42	36	5	59	91	95	5.1	4.5
Huntington	66	1439	5	5	38	42	10	47	88	106	5	3.9
Jackson	62	1349	29	28	38	4	1	95	78	94	2.7	3.9
Jackson	66	1439	12	26	51	9	2	90	81	104	3.8	3.7
SFC-01(B17)	61	1328	20	17	42	17	4	79	63	96	2.2	3.1
SFC-01(B17)	66	1439	8	10	37	35	10	53	73	93	5.2	3
SFC-01(B17)	69	1494	10	9	40	31	10	58	80	109	3.4	2.5

Table 2 Continued. Yield Characteristics (LG. Sieve Beans - planted 6/01/20)

Cultivar	Days to Harv.	GDD to harv.	Avg. % 2 sieve	Avg. % 3 sieve	Avg. % 4 sieve	Avg. % 5 sieve	Avg. % 6 sieve	Avg. % 2-4 sieve	Avg. 4 sieve seed length (mm)	Avg. 5 sieve seed length (mm)	Avg. T/A	Avg. plants per ft.
PV-857	57	1237	23	22	47	8	0	92	68	72	1.7	4.1
PV-857	62	1349	12	15	43	26	4	72	91	95	3.2	3.7
PV-857	64	1401	5	10	45	36	4	60	84	98	3	3.8
PV-857	69	1494	2	4	44	43	7	50	102	105	2.4	3.3
GVSB43	61	1328	15	21	54	9	1	90	83	100	4	3.8
GVSB43	70	1517	2	6	50	37	5	59	111	125	5.6	4.1
SB4707	61	1328	14	12	53	19	2	79	80	93	4.1	5.5
SB4707	64	1401	8	9	41	36	6	58	89	97	5.8	5.3
SB4707	65	1421	6	7	39	40	8	52	87	101	5.9	4.7
SB4707	70	1517	1	1	31	50	17	34	106	124	5.4	5.1
BA1001	61	1328	38	17	30	14	1	90	69	90	2	3.5
BA1001	64	1401	12	16	42	24	6	70	70	96	4.7	4.3
BA1001	70	1517	4	7	39	38	12	50	93	102	6	3.5
Chisolm	65	1421	13	11	37	30	9	61	70	74	4.2	5.3
Chisolm	69	1494	5	4	25	39	27	34	78	87	5.4	4.8
Chisolm	71	1547	3	5	34	36	22	41	82	93	6.2	4.9

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

Cultivar	Plt. Height (in)	Plt. Width (in)	Pod Color (Raw) Rating	Raw Pod Length (in)	Pod Location	Pod Straight. Rating	Plant Habit Rating
CR1218	15-17	20-21	M/L	4 to 6	M/H	3	3.5
Bridger	18-19	16-17	L/M	4 to 5	M/H	3	3
Jackson	15-18	20-24	M/D	4 to 5	M/H	3.5	4
Chisolm	19-21	20-23	M	4 to 5	M/H	4	3.5
SFC-01 (B17)	18-20	15-18	L/M	3.5 to 5	M/H	3	4
Huntington	14-18	18-21	L/M	4 to 5	M/H	3	3
SB4707	15-17	18-21	M/D	4 to 5.75	M/H	3	3.5
GVSB43	15-17	19-22	L/M	4 to 5	M/H	3	3
BA1001	16-19	20-21	M/D	4.5 to 5	M/H	3.5	4
Macallan	15-17	20-22	L/M	5.5 to 6	M/H	3	3
SVGV2089	15-18	19-21	M/D	4 to 5	M/H	3.5	3
PV-857	15-19	19-21	M/D	4 to 5.5	M/H	3.5	4

Column Descriptions for Tables 3, 5, and 8:

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

Average Canopy Width – The average plant width at harvest in inches.

Pod Color Rating – DG = dark green, MG = medium green, LG = light green (raw color recorded), MY=medium yellow

Raw Pod Length – The average length of the pods before they are snipped.

Pod Location Rating – H = pods high on plant, M = pods located at center of plant, L = pods touching the ground.

