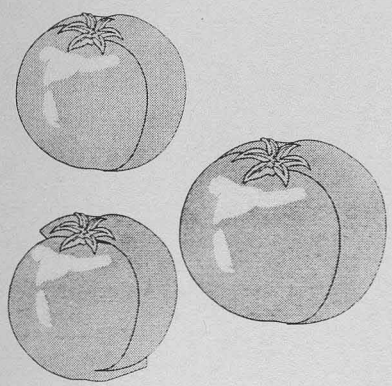
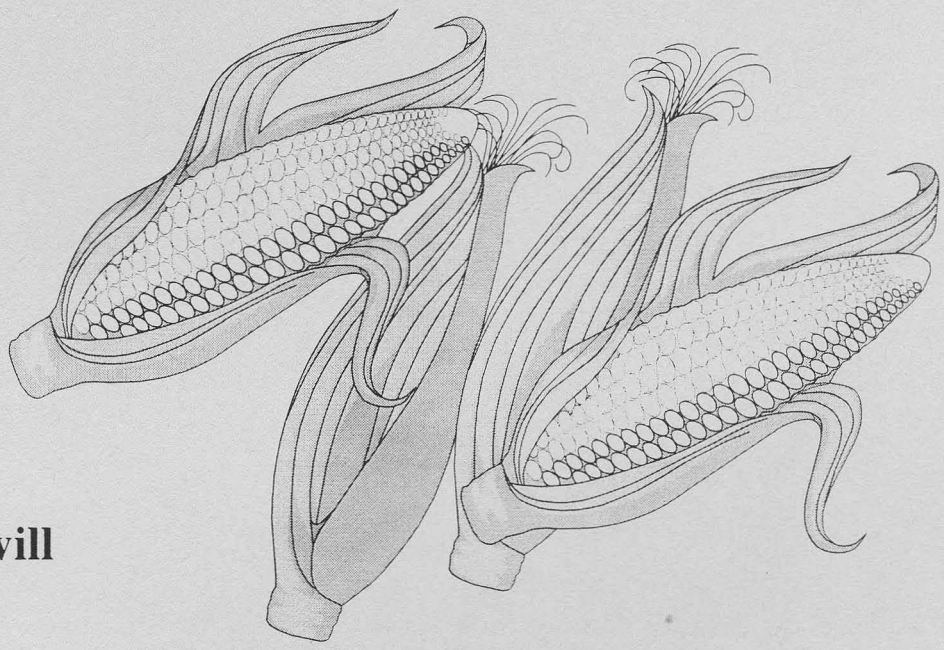
LESLIE HUFFMAN

1996
FRESH MARKET VEGETABLE RESEARCH REPORT

Agriculture & Agri-Food Canada
Greenhouse & Processing Crop
Research Centre
Harrow, ON
N0R 1G0





William (Bill) Balkwill

1996 FRESH MARKET VEGETABLE VARIETY TRIALS RESEARCH REPORT

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1996 TEMPERATURE AND PRECIPITATION DATA
Harrow, Ontario

	APRIL			MAY			JUNE		
Date	High (°C)	Low (°C)	Precip. (mm)	High (°C)	Low (°C)	Precip. (mm)	High (°C)	Low (°C)	Precip. (mm)
1	7.9	-1.2		15.5	6.2		26.0	11.7	4.0
2	6.3	-3.5		18.5	1.6	1.3	20.3	16.0	
3	13.9	1.0		17.6	8.3	2.0	22.0	16.1	8.3
4	1.9	0.1	0.8	13.7	7.6		19.0	14.2	
5	6.2	-3.1		11.9	3.0	0.5	20.0	11.6	
6	6.2	-5.1		13.5	6.7		20.2	14.3	7.8
7	3.8	-6.0		13.7	6.5		24.4	17.5	0.5
8	3.7	-5.1		14.1	9.7	0.8	22.8	13.8	3.3
9	4.1	-4.9		17.7	8.5	9.0	25.2	15.6	18.5
10	12.7	-1.5		22.7	12.6	2.5	25.1	17.8	
11	21.8	1.1		9.3	3.5	0.5	23.7	16.6	
12	21.1	9.0	13.0	9.0	2.6		23.3	16.6	0.3
13	10.9	4.9	2.3	11.0	0.2		29.7	17.2	
14	5.2	-0.9		15.1	3.7		29.5	19.2	
15	12.4	1.1	2.8	11.8	8.8	4.8	27.3	17.5	
16	6.3	1.3		15.7	10.0		29.1	15.6	
17	11.6	0.6		19.8	10.0		22.7	17.8	31.3
18	21.1	3.2	1.8	28.3	12.6		24.3	16.4	3.5
19	22.8	12.7	15.5	29.0	20.2		27.4	20.2	
20	20.6	12.9		29.5	20.0	3.0	25.6	20.4	
21	15.9	8.4	4.0	23.9	15.4		25.8	18.3	
22	16.4	7.1	5.5	24.0	11.1		28.4	22.6	
23	6.1	0.2	3.8	22.0	12.6		22.0	10.8	1.8
24	15.9	-0.1	0.3	17.9	10.2		29.5	17.2	
25	20.0	7.3	1.3	18.9	6.4		23.7	15.4	
26	15.1	7.7	1.0	18.3	9.9		23.7	13.3	
27	13.0	-0.8		15.4	10.1	0.3	27.1	15.4	
28	11.5	0.5	2.3	20.4	9.1		30.5	19.0	
29	9.9	4.9	18.5	17.6	9.8		31.8	22.8	
30	9.3	4.5		20.6	4.5		34.9	24.1	
31				21.8	5.3				
Month[1]	11.8	1.9	72.9	18.0	8.6	24.5	25.5	16.8	79.3
Norm[2]	14.5	2.2	75.6	21.3	8.4	67.5	25.9	14.2	80.1
Cumulative CHU's[3] to end of month					325			1102	
Normal cumulative CHU's (1986-1996 ave.)					403			1131	

1 = Mean High & Low Temp & Total Precipitation
2 = Normals based on 1986-1996 (11 year ave.)
3 = Corn Heat Units (10°C base temp.)

