

2001 Vegetable Variety Screening Trials

SUMMARY REPORT



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INTRODUCTION

This report contains the summaries of the vegetable variety trials conducted as a joint venture of the Fraser Valley Cole Crop Growers' Association, Evergro Canada Inc., Fraser Seeds Ltd., Stokes Seeds Ltd., and TerraLink Horticulture Ltd. Funding for the variety trials was also provided by the BC Ministry of Agriculture, Food and Fisheries.

The trials were established in commercial growers' fields at various locations in the Fraser Valley of British Columbia. The trial analyses included yield, quality, disease resistance and other important characteristics, as appropriate, relating to suitability for processing and/or fresh market production.

The growing season in 2001 was fairly typical. Heavy rains occurred in late August, causing the loss of one broccoli trial.

Special thanks to the following growers for allowing trials to be conducted on their farms:

Dave's Orchard, Langley
Greenvale Enterprises, Abbotsford
Krause Brothers Farms, Aldergrove
Opinder Bhatti Farm, Abbotsford
Sahota Farms, Abbotsford
Townline Growers, Abbotsford

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2001 SEED SOURCES

Thanks to the following seed companies and seed suppliers for providing seed samples:

BE	Bejo (supplied by Evergro)
CH	Chinglong Seeds (supplied by Evergro)
HM	Harris Moran (supplied by Stokes Seeds)
NI	Nickerson-Zwaan (supplied by Evergro)
PE	Petoseed (supplied by Evergro)
RO	Rogers Seed (supplied by Evergro and TerraLink)
SA	Sakata Seed (supplied by Stokes Seeds)
SE	Seminis (supplied by Fraser Seeds)
VI	Vilmorin (supplied by Evergro)

2001 BROCCOLI VARIETY OBSERVATION TRIALS

Objective

To evaluate broccoli varieties for commercial processing and fresh market production in the Fraser Valley of British Columbia.

Cultural Information

Location	Trial #1 Sahota Farms, No. 3 Rd., Abbotsford Trial #2 Opinder Bhatti Farm, Tolmie Rd., Abbotsford Trial #3 Sahota Farms, Boundary Rd., Abbotsford Trial #4 Opinder Bhatti Farm, Tolmie Rd., Abbotsford
Transplanting Dates	Trial #1 July 12 Trial #2 July 19 Trial #3 July 19 Trial #4 July 30
Plots	Single rows, 10 m. long on row centres of 0.9 m. Plants spaced at 0.3 m. intervals within the row. Each plot had two replicates.
Fertility	Plots were fertilized according to standard commercial practices.

Results and Discussion

Due to a heavy rain in late August, and some localized flooding, data was unavailable from Trial #2. Trial #1 had hollow stem in all varieties, and Trial #3 showed some cabbage maggot damage. The varieties Shadow and SBC 8411 showed promise, and should be further trialled.

Broccoli Variety Trial - Site #1

Location: Sahota Farms, Abbotsford

Variety	Source	Days to 50% Harvest	Head Size	Cat Eye	Brown Bud	Downy Mildew	Colour	Compact	Bud Size	Stem Dia.	Shape	Comments
Dinara	RO	60	M	3.5	3.5	5	4.5	3.5	3.5	M - / T	irregular dome	-irregular bud size; side shoots
SBC 9311	SA	61	M	3	3.5	5	4.5	4	3.8	T	dome	-few bracts; large buds
SBC 8411	SA	62	M	3	4	5	3.8	3.8	3.4	M - T	irregular dome	-variable size and appearance
FMX 198	HM	62	M - L	3	3	5	3.5	3.8	2.5	T	irregular dome	-irregular, poor bud development
XBC 7408	SA	65	M	3	4.5	5	3.8	4	3.5	SI	irregular dome	-irregular bud size and colour
B-80	CH	66	S - M	3	3.8	5	3.5	3.5	2.5	M	flattened dome	-variable head size; sunken centers -some bracts; uneven colour and bud size
B-75	CH	66	S	3	3.8	5	3.5	3.8	3.5	M	irregular dome	-some bracts; variable size heads and buds
Fiesta	BE	66	S - M	2.5	4.2	5	4	4	3.5	T	dome	-thick stem
Shadow	BE	69	M	3.5	3.8	5	4	3.8	3	SI - M	dome	-uneven bud development -some bracts

Notes: Numerical ratings indicate a most desirable rating as 5 and least desirable as 1

Head size: S = small; M = medium; L = large

Stem diameter: SI = slender; M = medium; T = thick

General: Uneven bud development similar to cateye symptoms; hollow stem throughout site.