Pod Straightness Rating – 5=very straight, 3=acceptable, 1=very curved or irregular

Plant Habit Rating – 5=Very erect plant, 3=acceptable, 1=totally recumbent

Snap Bean Descriptions Provided by the Seed Source (Large Beans)

CR1218 *– Crites, early (52 days) 5 sv, huge yield potential, long (5.5 in) straight pods medium green uniform color, moderate plant habit. 15% 3 sv, 45% 4 sv and 40%5 sv. IR for Pss.*

Bridger (HMX 4104) *– Harris Moran, 52 days to maturity, 65 % four sieve, 30% five sieve, good quality pod interiors, good yields, medium dark green, uniform, medium long, straight pods, HR for BCMV, Curly Top and Bacterial Brown spot; IR for Halo Blight.*

SVGV2089 *– Seminis, Average sieve size 5.*

Macallan *– Syngenta, Huntington type, 57 days. Upright bush with straight pods and high yield. Average sieve size 5.8 with a light to medium green pod color. Responds well to high inputs. HR - BCMV and IR – Pss.*

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.*

Jackson *– Brotherton, 4-5 sieve size, 13.5-16.0cm bean length.*

SFC-01 (B17) *- Gallatin Valley Seed Co.,*

PV 857 *– Crites, mid early (54 days) 4-5 sieve with pods sitting high on the plant. Erect plant habit. Very good heat tolerance and concentrated setting. 60% 4 sv, 40% 5 sv, 5.5 in pods, dark green. HR for BCMV/Cl; IR for Pss/Ua*

GVSB43 *– Gallatin Valley Seed Co., 56 days, 4 to 5 seive bean with light to medium green color.*

SB4707 *– Syngenta*

BA1001 – *Seminis, 58 days to maturity, 20% three sieve, 30% four sieve, 50% five sieve, 5.9 inch pod length, fresh color 7; blanched color 4; plant type 5, 90% clean yield, 60% easy harvest wo ped., 5% clusters, 0% strings; S for Psp2, Xap, CO2, Ua38, Ua90, BCTV, CYVV and BGYMV; R for Ae, BCMV.*

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.*

****HMC016203 –*** *Harris Moran, 55 days, 45% 4 sieve and 45% 5 sieve. Medium to dark green pods(5.8in) with a dense sturdy flesh for processing. Good disease package, (HR for bean common mosaic, HR for curly top, HR for halo blight, and IR for Bacterial brown spot).*

****Silverado –*** *Crites, mid-early; 57 days to maturity (Koala +1); 4-5 sieve with 70% 4 sv and 30% 5 sieve; long, straight pods that are 5.8" medium high pod placement, dark green pod color, erect plant, sets well in the heat but also seems to do well in cooler weather; HR for CL/BCMV; IR for Pss; good level of BBS resistance.*

*Planted in 3-4 sieve trial

Table 4: Yield Characteristics (3-4 Sieve Beans - planted 6/18/20)

Cultivar	Days to Harv.	GDD to harv.	Avg. % 2 sieve	Avg. % 3 sieve	Avg. % 4 sieve	Avg. % 5 sieve	Avg. % 6 sieve	Avg. % 2-4 sieve	Avg. 4 sieve seed length (mm)	Avg. 5 sieve seed length (mm)	Avg. T/A	Avg. plants per ft.
HMX0175722	57	1364	6	16	65	12	1	87	78	89	6.8	6.2
HMX0175722	59	1410	5	15	68	11	1	88	86	100	6	5.9
Cabot	57	1364	12	22	56	6	4	90	73	94	4.8	6.3
Cabot	59	1410	13	28	57	2	0	97	83	94	4.1	6.3
SV1003GF	57	1364	8	19	68	4	1	95	72	82	5.2	5.8
SV1003GF	59	1410	6	18	73	3	0	97	73	100	4.7	6.5
HMC016203	60	1434	5	6	38	35	16	48	82	97	5.4	5.1
BSC897	62	1472	29	41	29	1	0	98	82	105	5.8	6
HMX0175756	57	1364	12	17	60	10	1	90	63	75	4.3	6.6
HMX0175756	62	1472	5	9	66	18	2	80	83	102	4.8	5.8
HMX 0164423	57	1364	16	25	50	9	0	91	60	76	4.1	5.4
HMX 0164423	62	1472	9	16	60	15	0	84	70	87	3.3	3.6
GVSWB1	60	1434	11	23	56	10	0	91	60	96	4.7	6.4
GVSWB1	62	1472	13	23	55	9	0	91	75	84	4.6	6.2
HMC017711	60	1434	11	17	59	12	1	86	73	80	5.5	5.9
HMC017711	62	1472	9	17	59	14	1	85	86	90	6.5	5.1
Sybaris	61	1455	6	19	68	7	0	92	71	82	5.7	5.7
Sybaris	63	1486	4	14	74	8	0	91	66	87	6.8	6.1