1996 TEMPERATURE AND PRECIPITATION DATA

Harrow, Ontario

	JULY			AUGUST			SEPTEMBER		
Date	High (°C)	Low (°C)	Precip. (mm)	High (°C)	Low (°C)	Precip. (mm)	High (°C)	Low (°C)	Precip. (mm)
1	27.6	18.3		24.1	14.7		27.9	14.0	
2	28.2	16.6		25.4	14.5		28.6	16.2	
3	23.7	14.9		26.9	16.4		28.4	15.4	
4	25.9	10.3		28.1	16.0		28.9	16.9	
5	26.6	12.4		29.8	17.9		29.0	16.4	
6	29.8	14.8		32.0	21.9		26.9	19.6	10.0
7	31.4	20.6		32.5	24.2		20.1	19.4	24.3
8	27.3	15.2		31.2	22.4		25.8	16.7	0.3
9	22.2	15.1		26.1	15.5		25.8	20.9	0.3
10	23.5	11.2		25.1	15.2		25.4	16.2	
11	25.1	11.5		24.2	13.3		27.4	14.8	13.3
12	28.8	14.8		26.4	14.7		21.5	16.1	
13	30.2	20.7		29.3	15.8		16.3	12.0	
14	30.1	17.3	16.0	28.6	15.4		13.2	10.6	4.8
15	27.0	18.0		30.0	21.7		18.1	12.7	
16	29.2	19.6	16.3	23.8	15.6		18.8	9.7	
17	27.6	20.1		27.1	12.0		20.6	13.1	0.5
18	26.1	21.8		26.9	12.6		23.2	11.0	
19	26.0	22.1		27.2	15.5		22.9	8.1	
20	22.9	10.9		32.3	21.5	1.3	22.6	6.2	
21	23.1	10.5		28.8	19.5		22.2	13.8	27.0
22	25.6	14.6	0.8	32.1	18.4		20.1	13.6	1.3
23	28.7	19.5		26.7	21.2		20.6	11.8	1.3
24	27.3	17.4	5.8	28.6	13.8		21.1	14.4	0.5
25	26.0	18.0		29.3	14.3		18.0	6.8	
26	24.5	15.3		29.3	15.7		20.6	11.6	0.8
27	25.4	13.2		26.2	17.1	22.3	22.3	17.0	63.8
28	25.3	15.1	7.8	25.9	16.5		17.0	10.5	
29	24.7	18.4	4.5	27.2	14.9		20.3	11.6	
30	23.4	16.7	4.3	26.0	13.2		20.0	4.4	
31	23.3	14.0	1.0	26.4	14.0				
Month[1]	26.3	16.1	56.5	27.9	16.6	23.6	22.5	13.4	147.9
Norm[2]	28.3	18.5	96.2	26.6	15.9	120.6	22.4	11.4	104.1
Cumulative CHU's[3] to end of month	1902			2732			3367		
Normal cumulative CHU's (1986-1996 ave.)	1984			2804			3392		

1 = Mean High & Low Temp & Total Precipitation
2 = Normals based on 1986-1996 (11 year ave.)
3 = Corn Heat Units (10°C base temp.)

1996 SNAP BEAN VARIETY TRIALS: Fresh Market and Processing

Crop Management:

Soil Type	:	Fox Sandy Loam
Stand Establishment	:	Fresh Market : seeded May 8 - soil temp. - 15-16°C Processing : seeded May 30 - soil temp. - 20-21°C
Row Spacing	:	76 cm (30"0, with 7.5 seeds/foot of row (130,000 plants per acre)
Fertilizer	:	30 lb/acre actual N + 60 lb/acre potash broadcast preplant
Weed Control	:	Eptam @ 2.4 kg/ha + Treflan @ 0.6 kg/ha preplant incorporated
Irrigation	:	Irrigated twice; 1" of water applied July 2 and July 9

Harvest and Evaluations:

Yield	:	Hand harvested 14-15 days after flowering date, at approx. 10% seed maturity. Yield is shown in 28 lb crates and tons per acre
Plant size	:	1 = very small plant 5 = large, bushy plant
Colour	:	1 = very light, pale green or yellow 5 = dark green or bright yellow
Straight	:	1 = poor shaped, crooked or bumpy pod 5 = very straight and smooth pod

Summary:

Fresh Market
Cold soil during germination caused poor stands and weak plants. Plant size was smaller than usual. XPH 323 and Benchmark were the top yielders. Hialeah was the earliest green while Valdor and Nugget were the earliest wax varieties.

Process
Stands were slightly better in this trial but plant growth was slow and plants were small.
In the wholepack trial, SB 4087 and Dandy had the best yields and tended to produce large pods with a high percent of 4 sieve pods.
In the standard beans, Gold Mine was the top yielder and Matador had the best green bean yield.

TABLE 1: 1996 FRESH MARKET SNAP BEAN ADVANCED TRIAL: Yield Data

Variety	Source	% Stand	Harvest Date July	Yield/Acre		Pod size Distribution (% pods in sieve size)			
				28 lb crates	tons	1 & 2	3	4	5
XPB 323	AS	65	9	407	5.7	0	23	30	47
Benchmark	RO	55	11	386	5.4	0	4	34	62
Strike	AS	71	11	358	5.0	3	27	70	0
XPB 346	AS	85	12	355	5.0	0	10	40	50
Tema	ST	65	11	347	4.9	13	23	57	7
Mirada	ST	57	11	343	4.8	0	27	43	30
Endurance	RO	61	12	320	4.5	0	0	30	70
XPB 344	AS	61	12	289	4.1	13	40	47	0
Hialeah	FM	59	8	287	4.0	7	20	53	20
Indy Gold*	RO	64	11	282	3.9	0	13	57	30
Valdor*	ST	75	9	263	3.7	20	23	47	10
Goldkist*	ST	69	12	250	3.5	3	7	27	63
Carlo	AS	71	12	239	3.4	6	27	67	0
Derby	FM	71	9	232	3.2	10	20	40	30
Nugget*	FM	67	9	229	3.2	7	3	43	47
Seville	ST	68	12	222	3.1	3	20	43	34
Daytona	FM	73	11	165	2.3	0	10	67	23
$LSD_{.05}$		22		133	1.9				