Broccoli Variety Trial - Site #2

Location: Bhatti Farm, Abbotsford

Comments

The trial field was flooded and many of the plants were stunted and produced unmarketable heads. SBC 8411 was stunted but produced the most marketable heads.

The varieties that were **most** susceptible to stress from water, maggots and clubroot were: B-80; Shadow; SBC 9311; and FMX 198.

Broccoli Variety Trial - Site #3
Location: Sahota Farms, Abbotsford

Variety	Source	Days to 50% Harvest	Head Size (cm)	Cat Eye	Brown Bud	Downy Mildew	Colour	Compact	Bud Size	Stem Dia.	Shape	Comments
FMX 198	HM	58	M	3.5	3	3	3	4	3	M - T	dome	-uneven buds; poor vigour; yellowish/brownish colour; sunken areas and rot later in season
SBC 8411	SA	59	M	3.5	4	5	3.8	4.5	3.5	M - T	irregular dome	-good vigour; good field holding quality (early variety)
SBC 9311	SA	59	M	3.5	3.6	4	4	4	4	M - T	dome	- some bracts in head
Dinara	RO	59	M	3.2	3.5	4	4	3.5	3.5	M - T	dome	-good vigour; bit loose; uneven buds; few side shoots
XBC 7408	SA	69	S - M	3.5	3.8	3.5	3.8	3.5	3.5	Sl	flattened dome	- low weight/plant; side shoots; premature flowering
Fiesta	BE	70	S - M	4	4	5	4	4	4	M - T	dome	- good holding quality in field (late variety)
Shadow	BE	71	S - M	4.5	4.5	5	4.5	4.5	4.5	Sl - M	dome	-leaves chlorotic/stressed but quality of head good; hollow stem less severe
B-80	CH											-poor development; could not be rated
B-75	CH											-poor development; could not be rated

Notes: Numerical ratings indicate a most desirable rating as 5 and least desirable as 1

Head size: S = small; M = medium; L = large

Stem diameter: Sl = slender; M = medium; T = thick

General: Hollow stem throughout site, but less severe in Shadow and Fiesta.

Broccoli Variety Trial - Site #4

Location: Bhatti Farm, Abbotsford

Variety	Source	Days to 50% Harvest	Head Size (cm)	Cat Eye	Brown Bud	Downy Mildew	Colour	Compact	Bud Size	Stem Dia.	Shape	Comments
FMX 198	HM	62	M	3	3.5	2.5	3	3.5	2.5	M - T	flattened/irregular dome	-uneven buds; diseased at center of head
Dinara	RO	62	S - M	3	3.5	3	3	3.2	3.5	M	dome	-uneven buds; side shoots
SBC 9311	SA	63	M	3	3.8	3	3.5	4	3	M - T	dome	-uneven buds; few bracts
XBC 7408	HM	63	M	3	3	3.5	3	3.5	2.5	Sl	flattened dome	-premature side shoots; main heads unmarketable; uneven buds
SBC 8411	SA	66	M	3.8	3.8	3.5	4.5	4	4	M - T	irregular dome	-variable size and shape
B-80	CH	67	S	3.2	2.5	2.5	3.5	3.5	2.5	M	flat head	-buds blackening before market; uneven buds
Fiesta	BE	69	S - M	3.5	4	4	3.5	3.8	3.5	T	dome	-uneven buds/colour; good field holding (over 80 days); side shoots
Shadow	BE											-did not reach maturity (81 days); yellow leaves; could not be rated
B-75	CH											-buds susceptible to disease before maturity; could not be rated

Notes: Numerical ratings indicate a most desirable rating as 5 and least desirable as 1

Head size: S = small; M = medium; L = large

Stem diameter: Sl = slender; M = medium; T = thick

2001 BRUSSELS SPROUTS VARIETY OBSERVATION TRIALS

Objective

To evaluate Brussels sprouts varieties for commercial processing and fresh market production in the Fraser Valley of British Columbia.

Cultural Information

Location	Trial #1 Sahota Farms, Yale Rd. West, Chilliwack Trial #2 Townline Growers, S. Sumas Rd., Chilliwack Trial #3 Townline Growers, Wells Line Rd., Abbotsford
Transplanting Dates	Trial #1 May 26 Trial #2 May 26 Trial #3 June 12
Plots	Double rows, 8 m. long on row centres of 0.95 m. Plants spaced at 0.4 m. intervals within the row. Each plot had two replicates.
Fertility	Plots were fertilized according to standard commercial practices.

Results and Discussion

The variety 16-063 showed good promise for mechanical harvesting. The stalks were fairly straight, and the well-trimmed rate was acceptable.