Table 4 Continued: Yield Characteristics (3-4 Sieve Beans - planted 6/18/20)

Cultivar	Days to Harv.	GDD to harv.	Avg. % 2 sieve	Avg. % 3 sieve	Avg. % 4 sieve	Avg. % 5 sieve	Avg. % 6 sieve	Avg. % 2-4 sieve	Avg. 4 sieve seed length (mm)	Avg. 5 sieve seed length (mm)	Avg. T/A	Avg. plants per ft.
Affirmed	61	1455	6	16	73	4	1	94	67	76	7	5.3
Affirmed	63	1486	4	12	79	5	0	93	78	92	5.6	5.2
HMX0186401	61	1455	17	42	37	3	0	96	87	105	5.7	5.9
HMX0186401	64	1501	16	39	44	1	0	98	97	119	5.3	6.7
HMC017541	61	1455	8	28	62	2	0	96	76	103	4.7	5.5
HMC017541	63	1486	6	20	70	4	0	94	92	101	5.1	6.5
Silverado	63	1486	5	9	62	21	3	75	71	94	6.5	5.7
SVGF2074	61	1455	7	23	66	4	0	95	84	94	5.5	5.4
SVGF2074	64	1501	6	15	73	6	0	92	90	91	5.3	5.4
SVGG2106	61	1455	26	43	31	0	0	99	78	90	5.6	5.3
SVGG2106	64	1501	17	37	45	1	0	99	77	106	5.1	6.4
SVGF2091	61	1455	9	24	64	3	0	97	76	97	5.5	5.8
SVGF2091	64	1501	5	17	69	9	0	90	85	105	5.3	5.9
Jaguar	60	1434	5	15	68	10	2	88	77	106	6.3	6.2
Jaguar	64	1501	3	9	70	17	1	81	87	107	5.6	6.6
Echo	61	1455	25	48	27	0	0	99	82	97	6.2	6.2
Echo	64	1501	14	43	41	2	0	98	81	94	6.1	6.2

Table 5: Plant and Pod Characteristics (3-4 Sieve Beans)

Cultivar	Plt. Height (in)	Plt. Width (in)	Pod Color (Raw) Rating	Raw Pod Length (in)	Pod Location	Pod Straightness Rating	Plant Habit Rating
HMX0175722	21-23	22-25	M/L	5.5-6.25	M/H	3.5	3
Cabot	16-19	17-20	D/M	5.0-6.0	M/H	3.5	3
SV1003GF	20-23	20-24	M/Y	5.0-6.0	M/H	3	3
HMC016203	19-22	19-23	M/L	5.5-6.5	M/H	3.5	3
BSC897	20-23	21-24	L/M	5.25-6.0	M/H	3	3.25
HMX0175756	18-20	20-24	M/L	4.5-5.5	M/H	3.5	3
HMX 0164423	18-20	18-21	D/M	5.0-5.75	M/H	3.5	3
GVSWB1	19-22	19-23	M/Y	5.5-6.25	M/H	3.5	3
HMC017711	22-25	20-23	L/M	5.0-5.5	M/H	3	3.75
Sybaris	17-20	19-21	M	5.0-5.5	M/H	3.5	3
Affirmed	21-23	21-24	M	5.5-6.25	M/H	3.5	3
HMX0186401	20-23	21-24	L/M	4.75-5.0	M/H	4	3.75
HMC017541	22-26	18-22	D/M	5.75-6.5	M/H	4	4
Silverado	19-23	24-27	M/L	6.0-6.75	M/H	3.75	3
SVGF2074	20-24	21-23	M/L	4.75-5.75	M/H	3.5	3
SVGG2106	18-22	20-22	M/D	4.5-5.5	M/H	3	3
SVGF2091	19-22	19-22	M	4.75-5.5	M/H	3.75	3.5
Jaguar	20-22	18-20	M/D	6.0-6.5	M/H	3	4
Echo	19-24	22-24	M/L	4.5-5.5	M/H	3.5	3.5