* wax (yellow) bean

TABLE 2: 1996 FRESH MARKET SNAP BEAN ADVANCED TRIAL: Quality Evaluations

Variety	Plant Size	Colour	Straight	Length (cm)	Comments
XPB 323	4.0	3.3	3.5	13.5	nice green bean but some sl. bumpy
Benchmark	2.8	4.0	3.3	14.9	long, green, round, attractive pods
Strike	2.8	2.7	3.5	12.6	standard, med. green, round
XPB 346	3.8	3.3	3.3	13.4	round, green, uniform shape and size
Tema	3.7	2.5	3.5	14.3	light green, narrow pod
Mirada	3.7	2.3	3.0	12.9	light-med. green, round
Endurance	3.0	4.5	4.0	14.1	dark green, uniform, round, straight
XPB 344	4.3	2.7	3.7	17.2	long, wide, flattened green pod
Hialeah	1.3	1.7	3.7	14.5	fairly round, green, very uniform
Indy Gold*	2.3	3.0	4.0	12.5	med. yellow wax, straight, smooth
Valdor*	3.2	3.3	3.7	13.6	long, attractive yellow, round
Goldkist*	3.3	2.5	3.5	14.1	yellow, round, upright bush
Carlo	2.3	3.8	3.7	13.1	thin, round, green, late
Derby	4.3	3.5	3.5	14.0	long, smooth, green but some bumpy pods
Nugget*	2.8	3.5	3.3	12.8	attractive, smooth, uniform, yellow
Seville	3.7	3.5	3.5	14.7	long, round, uniform green pods
Daytona	3.3	3.3	3.7	13.8	straight, round, med-dark green
$LSD_{.05}$	0.8	0.9	1.0	1.0	

* wax (yellow) bean

TABLE 3: 1996 PROCESSING SNAP BEAN ADVANCED TRIAL - WHOLEPACK VARIETIES: Yield Data

Variety	Source	% Stand	Harvest Date (July)	Yield/Acre		Pod size Distribution (% pods in sieve size)			
				28 lb crates	tons	1 & 2	3	4	5
SB 4087	RO	98	22	253	3.5	0	38	60	2
Dandy	RO	90	22	250	3.5	8	28	62	2
Marseille	FM	87	24	207	2.9	8	50	40	2
Soleil*	VM	97	24	195	2.7	18	70	12	0
Xavo	RO	99	25	171	2.4	33	60	7	0
Orlinel*	VM	72	23	165	2.3	10	68	22	0
Sirio	RO	95	22	162	2.3	8	20	72	0
Fulvio	RO	97	23	136	1.9	20	53	27	0
Celtic	RO	93	24	126	1.8	20	55	25	0
Banquet	AS	85	29	125	1.8	23	35	35	7
Diono	RO	80	28	122	1.7	40	50	10	0
Astrel	VM	73	26	118	1.7	33	55	12	0
Masai	RO	95	26	116	1.6	50	48	2	0
SB 4123	RO	80	23	109	1.5	30	55	15	0
Nickel	VM	86	25	96	1.3	50	50	0	0
Finel	VM	87	26	78	1.1	88	12	0	0
Flevoro	AS	94	24	64	0.9	75	25	0	0
Axel	VM	63	26	51	0.7	35	30	35	0
$LSD_{.05}$		20.3		46.3	0.7				

* wax (yellow) bean

TABLE 4: 1996 PROCESSING SNAP BEAN ADVANCED TRIAL - WHOLEPACK VARIETIES: Quality Evaluations

Variety	Plant Size	Colour	Straight	Length (cm)	Comments
SB 4087	3.3	4.0	4.0	11.9	round, uniform size and length
Dandy	2.5	2.5	2.8	11.2	round, uniform pods, compact plant
Marseille	3.0	3.5	3.9	11.0	small, smooth, attractive, uniform
Soleil*	3.3	3.3	2.6	12.4	long, thin, uniform pods, good set
Xavo	2.3	3.1	3.3	11.5	attractive, thin bean, med. green
Orlinel*	2.8	2.5	2.0	12.3	smooth, round bean: upright plant
Sirio	3.0	3.5	3.5	10.6	nice small, round, straight bean
Fulvio	2.8	3.5	4.1	9.7	straight, short, nice dark colour
Celtic	2.5	2.5	4.0	11.4	smooth, round: uniform shape and size
Banquet	4.0	3.4	3.5	12.6	dual purpose bean
Diono	3.0	3.5	3.5	12.4	round, thin, straight pods
Astrel	1.8	2.5	3.6	10.9	round, smooth bean
Masai	2.3	3.3	3.5	10.3	small, straight, round pods
SB 4123	2.8	4.4	3.4	11.9	round, dark green bean
Nickel	2.4	3.0	3.8	10.9	straight, long, attractive, slender pods
Finel	2.3	2.5	3.8	11.4	long, slender, smooth bean
Flevoro	2.6	3.6	3.6	9.8	short, smooth: split set?
Axel	1.8	3.6	4.0	9.8	dark green, straight
$LSD_{.05}$	0.5	0.8	0.6	0.7	

* wax (yellow) bean

TABLE 5: 1996 PROCESSING SNAP BEAN ADVANCED TRIAL - STANDARD VARIETIES: Yield Data

Variety	Source	% Stand	Harvest Date July	Yield/Acre		Pod size Distribution (% pods in sieve size)			
				28 lb crates	tons	1 & 2	3	4	5
Gold Mine*	AS	95	23	321	4.5	3	3	64	30
Matador	AS	96	23	236	3.3	0	2	60	38
Klondyke*	AS	87	25	218	3.1	2	12	43	43
Symphony	FM	91	22	214	3.0	0	10	68	22
Envy	FM	91	22	201	2.8	0	2	23	75
Rapids	FM	91	20	186	2.6	5	23	45	27
True Blue	FM	80	21	185	2.6	0	5	30	65
Endurance	RO	86	22	184	2.6	2	10	23	65
Nugget*	FM	88	22	176	2.5	0	2	18	80
SB 4097	RO	95	23	173	2.4	2	13	60	25
Labrador	RO	89	25	172	2.4	0	0	20	80
$LSD_{.05}$		19		90	1.3				

* wax (yellow) bean

TABLE 6: 1996 PROCESSING SNAP BEAN ADVANCED TRIAL - STANDARD VARIETIES: Quality Evaluations