Brussels Sprouts Variety Trial – Site 1

Location: Sahota Farms, Chilliwack

Variety	Source	Optimum Harvest Date	Stalk Size (cm)	Market Yield per 10 Stalks (kg)	Sprout Size Index: # of Sprouts per 1 kg	% Well-Trimmed	Lodging	Colour	Shape	Firmness	Smooth	Black Spot	Comments
16-053	NI	Oct. 3	80	8.9	65	70%	4.5	4.5	4	4.2	4.6	3	-early maturing
BRS008	VI	Oct. 10	70-90	7.2	86	69%	4	4	4	4.7	4.6	3.5	-early maturing -holds well in the field
Content	VI	Oct. 17	80	7.2	100	72%	4	4.5	4	4.3	4.6	3	-late maturing
16-063	NI	Oct. 17	80	7.0	112	89%	4.5	4.5	4.5	4.5	4.6	3.5	-late maturity -potential for machine harvesting -uniform stem

NOTES: Numerical ratings indicate a most desirable rating as 5 and least desirable as 1.
 All 4 varieties harvested October 17, 2001. First two optimum harvest dates are estimated.
 The harvest from this site was trimmed by machine.

Brussels Sprouts Variety Trial – Site 2

Location: Townline Growers, Chilliwack

Variety	Source	Optimum Harvest Date	Stalk Size (cm)	Market Yield per 10 Stalks (kg)	Sprout Size Index: # of Sprouts per 1 kg	% Well-Trimmed (by #)	Lodging	Colour	Shape	Firmness	Smooth	Black Spot	Comments
BRS008	VI	Oct. 15	85	6.4	85	trim- med by hand	4.5	4.5	4.5	4.2	4.5	4	-early industry standard
16-053	NI	Oct. 23	80	7.7	91	"	4.5	4.5	4.3	4	4.5	4	-longer shank, especially lower on stalk; stalks straight
Content	VI	Oct. 31	90	7.4	98	"	4.5	4.5	4.5	4.5	4.8	4	-variable maturity
16-063	NI	Oct. 31	80	8.0	95	"	4.5	4.5	4.2	4.6	4	4	

NOTES: Numerical ratings indicate a most desirable rating as 5 and least desirable as 1.

Brussels Sprouts Variety Trial – Site 3

Location: Townline Growers, Abbotsford

Variety	Source	Optimum Harvest Date	Stalk Size (cm)	Market Yield per 10 Stalks (kg)	Sprout Size Index: # of Sprouts per 1 kg	% Well-Trimmed (by #)	Lodging	Colour	Shape	Firmness	Smooth	Black Spot	Comments
16-053	NI	Nov. 5		6.7	76		3.8	4.2	4.6	4.7	4.6	4	
BRS 008	VI	Nov. 5		5.8	84		3.8	4.5	4	4	4.2	4	-early industry standard
Content	VI	Nov. 14		6.3	112		3.5	4.2	4	4	4.6	4	-20 – 30% of stalks broke when harvesting
16-063	NI	Nov. 14		6.0	101		3.5	4.2	4	4.2	4.6	3.8	-black spot noticeable in grade sprouts -10% of stalks broke during harvesting

NOTES: Numerical ratings indicate a most desirable rating as 5 and least desirable as 1

2001 CAULIFLOWER VARIETY OBSERVATION TRIALS

Objective

To evaluate cauliflower varieties for commercial processing and fresh market production in the Fraser Valley of British Columbia.

Cultural Information

Location	Trial #1	Greenvale Ent., Old Riverside Rd., Abbotsford
	Trial #2	Greenvale Ent., Murphy St., Abbotsford
	Trial #3	Sahota Farms, Yale Rd. West, Chilliwack
	Trial #4	Sahota Farms, Yale Rd. West, Chilliwack

Transplanting Dates	Trial #1	July 12
	Trial #2	July 19
	Trial #3	July 19
	Trial #4	July 30

Plots	Single rows, 14 m. long on row centres of 1.05 m. Plants spaced at 0.4 m. intervals within the row. Each plot had two replicates.
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Fertility	Plots were fertilized according to standard commercial practices.
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Results and Discussion

Trials #3 and #4 had little results because of premature heading, and stunted growth. None of the varieties trialled were superior to the existing industry standards.