*Same column description as Table 3, view at bottom of page 6

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

HMX0175722 – Harris Moran, 54 days, 65% 4 sieve. Medium to light green pods (5.5in), with upright structure and strong yields. Dense pods good for processing with a good disease package (*HR for bean common mosaic, HR for curly top, HR for halo blight, and IR for Bacterial brown spot).*

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.*

SV1003GF – *Seminis, 56 days, wax type with 5.8in long pods, 20% 3 sieve, 60% 4 sieve, 15% 5 sieve. IR to bacterial brown spot and HR to BCMV.*

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.*

HMX 0175756 *– Harris Moran, green bush type, early maturity (54 days), upright plant habit, mid pod position, 5.5 inch pods, medium dark green pod color, 10% 3 sieve, 70% 4 sieve, 20% 5 sieve. HR for bean common mosaic, HR for curly top, HR for halo blight, and IR for Bacterial brown spot.*

HM0164423 *– Harris Moran, 54 days, 30% 3 sieve, 60% 4 sieve, and 10% 5 sieve. Upright habit with strong yields across a range of growing conditions. Dark green pod. HR for bean common mosaic, HR for Anthracnose, HR for curly top, HR for halo blight, and IR for Bacterial brown spot.*

GVSWB1 *– Gallatin Valley Seed Co.,, 56 days, wax type.*

HMC017711 *– Harris Moran, 55 days, 25 % 3 sieve, 60% 4 sieve, and 15% 5 sieve. Medium to dark green pod (5.25in) with dense sturdy flesh. Reliable yields even with virus presence. HR for bean common mosaic, HR for curly top, HR for halo blight, and IR for Bacterial brown spot.*

Sybaris – *Seminis, 57 days to maturity, 10% 2sv, 30% 3 sv, 50% 4 sv, 10% 5sv; 5.7 inch pod length, fresh color – 3, Blanched color – 3, plant type 5; 100% clean yield, 50% easy harvest wo ped., 1% clusters, 5% strings; S for Psp2, Xap, CO2, Ae, CYVV and BGYMV; IR for Ua90; R for Ua38, BCTV and BCMV.*

Affirmed – *Seminis, 56 days, (10% 2 sv, 30% 3 sv, 50% 4 sv and 10% 5sv), 5.8 inch pod length, 100% clean yield, 55% without ped., 1% clusters, 0% strings, S for Xap, Ua38, Ua90, Ae, CYVV and BGYMV; R for Psp2, CO2, BCTV and BCMV; improved plant, pod quality and product homogeneity.*

HMX0186401 *– Harris Moran, 56 days, 85% 3 sieve and 15% 4 sieve. Medium to dark green pods, with straight and gourmet appearance. HR for bean common mosaic, HR for Anthracnose, HR for curly top, HR for halo blight, and IR for Bacterial brown spot.*

HMC017541 *– Harris Moran, 56 days, 25% 3 sieve, 70% 4 sieve, and 5% 5 sieve. Upright structure with dark green pods (5.6in). Good disease package (HR for bean common mosaic, IR for Anthracnose, HR for curly top, HR for halo blight, and IR for Bacterial brown spot.*

SVGF2074 *– Seminis, 57 days, round green, average sieve size 4.*

SVGG2106 *– Seminis, 56 days, round green, 70% 3 sieve.*

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

SVGF2091 *– Seminis, 56 days, round green type.*

Jaguar (PV-905) *– Crites, 57-58days, very erect plant habit, 4 sieve, 15% 3 sv, 80% 4 sv and 5% 5 sv, dark green, 6 inch pods. HR for BCMV and CL; IR for Rust. Pods pick very easy and clean.*

Echo (BEX138) – *Brotherton, 3-4 sieve, 14-16.5 cm pod length.*

Table 6: Yield Characteristics (Whole Beans - planted 7/16/20)

Cultivar	Days to Harv.	GDD to harv.	Avg. % 2 sieve	Avg. % 3 sieve	Avg. % 4 sieve	Avg. % 5 sieve	Avg. % 2-4 sieve	Avg. 2 sieve seed length (mm)	Avg. 3 sieve seed length (mm)	Avg. T/A	Avg. plants per ft.
Flavor Sweet	56	1257	41	51	8	0	100	72	83	4.4	8.3
Flavor Sweet	62	1400	20	59	21	0	100	88	102	3.8	7.7
SV1286GW	57	1285	76	23	1	0	100	70	89	4.6	7.7
SV1286GW	60	1353	49	39	12	0	100	87	99	4.5	7.7
Dawson	57	1285	75	23	2	0	100	68	99	4.3	8
Dawson	60	1353	61	34	5	0	100	76	100	3.9	8