Variety	Plant Size	Colour	Straight	Length (cm)	Comments
Gold Mine*	4.0	3.5	3.5	13.7	round, straight, very uniform
Matador	3.5	4.8	3.3	13.2	large, smooth, dark green bean
Klondyke*	4.3	4.0	3.4	14.8	long, attractive yellow bean
Symphony	3.3	4.6	3.8	12.9	dark green, smooth, straight
Envy	3.8	4.0	3.9	15.3	very long, dark green
Rapids	2.6	3.8	2.9	13.1	early, some rough pods
True Blue	4.0	3.3	3.3	14.2	med. green, sl. flattened, long bean
Endurance	3.0	5.0	3.6	15.0	long, dark green, uniform size
Nugget*	4.5	3.3	3.3	13.7	large plant, uniform beans
SB 4097	4.1	5.0	3.8	13.8	dark green, sl. flattened, smooth, thin pods
Labrador	4.0	4.3	3.8	13.1	large, dark green bean
$LSD_{.05}$	0.5	0.7	0.8	0.9	

* wax (yellow) bean

1996 EARLY CABBAGE VARIETY TRIALS

Crop Management

Soil Type	:	Fox Sandy Loam
Stand Establishment	:	Seeded in 200 cell transplant trays on March 11. Transplants grown in a double-poly greenhouse Transplanted to the field on May 2 Starter fertilizer (Peters 10-30-20) applied at 1 kg per 200 L of transplant water.
Row Spacing	:	Planted in twin row beds on 1.5 m (5') centres on flat ground 45 cm (18") between twin rows; 35 cm (14") between plants in row. (14,900 plant per acre population)
Fertilizer	:	150 kg/ha actual nitrogen + 300 kg/ha K_2O broadcast and incorporated preplant.
Herbicide	:	Treflan @ 0.6 kg/ha, pre-plant incorporated.

Harvest and Evaluations:

Plots were harvested as heads matured. Harvested every 2 to 3 days starting on June 21 and finishing on July 5.

Yield	:	Expressed in total cases per acre harvested up to June 24, June 28 and July 5 and total tonnes per hectare.
% Harvested	:	Based on total number of heads per plot. Most unmarketable heads had not matured by harvest completion on July 5.
Growth Habit	:	1 = very small plant, 3 = medium size plant, 5 = large spreading plant
External Colour	:	1 = very light green, 5 = dark blue-green
Uniformity	:	1 = variable maturity, 5 = very uniform maturity

Summary:

Twleve of the earliest varieties from last year's Cabbage Trial were repeated this year. Cool, wet temperatures delayed planting by one week and cooler temperatures during the growing season resulted in slightly smaller heads. Stokes Early 711 was again the earliest with a slightly small head size. Parel was comparable to 711 in yield and maturity but had a smaller head size. Polar Green had the highest yield and largest head. There was not a significant difference in total yield among all varieties.

TABLE 7: 1996 EARLY CABBAGE ADVANCED VARIETY TRIAL: Yield Data

Variety	Source	Date of Peak Harvest (June)	Cumulative Yield (cases/acre) by Date: June 24	June 28	July 5	Total Yield (t/ha)	% Harvested	Ave. Head Weight (g)
Stokes Early 711	ST	21	494	494	494	24.4	99	701
Parel	SW	21	459	459	459	22.7	95	680
Fast Vantage	SA	25	185	595	605	29.8	99	856
Polar Green	ST	26	181	619	628	31.0	97	907
Green Start	ST	26	137	512	568	28.0	96	828
Heads Up	HM	27	128	494	561	27.7	95	819
Regalia	ST	27	102	538	579	28.6	95	856
Head Start	AS	27	72	444	535	26.4	88	848
Farao	SW	28	45	389	538	26.5	94	805
Quick Start	BU	28	34	374	530	26.1	89	822
Grenadier	RO	29	54	342	493	24.3	89	766
Balbro	ST	29	18	380	520	25.7	90	808
$LSD_{0.05}$			86	265	191	9.4	13.8	208

TABLE 8: QUALITY EVALUATION DATA

Variety	Growth Habit	External Colour	Uniformity	Comments
Stokes Early 711	2.0	2.0	4.0	early, very few splits
Parel	1.0	2.0	4.7	early, very uniform, sl. pointed, some splitting
Fast Vantage	3.3	2.8	3.8	sl. oblong, med. tight wrap
Polar Green	2.5	3.3	3.5	highest total yield, largest head
Green Start	2.8	3.0	3.3	tight wrap, round head
Heads Up	3.0	2.0	3.5	light color, fairly loose wrap
Regalia	3.5	2.5	3.5	tightwrap, sl. small but heavy heads
Head Start	3.5	3.0	3.0	sl. pointed, loose wrap, several immature heads
Farao	2.8	3.5	2.3	fairly tight wrap, small, heavy head, some immature heads
Quick Start	3.0	2.8	2.5	fairly loose, some splits, some immature
Grenadier	3.0	2.5	2.3	loose wrap, several immature heads
Balbro	3.0	3.5	3.0	med. tight wrap, some immature heads

1996 FRESH MARKET SWEET CORN VARIETY TRIIALS

Crop Management:

Soil Type	: Fox Sandy Loam
Stand Establishment	: Seeded on bare soil with 75 cm (30") between rows and 20 cm (8") between seeds (28,500 plants/acre). Early Trial, May 6; Supersweet Trial, May 30.
Fertilizer	: 150 kg/ha actual nitrogen + 300 kg/ha potash, broadcast and incorporated prior to seeding
Herbicide	: Metolachlor @ 2.0 kg/ha + Atrazine @ 1.0 kg/ha preplant incorporated.
Irrigation	: Irrigated twice; 2.5 cm of water applied July 4 and July 11.

Harvest and Evaluations:

The focus for this year's trials were on early (75 days or earlier) mostly bicolor varieties for early fresh market. Plots were harvested as a once-over harvest at 18-19 days from half silk date.

Yield	: expressed in dozens of marketable ears per acre
Ear Removal	: 1 = very difficult; 5 = very easy

(The following evaluations are based on the average of 10 ears per rep.)

Unhusked Appearance	: 1 = very poor appearance; 5 = very attractive
Tip cover	: 1 = tip exposed; 5 = greater than 2" cover
Tip Fill	: 1 = 1" or more not filled; 5 = perfectly filled
Row Straightness	: 1 = crooked rows; 5 = very straight rows
Ear length	: Average length of husked ear (cm)
Predominant Row Number	: Predominant numbers of rows from sample of 10 ears per rep.