Cauliflower Variety Trial - Site #1

Location: Greenvale Enterprises, Abbotsford

Variety	Source	Days to 50% Harvest	Outer Leaves	Wrapper Leaves	Colour	Fuzzy	Ricey	Loose	Bracts	Processing Suitability	Curd Shape
H-80	CH	49	2.0	2	2	1.5	3	3.5	3	1	flattened -centre sunken/bacterial dome rot -hollow stem
H-75	CH	53	2.5	2.5	3	2	3	3.5	4.5	1	flattened dome
Cassius	BE	65	4	3.5	3.5	4	3.8	3.8	4.5	3	irregular -hollow stem dome
Fargo	BE	72	4	3.5	3.5	3	3.5	4.5	5	3.5	irregular -no hollow stem dome
Tofar	BE	74	4	3.5	3.5	3	3.8	3.8	5	3	irregular -hollow stem dome
Late-man	BE	78	3.8	3	3.5	3.5	3.8	4.5	5	3	dome -no hollow stem -yellowing on curd

NOTES: In general, this trial exhibited hollow stem, a 'water soaked' look, and sunken centers of heads.

Cauliflower Variety Trial - Site #2

Location: Greenvale Enterprises, Abbotsford

Variety	Source	Days to 50% Harvest	Outer Leaves	Wrapper Leaves	Colour	Fuzzy	Ricey	Loose	Bracts	Processing Suitability	Curd Shape	
H-75	CH	42	2	2	2.5	2.5	2.5	3.5	4.5	1.5	flattened dome	- unsuitable in this climate - centre sunken/bacterial rot
H-80	CH	46	2	2	2.5	2.5	2.5	3.5	3.	1.5	flattened dome	- unsuitable in this climate - centre sunken/bacterial rot
Cassius	BE	55	4	3.5	3.5	4	4	4.5	5	3.8	irregular dome	
Tofar	BE	58	4	3.5	3.5	3.5	4.5	4.5	5	3.5	dome	
Fargo	BE	66	4.5	4.5	3.5	3.5	3.5	4.5	5	3.5	dome	
Late-man	BE											- heads not marketable size

Cauliflower Trial - Site 3 and Site 4 - Late Plantings - Sahota Farms, Chilliwack

Varieties	Comments
H-75 and H-80	-premature heading -unsuitable for this climate
Tofar, Fargo, Lateman, Cassius	-plants stunted and stressed -poor wrapper leaves (except for Fargo) -mildew on leaves, yellowing -heads still small and less than 50% harvest on Nov. 5 -no data collected

2001 SWEET CORN VARIETY OBSERVATION TRIALS

Objective

To evaluate sugary enhanced (SE) and supersweet (Sh₂) corn varieties for commercial fresh market production in the Fraser Valley of British Columbia.

Cultural Information

Location	Trial #1 SE, Dave's Orchard, Langley Trial #2 Sh ₂ , Krause Brothers Farm, Aldergrove Trial #3 Sh ₂ , Dave's Orchard, Langley
Planting Dates	Trial #1 May 4 Trial #2 May 11 Trial #3 May 21
Plots	At trial #1, plots consisted of six rows, 8 m long. At trial #2, plots consisted of 3 rows, 15 m long. At trial #3, plots consisted of 3 rows, 12 m long. Rows were spaced 0.9 m apart. Plants were thinned to 20 cm intervals within the row. Each plot had two replicates.
Fertility	Plots were fertilized according to standard commercial practices.

Results and Discussion

Cool temperatures and rain followed planting of trial #1. Good weather conditions followed planting at trial #2, but germination was spotty. This may have been a wireworm problem. Trial #3 was treated for wireworms, but still had some spotty germination in some places.

Very few pest problems were identified. In addition to the wireworm damage mentioned previously, there were some aphids on the husks and bird damage late in the season at trials #1 and #2.

None of the varieties tested were earlier than existing recommended varieties.

SE Sweet Corn Varietal Observations - Site #1

Location:

Dave's Orchard, Langley

Variety	Days to Harvest	Plant Height (m)	Ear Height (m)	No. of Suckers	Ease of Harvest	Colour & No. of Marketable Ears/Plant	Wt. Of Marketable Ears From 10 Plants (kg)	Total Wt. Of 10 Cobs (kg)	No. of Rows	Cob Length (cm)	Cob Tip Fill
Seneca Pronto	115	1.7	0.4	0-1	4	Yellow 1	3.7	2.1	14-16	17.5	4.5
GH 7006	117	2	0.5	2	3.8	Pale yellow 1	2.8	2.0	14-16	18	4.5
Seneca Tomahawk	125	2	0.6	1 - 2	4.5	Bi-colour 1-2	3.8	2.7	14	18	2.5
Serendipity	127	2.1	0.6	2	3.8	Bi-colour 1-2	4	2.7	16	21	4.5
Honey Select	128	2.4	0.7	0	4	Yellow 2	4.3	2.6	16	20	4.5
Seneca Nation	130	2.5	0.7	2	4	Bi-colour 1-2	3.6	2.1	14	17	3
Seneca Sensation	131	2.5	0.7	2-3	4	White 1-2	3.6	2.3	16	19	3

NOTES: Numerical ratings indicate a most desirable rating as 5 and least desirable as 1.