Table 7: Yield Characteristics (Fine Beans - planted 7/16/20)

Cultivar	Days to Harv.	GDD to harv.	Avg. % 2 sieve	Avg. % 3 sieve	Avg. % 4 sieve	Avg. % 5 sieve	Avg. % 2-4 sieve	Avg. 2 sieve seed length (mm)	Avg. T/A	Avg. plants per ft.
Denver	60	1353	100	0	0	0	100	83	4.1	7.9
Denver	61	1376	100	0	0	0	100	89	3.8	7.5
Astute	58	1308	100	0	0	0	100	77	4.1	8.5
Astute	61	1376	100	0	0	0	100	79	4	8.7
Vezer	58	1308	100	0	0	0	100	70	3.9	7.9
Vezer	61	1376	100	0	0	0	100	81	3.8	7.5
Loriot	59	1330	100	0	0	0	100	67	3.6	7.8
Loriot	61	1376	100	0	0	0	100	71	4.2	7.9

Table 8: Plant and Pod Characteristics (Whole/Fine Snap Beans)

Cultivar	Bean Type	Plt. Height (in)	Plt. Width (in)	Pod Color (Raw) Rating	Raw Pod Length (in)	Pod Location	Pod Straightness Rating	Plant Habit Rating
Flavor Sweet	W	13-15	14-16	MG	3.5-5.0	M/H	4	4
SV1286GW	W	15-19	17-19	MG	4.0-5.0	M/H	4	4
Dawson	W	13-16	14-16	MG	4.0-5.0	M/H	4	4.5
Denver	F	14-17	15-17	MG/DG	4.0-4.75	M/H	4.5	4
Astute	F	13-17	15-18	MG	3.5-5.0	M/H	4.5	4
Vezer	F	13-15	16-18	MG	4.0-5.0	M/H	4.5	4
Loriot	F	14-18	17-19	MY	5.0-6.0	M/H	4.5	4

Column Descriptions:

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

Average Canopy Width – The average plant width at harvest in inches.

Pod Color Rating – DG = dark green, MG = medium green, LG = light green (raw color recorded), MY= medium yellow

Raw Pod Length – The average length of the pods before they are snipped.

Pod Location Rating – H = pods high on plant, M = pods located at center of plant, L = pods touching the ground.

Pod Straightness Rating – 5=very straight, 3=acceptable, 1=very curved or irregular

Plant Habit Rating – 5=Very erect plant, 3=acceptable, 1=totally recumbent

Descriptions Provided by the Seed Source - Whole Beans

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, CI and Psp.*

SV1286GW *– Seminis, 57 days, (70% 2 sv, 30% 3 sv), 4.8 inch pod length, fresh color – 4; blanched color – 5, plant type 2; 100% clean yield, 65% without ped., 1% clusters, 0% strings, S for Xap, Ua90, Ae, CYVV and BGYMV; R for Psp2, Ua38, CO2 and BCMV; improved plant type, very flexible, smaller sieve size than Cadillac.*

Dawson – *Brotherton*

Descriptions Provided by the Seed Source - Extra Fine

Denver *- Vilmorin, semi early, 10.5-11 cm pod length, whole bean sieve 1-2, very productive and excellent pod quality, upright vigorous plant, HR for BCMV, Psp, Xap and Anthracnose.*

Vezer *– Vilmorin*

Astute (SVGN6196) *– Seminis, 55 days, (70% 1 sv, 30% 2 sv), 4.8 inch pod length, fresh color – 6; blanched color – 4; 100% clean yield; 65% without ped., 1% clusters, 0 % strings; S for Xap, Ua90, Ae, CYVV and BGYMV; R for Ua38, Psp2, CO2, BCTV and BCMV; improved plant type, more suitable for clay soils.*