Summary (Early Trial):

Soil temperature at seeding was 12-13°C, with below average temperatures for at least 10 days after seeding.Germination and seed vigour were still fair to good despite the cold temperatures.
Express and Sweet Symphony had the best stands while Polo, Topnotch and Confection had the poorest stands.
Sweet Symphony and Sweet Rhythm were the highest yielders but were 7-8 days behind the earliest variety Aladdin.
In the observation trial, HMX 3364 was top yielder and had high quality scores.

Summary (Supersweet Trial):

Soil temperature at seeding was 20°C. Princeton and Collossal Bicolor were the earliest of the bicolors. HMX 3364 was the top yielder. Several varieties had very good germination, including HMX 3362, GSS 6394 and BSS 4340.

TABLE 9. 1996 EARLY SWEET CORN ADVANCED VARIETY TRIALS: Yield And Quality Evaluations

Variety	Source	Type	Final stand %	Harvest date	Yield doz/ac	Ear Removal	Unhusked Appear.	Tip Cover	Tip Fill	Row Straight-ness	Ear Length (cm)	Ave. Row Number
Aladdin	ST	bcSE	94	July 26	1532	2.5	3.6	3.9	3.5	3.3	17.3	11.8
Kandy Kwik	RO	ySE	96	July 27	1635	3.8	3.0	4.0	3.0	3.5	19.6	13.6
Express	RO	ySE	98	July 28	2248	3.5	3.5	4.3	2.3	3.3	18.3	13.5
Geronimo	ST	bcSE	90	July 29	1379	2.3	3.5	5.0	2.3	3.3	18.5	13.6
Temptation	AS	bcSE	95	July 30	2043	2.0	3.5	5.0	4.3	3.8	19.3	15.0
Princeton	AS	bcSH[2]	93	July 30	1975	4.3	3.5	4.0	4.5	3.5	21.1	12.9
Polo	AS	bcSE	63	July 30	1532	2.8	3.0	5.0	4.0	3.5	19.6	13.6
Native Gem	ST	bcSE	92	July 31	1703	2.3	3.0	4.3	3.6	3.3	19.6	12.9
XP 832	SW	bcSE	79	July 31	1635	4.3	3.8	5.0	2.8	2.3	20.0	14.1
Sweet Riser	HM	ySE	94	July 31	1567	3.5	4.0	5.0	4.4	3.3	18.5	12.7
RXB 6501	RO	bcSE	90	Aug. 1	1635	3.5	4.2	5.0	3.0	3.0	22.1	14.5
Sweet Rhythm	HM	bcSE	96	Aug. 2	2537	2.9	3.8	4.6	4.0	3.1	18.5	14.6
Topnotch	HM	bcSH[2]	70	Aug. 2	1328	3.0	3.0	4.8	4.5	3.5	18.1	13.8
Sweet Symphony	HM	bcSE	97	Aug. 3	2946	2.8	4.5	5.0	4.5	3.4	18.4	15.6
Confection	HM	bcSH[2]	70	Aug. 4	2350	3.0	3.5	4.1	3.6	3.5	18.9	15.5
BC 1382	RO	bcSE	95	Aug. 5	2333	3.8	4.3	5.0	3.8	4.0	22.4	16.5
$LSD_{0.05}$			16		522	1.1	0.7	0.6	0.9	0.8	0.8	1.0

TABLE 10. 1996 EARLY SWEET CORN OBSERVATION VARIETY TRIAL: Yield And Quality Evaluations

Variety	Source	Type	Final stand %	Harvest date	Yield doz/ac	Ear Removal	Unhusked Appear.	Tip Cover	Tip Fill	Row Straight-ness	Ear Length (cm)	Ave. Row Number
Champ	AS	ySE	100	July 30	2384	4.5	3.0	5.0	5.0	4.0	18.0	15.8
Athos	ST	bcSE	97	July 30	1771	1.5	3.0	4.0	4.0	4.0	19.5	13.2
Casino	AS	ySE	94	July 30	1362	1.5	4.0	5.0	2.0	3.0	18.2	14.8
Temptation	AS	bcSE	100	July 31	2111	3.0	3.0	5.0	5.0	3.0	19.4	15.6
RXB 6401	RO	bcSE	61	Aug. 1	1090	3.0	4.0	3.0	3.0	3.0	17.1	12.8
Cochise	ST	bcSE	78	Aug. 2	1498	4.0	4.5	5.0	4.0	4.0	19.5	15.0
Ivanhoe	ST	bcSE	78	Aug. 2	1362	4.0	4.5	4.0	3.0	3.0	18.7	15.6
HMX 3364	HM	bcSH[2]	94	Aug. 4	3065	3.5	4.0	5.0	5.0	4.0	17.8	15.0
Precious Gem	ST	bcSE	97	Aug. 6	1975	3.0	4.0	5.0	5.0	3.0	21.2	14.4
Tecumseh II	ST	bcSE	80	Aug. 6	1090	4.0	3.0	3.0	3.0	4.0	21.6	14.0
Duplito	GG	ySE	86	Aug. 8	1907	3.0	4.0	5.0	5.0	3.0	21.2	15.4
Calabria	GG	ySE	72	Aug. 12	1771	3.5	2.0	3.0	2.0	3.0	17.5	16.2

TABLE 11. 1996 SUPERSWEET (SH2) SWEET CORN ADVANCED VARIETY TRIAL: Yield and Quality Evaluations