SE Sweet Corn Site #1 - Dave's Orchard, continued...

Variety	Source	Straightness of Rows	Tenderness	Flavour (Sweetness)	Husk (Tip Cover)	Comments
Seneca Pronto	PE	4	4	4	4	-some lodging -cob size variable
GH 7006	RO	4	4.5	4	4	-cob size variable (10% undersize) -variable plant height
Seneca Tomahawk	PE	4	4	4	2.5	-bird damage at tip -some multiple cobs/ear -cob length variable
Serendipity	RO	4	4.5	4.5	4	-poor pollination
Honey Select	RO	4.5	4.5	4.5	4	-variable plant height
Seneca Nation	SE	3.5	3.5	3	4	-prominent side cobs attached to main cobs -variable plant height
Seneca Sensation	SE	4	3.5	2.5	3.5	-some cross pollination -poor pollination -plant height very variable

NOTES: Numerical ratings indicate a most desirable rating as 5 and least desirable as 1. Planting was followed by cool temperatures and rain, resulting in slow germination. Thinned to 20 cm spacing on June 19.

Sh_e - Sweet Corn Varietal Observations - Site #2

Location:- Krause Bros. Farm, Aldergrove

Variety	Days to Harvest	Plant Height (m)	Ear Height (m)	No. of Suckers	Ease Harvest	Colour & No. of Marketable Ears	Weight Of Marketable Ears From 10 Plants (kg)	Total Wt. Of 10 Cobs (kg)	No. of Rows	Cob Length (cm)	Cob Tip Fill
GSS 5022	107	2	0.6	2-3	4	Yellow 1-2	3.9	2.6	14	21	4.5
BSS 6284	108	1.7	0.6	2	4	Bi-colour 1	4.2	2.3	12-16	19.5	4.5
Tethys	116	2.1	0.8	2-3	4.2	Bi-colour 1-2	3.9	2.5	14 - 16	19	4.5
Hansen 7504	121	2.1	0.8	2-4	4.2	Bi-colour 2	3.6	2.6	14	18	4.5

Sweet Corn Site #2 - Krause, continued...

Variety	Source	Straightness of Rows	Tenderness	Flavour (Sweetness)	Husk (Tip Cover)	Comments
GSS 5022	RO	4	3	3.5	4	-variable maturity - some multiple cobs/ear
BSS 6284	RO	4	3.5	4	4	-few multiple cobs/ear -variable size cobs -variable plant height
Tethys	RO	4.5	4	4	3	-good vigour
Hansen 7504	SE	4.5	4	4	3.5	-uneven kernel size -some misshapen cobs -poor pollination

NOTES: Numerical ratings indicate a most desirable rating as 5 and least desirable as 1.

Sh_e Sweet Corn Varietal Observations - Site #3

Location: Dave's Orchard, Langley

Variety	Days to Harvest	Plant Height (m)	Ear Height (m)	No. of Suckers	Ease of Harvest	Colour & No. of Marketable Ears	Weight Of Marketable Ears From 10 Plants (kg)	Total Wt. Of 10 Cobs (kg)	No. of Rows	Cob Length (cm)	Cob Tip Fill
GSS 5022	111)	2.1	0.7	1-2	4.2	Yellow 1	4.5	2.8	16	20	4
BSS 6284	116	2.1	0.6	0-2	4.2	Bi-colour 1	4.4	3.2	14	19	4
Hansen 7504	118	2	0.8	0-1	3.5	Bi-colour 1 – 2	3.4	2.7	14	19	4
Tethys	120	2.3	0.8	2	4.8	Bi-Colour	4	2.4	16	19	4

NOTES: Numerical ratings indicate a most desirable rating as 5 and least desirable as 1.

Sweet Corn Site #3 - Dave's Orchard, continued...

Variety	Source	Straightness of Rows	Tenderness	Flavour (Sweetness)	Husk (Tip Cover)	Comments
GSS 5022	RO	4.5	4	4	3.2	-some multiple cobs/ear
BSS 6284	RO	4.5	4	4	4.5	-some multiple cobs/ear
Hansen 7504	SE	4.5	4.5	4.5	3.5	-variable size cobs; some undersize -poor plant vigour -uneven maturity
Tethys	RO	4	4	4	3.5	-variable size -variable maturity within cob; tip ripens later

NOTES: Numerical ratings indicate a most desirable rating as 5 and least desirable as 1.