Loriot (SVGN1386) *– Seminis, 59 days, round wax type.*

Table 9: Weather Summary for Geneva NY							
Day	Max. Temp.	Min. Temp.	Mean Temp.	Precipitation	Monthly Acc. Precip.	Degree days base 50	Acc. dd units base 50
6/1/20	68	44	57	0	0	6.1	6.1
6/2/20	67	57	62	0.11	0.11	12.2	18.3
6/3/20	77	60	68	0.12	0.23	18.4	36.7
6/4/20	86	60	72	0	0.23	22.9	59.6
6/5/20	87	65	75	0.01	0.24	25.8	85.4
6/6/20	77	60	71	0	0.24	19.4	104.8
6/7/20	68	53	61	0	0.24	11.1	115.9
6/8/20	75	48	63	0	0.24	11.4	127.3
6/9/20	89	57	73	0	0.24	22.8	150.1
6/10/20	90	65	78	0	0.24	27.6	177.7
6/11/20	79	65	71	0.02	0.26	22	199.7
6/12/20	70	51	63	0	0.26	11	210.7
6/13/20	59	45	52	0	0.26	3	213.7
6/14/20	66	41	54	0	0.26	3.3	217
6/15/20	73	44	59	0	0.26	8.4	225.4
6/16/20	78	47	64	0	0.26	12.8	238.2
6/17/20	84	53	69	0	0.26	18.1	256.3
6/18/20	85	58	71	0	0.26	21.3	277.6
6/19/20	83	62	73	0	0.26	22.7	300.3
6/20/20	87	62	75	0	0.26	24.4	324.7
6/21/20	86	64	77	0	0.26	25.3	350
6/22/20	89	67	77	0.35	0.61	27.9	377.9
6/23/20	86	66	74	0.03	0.64	25.8	403.7
6/24/20	75	61	68	0	0.64	18.2	421.9
6/25/20	77	59	67	0.22	0.86	17.7	439.6
6/26/20	81	62	72	0	0.86	21.6	461.2
6/27/20	78	61	70	0.3	1.16	19.4	480.6
6/28/20	79	67	73	0.28	1.44	22.9	503.5
6/29/20	82	65	73	0	1.44	23.3	526.8
6/30/20	74	64	68	0	1.44	19	545.8
Total Precipitation June			**---->**	**1.44 inches**		**545 GDD**	**545 GDD**

Table 9: Weather Summary Continued							
Day	Max. Temp.	Min. Temp.	Mean Temp.	Precipitation	Monthly Acc. Precip.	Degree days base 50	Acc. dd units base 50
7/1/20	81	62	72	0	0	21.8	567
7/2/20	91	67	80	0	0	28.9	595.9
7/3/20	85	70	78	0	0	27.6	623.5
7/4/20	86	67	76	0.01	0.01	26.6	650.1
7/5/20	89	61	76	0	0.01	25.1	675.2
7/6/20	90	64	78	0	0.01	27.3	702.5
7/7/20	88	69	78	0	0.01	28.7	731.2
7/8/20	85	69	76	0.12	0.13	26.8	758
7/9/20	94	69	81	0	0.13	31.3	789.3
7/10/20	89	72	79	0.03	0.16	30.7	820
7/11/20	85	70	74	1.14	1.3	27.1	847.1
7/12/20	82	68	74	0	1.3	24.8	871.9
7/13/20	75	64	69	0.18	1.48	19.5	891.4
7/14/20	80	63	70	0	1.48	21.4	912.8
7/15/20	85	60	73	0	1.48	22.4	935.2
7/16/20	79	69	72	0.99	2.47	24.1	959.3
7/17/20	82.5	67.8	75	0.08	2.55	25.1	984.4
7/18/20	86.8	62	74	0	2.55	24.4	1008.8
7/19/20	89.4	69	79	0.14	2.69	29.2	1038
7/20/20	82.8	72.7	78	0	2.69	27.8	1065.8
7/21/20	81.2	61.7	71	0	2.69	21.4	1087.2
7/22/20	80.6	63.6	72	0.22	2.91	22.1	1109.3
7/23/20	81	66.9	74	0.06	2.97	23.9	1133.2
7/24/20	83	64.4	74	0	2.97	23.7	1156.9
7/25/20	85.9	63.5	75	0	2.97	24.7	1181.6
7/26/20	85.9	65.1	76	0	2.97	25.5	1207.1
7/27/20	88.3	71.6	80	0.02	2.99	29.9	1237
7/28/20	82.5	68.7	76	0.68	3.67	25.6	1262.6
7/29/20	77.4	67	72	0.45	4.12	22.2	1284.8
7/30/20	80.5	63.2	72	0	4.12	21.9	1306.7
7/31/20	81	60.1	71	0	4.12	20.6	1327.3
Total Precipitation July			---->	4.12 inches		782 GDD	1327 GDD