Variety	Source	Type	Final stand %	Harvest date	Yield doz/ac	Ear Removal	Unhusked Appear.	Tip Cover	Tip Fill	Row Straight-ness	Ear Length (cm)	Ave. Row Number
Princeton	AS	bcSH^2	93	Aug. 7	1754	3.6	2.9	2.8	3.3	3.5	20.7	13.8
Collossal Yellow	ST	ySH^2	95	7	1447	3.5	3.1	2.8	3.0	3.1	20.2	13.5
Collossal Bicolor	ST	bcSH^2	89	7	1243	3.0	3.1	4.3	3.3	3.0	17.7	13.3
HMX 3362	HM	bcSH^2	99	8	1924	2.1	3.1	3.5	4.4	3.3	19.1	13.3
Confection	HM	bcSH^2	88	9	1635	2.1	3.3	3.8	4.0	3.0	19.4	15.6
Topnotch	HM	bcSH^2	93	9	1345	3.0	3.1	3.9	4.4	3.3	19.6	14.3
Montecarlo	RO	bcSH^2	86	9	1345	2.8	3.4	3.0	4.0	3.1	20.4	14.1
Seneca Appaloosa	ST	bcSH^2	93	10	2214	3.0	3.8	3.8	4.3	3.6	19.6	14.7
Uprise	HM	ySH^2	88	10	1720	2.5	3.1	3.3	4.1	3.1	18.5	15.9
HMX 3364	HM	bcSH^2	94	11	2588	3.6	3.8	4.5	4.5	3.4	19.2	14.7
GSS 6394	RO	ySH^2	99	11	1771	3.8	3.3	4.1	4.0	3.5	19.1	14.3
Diablo	FM	bcSH^2	86	13	1311	3.9	3.5	4.8	3.5	3.0	20.5	15.4
Primetime	RO	ySH^2	92	15	2197	2.8	3.3	4.9	5.0	3.8	18.9	15.4
BSS 9472	RO	bcSH^2	92	15	1822	3.5	3.5	4.1	4.8	2.8	19.3	14.6
A-Maizingly Sweet	FM	bcSH^2	88	15	1635	3.1	3.4	5.0	5.0	3.4	19.1	18.8
GSS 7887	RO	ySH^2	97	16	2401	2.4	3.3	5.0	4.6	4.1	18.9	15.6
BSS 1609	RO	bcSH^2	97	16	2350	2.4	4.0	4.6	4.8	3.4	19.4	14.5
BSS 4340	RO	bcSH^2	99	17	1652	2.8	3.0	4.9	4.8	4.4	19.0	16.5
$LSD_{0.05}$			8.0		496	1.0	0.6	1.1	1.1	0.8	0.7	0.9

COMMENTS ON 1996 SWEET CORN VARIETIES

Aladdin	:	attractive, early corn; uniform, pale yellow kernels
A-Maizingly Sweet (FMX 332)	:	short, thick, tapered ear
Athos	:	ear is low on stalk; light and dark yellow kernels
BC 1382	:	Large, long ear; uniform size and appearance; late
BSS 1609	:	few flag leaves; not many white kernels
BSS 4340	:	small, thin ear; light yellow kernels
BSS 9472	:	attractive kernels; nice blend of colours
Calabria	:	very late; small kernels
Casino (XPH 3119)	:	attractive, uniform ear; some long shanks
Champ	:	light yellow; ear high on stalk
Cochise	:	attractive, large ear; nice colours, many flags
Collossal Bicolor	:	early; sl. short ear, some smut
Collossal Yellow	:	early; long ear; some smut
Confection	:	thick, blocky ears; attractive yellow, not many white kernels
Diablo	:	thick, tapered ear; not many flag leaves
Duplito	:	late
Express	:	large kernels, poor tip fill
Geronimo	:	large, attractive kernels, nice mix of colours
GSS 6394	:	attractive, nice colour; many large, long flag leaves
GSS 7887	:	small, very uniform ear
HMX 3362	:	early, thick, uniform ear with large kernels; good tip fill
HMX 3364	:	best yield in both trials; large kernels, some large flag leaves
Ivanhoe	:	large, blocky, attractive ear; uniform, large kernels
Kandy Kwik	:	dark green husks; large, long flag leaves; long shanks
Monte Carlo	:	long, thick ears with large attractive kernels
Native Gem	:	dark yellow with many white kernels, sl. tapered; short flags
Polo (XPH 3041)	:	uniform, tapered ear; good tip fill; long flag leaves; some long shanks
Precious Gem	:	attractive, large ear; late
Primetime	:	small ear; uniform med-green husks
Princeton (XPH 3052)	:	large kernels; attractive, uniform ear; many flags; long shanks
RXB 6401	:	short small ear
RXB 6501	:	many long flag leaves; large attractive ear
Seneca Appaloosa	:	attractive, dark green husks; uniform shape and appearance
Sweet Rhythm (HMX 3354)	:	thick, sl. tapered ear; nice flag leaves
Sweet Riser (HMX 4340)	:	good flag leaves; attractive, large kernels
Sweet Symphony (HMX 2349)	:	good yield; large, long, uniform ear; attractive, tight kernels
Tecumseh II	:	late
Temptation	:	attractive ear; good colours and mix
Topnotch	:	large kernels; many long flag leaves
Uprise	:	large ears; good tip fill
XP 832	:	attractive ear; few small flags; very long tip cover

1996 PEPPER VARIETY TRIALS

Crop Management

Soil Type	:	Fox Sandy Loam
Stand Establishment	:	Seeded in 98 cell plug trays on April 1. Transplants grown in a double-poly greenhouse. Field planted on May 23 (53 day old transplants).
Row Spacing	:	76 cm (30") between rows 56 cm (22") between plants within row (9,500 plant per acre population)
Fertilizer	:	75 kg/ha actual N + 150 kg/ha K_2O broadcast and incorporated preplant. 34 kg/ha actual N side dressed on June 26.
Weed Control	:	Treflan at 0.6 kg/ha a.i. pre-plant incorporated.
Irrigation	:	2.5 cm of water applied on July 3, July 10 and August 12.

Harvest and Evaluations:

Two row plots. One row was harvested at the mature green stage; the remaining row was harvested when the fruit was fully ripe (red or yellow). Yields of green fruit are expressed in cumulative cases (28 lb/bushel) per acre July 31, August 14 and total yield August 28. Yields of ripe fruit are expressed in cumulative tons per acre to August 23 and total yield Sept. 5.

Green Fruit Harvests	:	July 31, August 14, August 22 and August 28
Ripe Fruit Harvests	:	August 16, August 23, August 28 and September 5
Shape Rating	:	1 = flattened; 2 = short; 3 = square, blocky; 4 = elongated; 5 = very long
Fruit length, diameter and wall thickness	:	Average of a sample of 10 fruit per plot.
Lobe Number	:	Average of a sample of 10 fruit per plot.
Plant Type	:	1-5; higher rating = vigorous, larger plant type.

Summary:

In the advanced trial, Boynton Bell and King Arthur were the highest yielding green varieties. Red Start, North Star and Crispy were again the earliest varieties when harvested as red bells with Red Start and Enterprise producing the best total red yields. As in 1995 trials, Red Start expressed good potential for the early red pepper market.

In the observation trial, 3 varieties outperformed the standard "Merlin", in early and total yield; VLM 417, HMX 2647 and CA 74. Guardian had good size and total yield but was slightly late. Red Dawn is very early red with a good early and total yield. HMX 2647 has large fruit with good early and total red yield potential.

TABLE 12: 1996 PEPPER ADVANCED VARIETY TRIALS: Yield data for fruit harvested at the mature green and ripe maturity stages

Variety	Source	Green Fruit Harvest					Ripe Fruit Harvest			
		July 31 Early	Aug. 14 Mid	Aug. 28 Total	Ave. Fruit Size (g)	Culls (tons/ acre)	August 23 Yield (tons/acre)	Total Yield (tons/acre)	Ave. Fruit size (g)	Culls (tons/ acre)
		(cases/acre)								
Boynton Bell	HM	263	578	1076	178	0.3	0.9	8.3	214	0.9
King Arthur	PS	250	559	918	181	0.8	4.5	10.7	212	1.3
Lantern	EZ	268	450	897	177	0.5	2.5	10.2	215	1.6
Acapulco	VM	185	387	890	186	0.5	3.2	9.8	216	1.2
Enterprise	AS	229	440	865	186	1.0	3.6	11.7	213	1.2
Renegade	AS	239	411	860	172	0.3	4.8	11.0	180	0.7
Merlin	PS	214	344	849	165	0.4	4.2	10.7	182	1.1
Domino	AS	241	505	775	189	0.6	2.5	10.0	219	1.0
Red Start	ST	204	473	772	140	0.1	8.5	11.7	137	0.4
Gusto	FM	188	455	766	173	0.5	3.2	10.2	186	1.1
North Star	PS	215	370	718	147	0.4	5.2	10.1	154	1.3
Crispy	BU	165	288	655	153	0.1	5.2	8.9	157	0.8
$LSD_{0.05}$		124	291	406	13	0.5	1.6	4.1	25	1.1

TABLE 13: 1996 PEPPER ADVANCED VARIETY TRIALS: Quality Evaluation Data

Variety	Shape	Length (cm)	Diameter (cm)	# of lobes	Wall thickness (cm)	Plant Type	Comments
Boynton Bell	3.2	9.8	8.5	3.1	0.82	4.0	sl. tapered blocky: smooth: large bushy plant: slow to red
King Arthur	3.0	8.8	8.9	3.9	0.79	2.7	large blocky: uniform shape and size: uniform red fruit
Lantern	4.0	12.8	8.1	3.6	0.84	4.0	long blocky: some rough fruit: med. size bushy plant, good cover
Alcapulco	4.0	13.1	8.2	3.3	0.86	4.3	elongated blocky: tall vigorous plant: concentrated set: slow to red
Enterprise	3.0	9.0	8.7	3.6	0.77	3.2	square blocky: uniform shape and size: smooth: attractive red
Renegade	3.0	10.0	8.5	3.5	0.81	3.2	large, uniform blocky: smooth fruit
Merlin	3.0	9.8	8.4	3.5	0.73	3.3	square blocky, fairly uniform: bushy plant
Domino	4.7	15.1	8.1	3.1	0.74	3.5	elongated: uniform shape and size: sl. rough fruit
Red Start	2.2	8.9	7.6	3.3	0.70	2.0	small, sl. tapered, blocky: short, open plant: early attractive red
Gusto	3.2	9.2	8.4	3.6	0.80	2.7	sl. elongated: thick walls: uniform ripening
North Star	3.0	9.5	7.8	3.3	0.75	2.8	small blocky: fairly smooth: uneven ripening
Crispy	3.1	10.0	7.7	3.3	0.77	2.8	variable shape and size: med. size: sl. uneven ripening
$LSD_{.05}$	0.3	1.4	0.6	0.6	0.08	1.1	

TABLE 14: 1996 PEPPER OBSERVATION CULTIVAR TRIALS: Yield data for fruit harvested at the mature green and ripe maturity stages

Variety	Source	Green Fruit Harvest					Ripe Fruit Harvest			
		July 31 Early	Aug. 14 Mid	Aug. 28 Total	Ave. Fruit Size (g)	Culls (tons/acre)	August 23 Yield (tons/acre)	Total Yield (tons/acre)	Ave.Fruit size (g)	Culls (tons/acre)
VLM 417	VM	338	746	1286	217	0	2.4	9.0	268	3.3
HMX 2647	HM	293	600	1256	197	1.1	4.0	11.1	246	2.2
CA 74	SH	351	595	1170	188	0.5	4.5	9.4	213	0.6
Merlin	PS	179	456	1143	159	0.8	4.7	10.4	194	2.0
Guardian	RO	117	636	1043	196	1.2	0.3	9.7	249	2.1
Lady Bell	HM	253	524	1030	170	0.3	4.3	11.7	188	0.8
Bell King	HM	242	503	1009	187	0.6	1.0	8.3	214	0.9
E 4741	EZ	212	641	969	182	0.3	1.9	7.7	223	0.5
CA 46	SH	242	531	938	205	2.5	3.6	11.4	247	1.7
XPH 5938	AS	297	529	937	192	0.8	0.9	11.8	297	0.9
CA 47	SH	306	557	902	169	0.0	1.5	13.1	227	1.2
Red North	EZ	128	473	898	179	0.3	1.8	10.1	214	1.7
HMX 5642	HM	151	411	898	171	1.5	1.4	8.1	202	0.9
HMX 5643	HM	224	396	867	173	0.7	2.7	11.1	241	0.6
X3R Wizard	PS	146	317	852	189	0.4	0.6	7.2	238	0.2
Purple King	ST	158	338	834	152	0.3	1.9	7.4	186	0.9
Blockbuster	ST	181	686	833	182	0.6	2.4	6.5	207	1.4
Mercedes	EZ	116	315	830	191	2.0	1.4	10.7	262	3.3
Red Dawn	ST	212	485	814	145	0.3	6.8	11.9	144	0.2
X3R Aladdin	PS	98	335	785	166	1.2	0.6	4.8	252	1.4
Bendigo	EZ	114	314	785	159	0.1	4.0	10.5	162	0.6
Commandant	RO	48	305	773	175	2.6	0.7	5.4	243	1.9
CA 76	SH	48	289	765	167	0.4	1.5	10.5	213	1.5
Major	EZ	158	243	752	182	1.9	2.0	9.2	220	0.0
Irini	EZ	187	413	749	169	0.1	3.9	8.1	230	0.5
CA 64	SH	202	324	725	161	0.7	1.9	6.3	223	1.6
Ledoro	EZ	150	331	719	181	0.2	1.8	4.3	225	0.4
Pimlico	HM	185	392	690	174	0.4	2.7	9.4	208	1.3
Maite	EZ	86	382	686	183	0.2	2.0	8.6	205	1.1
Hercules	ST	70	277	685	157	0.4	4.1	9.8	163	0.8
Lemon King	ST	185	439	660	147	1.9	0.2	2.1	165	0.2
Scarlet King	ST	175	382	657	144	0.4	5.2	11.7	135	0.6
Super Sweet #860	AC	121	352	635	163	0.5	3.4	10.0	212	1.1
HMX 2660	HM	95	290	556	165	0.1	1.3	6.9	173	0.2
Combat 3	EZ	176	249	423	148	1.3	2.1	7.2	159	2.2
Flamingo	HM	100	212	376	132	0.9	4.2	11.3	161	1.1