Table 9: Weather Summary Continued							
Day	Max. Temp.	Min. Temp.	Mean Temp.	Precipitation	Monthly Acc. Precip.	Degree days base 50	Acc. dd units base 50
8/1/20	84.1	59.7	72	0.04	0.04	21.9	1348.9
8/2/20	86.7	69	78	0.05	0.09	27.9	1376.8
8/3/20	81.6	67	74	0	0.09	24.3	1401.1
8/4/20	73	66.4	70	0.28	0.37	19.7	1420.8
8/5/20	74.8	61	68	0	0.37	17.9	1438.7
8/6/20	75.8	55.3	66	0	0.37	15.6	1454.3
8/7/20	78.2	57.1	68	0	0.37	17.4	1471.7
8/8/20	83.5	61.6	73	0	0.37	22.6	1494.3
8/9/20	84.8	60.5	73	0	0.37	22.6	1516.9
8/10/20	88.8	70.5	80	0	0.37	29.6	1546.5
8/11/20	87.8	67.7	78	0	0.37	27.8	1574.3
8/12/20	82.6	61.6	72	0	0.37	22.8	1597.1
8/13/20	85.5	59.7	73	0	0.37	22.6	1619.7
8/14/20	84	61.6	73	0	0.37	22.8	1642.5
8/15/20	83.3	63	73	0	0.37	23.1	1665.6
8/16/20	79.8	66.2	73	0.13	0.5	23.4	1689
8/17/20	79.3	62.8	71	0.01	0.51	21.2	1710.2
8/18/20	75	59.9	67	0.02	0.53	17.4	1727.6
8/19/20	71.8	55	63	0	0.53	13.4	1741
8/20/20	79.1	51.8	65	0	0.53	15.4	1756.4
8/21/20	82.7	57	70	0	0.53	19.9	1776.3
8/22/20	85.7	62.4	74	0	0.53	24.1	1800.4
8/23/20	84.7	64.2	74	0	0.53	24.4	1824.8
8/24/20	86.8	61.7	74	0	0.53	24.3	1849.1
8/25/20	79	64.7	72	0.3	0.83	22.1	1871.2
8/26/20	70.4	56.6	64	0.05	0.88	13.5	1884.7
8/27/20	82.8	62.6	73	0.83	1.71	22.7	1907.4
8/28/20	72	64	68	0	1.71	18.1	1925.5
8/29/20	79.9	64.4	72	0.04	1.75	21.9	1947.4
8/30/20	71	53.3	62	0	1.75	12.6	1960
8/31/20	74.6	50.2	62	0	1.75	12.4	1972.4
Total Precipitation August			**---->**	**1.75 inches**		**645 GDD**	**1972 GDD**

Table 9: Weather Summary Continued							
Day	Max. Temp.	Min. Temp.	Mean Temp.	Precipitation	Monthly Acc. Precip.	Degree days base 50	Acc. dd units base 50
9/1/20	75.5	65.5	71	0	0	21.9	1996
9/2/20	80.7	68.8	75	0.02	0.02	27.9	2023.9
9/3/20	78.2	62.1	70	0	0.02	24.3	2048.2
9/4/20	72.2	57.7	65	0	0.02	19.7	2067.9
9/5/20	71.6	53.3	62	0.01	0.03	17.9	2085.8
9/6/20	72.4	56	64	0	0.03	15.6	2101.4
9/7/20	77	60.1	69	0.01	0.04	17.4	2118.8
9/8/20	83.8	61.2	73	0	0.04	22.6	2141.4
9/9/20	85.8	57.8	72	0	0.04	22.6	2164
9/10/20	77.3	60.6	69	0	0.04	29.6	2193.6
9/11/20	59.7	45.4	53	0.01	0.05	27.8	2221.4
9/12/20	70	43.2	57	0.01	0.06	22.8	2244.2
9/13/20	71.1	62.6	67	0.24	0.3	22.6	2266.8
9/14/20	64.1	49.1	57	0	0.3	22.8	2289.6
9/15/20	63.9	40.4	52	0	0.3	23.1	2312.7
9/16/20	76.5	49.1	63	0	0.3	23.4	2336.1
Total Precipitation September			**---->**	**0.3 inches**		**362 GDD**	**2336 GDD**