TABLE 15: 1996 PEPPER OBSERVATION CULTIVAR TRIAL: Quality Evaluation Data

Variety	Shape	Length (cm)	Diameter (cm)	# of lobes	Wall thickness (cm)	Plant Type	Comments
VLM 417	4.0	13.0	7.7	3.8	0.78	3.0	elongated blocky: large, smooth fruit
HMX 2647	4.5	14.2	8.2	3.2	0.62	3.5	elongated bell: large, smooth fruit: tall plant, good cover
CA 74	3.0	10.0	8.4	3.2	0.94	3.0	sl. rounded bell: firm, uniform, thick walls: smooth, attractive
Merlin	3.5	10.2	8.4	3.6	0.81	3.0	blocky, smooth, med. size
Guardian	3.5	9.6	9.0	3.8	0.89	4.0	sl. long blocky, some tapered fruit: good plant vigor
Lady Bell	3.5	9.4	7.8	3.4	0.81	3.5	square bell: med. size, var. shape: compact plant
Bell King	4.0	13.8	9.0	3.0	0.76	4.0	long blocky, sl. rough fruit: slow to red
E 4741	3.0	8.6	9.0	3.8	0.79	3.0	sl. rounded, blocky, smooth bell: tall, erect plant
CA 46	3.5	11.6	8.2	3.4	0.89	4.0	sl. elongated, blocky: thick walls, firm: uniform shape and size
XPH 5938	4.0	13.1	8.2	3.6	0.73	3.0	long, some mis-shapen fruit: large red
CA 47	2.5	9.7	7.6	3.0	0.82	3.0	short bell: many small fruit: slow to red
Red North	3.0	9.4	8.6	4.0	0.73	3.5	med. size, blocky bell: some tapered fruit: good cover
HMX 5642	3.0	7.9	8.3	3.8	0.78	3.5	square, blocky, sl. short: compact plant, good cover
HMX 5643	3.0	9.1	8.0	4.0	0.74	3.0	square, blocky: smooth: large, uniform red
X3R Wizard	3.0	11.0	9.1		0.82	4.5	sl. elongated, blocky: smooth, uniform: tall, erect plant, good cover
Purple King	3.0	9.7	9.0	3.2	0.68	4.0	sl. rounded: green-purple-red
Blockbuster	5.0	18.6	7.3	3.2	0.72	4.0	long, tapered: some rough fruit: slow to red
Mercedes	4.0	14.0	9.1	3.2	0.82	3.0	elongated: ripe fruit susceptible to BER
Red Dawn	2.0	11.2	7.1	2.6	0.79	2.5	small bell: smooth, attractive, very early red
X3R Aladdin	4.0	10.9	8.9	3.8	0.90	3.0	green-yellow, blocky: some BER
Bendigo	2.5	9.5	7.8	3.4	0.79	3.0	small bell, sl. tapered: small but attractive, uniform red
Commandant	3.5	11.6	8.8	3.0	0.78	3.5	sl. elongated: smooth: slow, uneven red
CA 76	3.0	10.0	8.3	3.6	0.80	4.0	sl. rounded: some rough fruit: slow, uneven red
Major	4.5	13.8	8.8	3.4	0.79	3.0	elongated: some tapered: sl. rough: slow to red
Irini	5.0	17.4	8.0	3.0	0.75	3.0	green-dark yellow: long, rough fruit
CA 64	2.5	10.2	8.7	3.8	0.76	3.0	small rounded bell: some tapered: some BER
Ledoro	3.0	9.1	9.3	3.6	0.80	3.0	green-dark yellow, blocky: large, var. shape
Pimlico	3.0	8.9	8.8	3.4	0.83	3.0	blocky, some tapered: smooth: late
Maite	3.0	10.2	8.8	4.0	0.82	3.0	blocky: uniform shape and size: tall erect plant
Hercules	5.0	16.8	7.7	3.2	0.70	3.5	elongated, tapered: rough: slow, uneven red
Lemon King	3.0	10.2	8.5	3.2	0.79	3.0	yellow-dark yellow: mostly square bell but some tapered
Scarlet King	2.5	9.2	7.6	3.2	0.65	2.5	small, tapered: early red: good set for small plant
Super Sweet #860	3.0	10.2	8.7	3.2	0.79	3.0	green-yellow: large, blocky, smooth fruit
HMX 2660	3.0	9.4	8.1	3.8	0.69	3.5	small, blocky: late: concentrated set
Combat 3	2.5	9.9	7.5	3.4	0.76	2.5	short, blocky, bell: small fruit, some BER
Flamingo	1.5	10.8	6.9	3.2	0.79	3.0	pale yellow-orange-red, mostly tapered: poor stand on green yield plot

1996 FRESH MARKET TOMATO CULTIVAR TRIALS

Crop Management:

Soil Type:	Fox Sandy Loam
Stand Establishment:	Seeded in 288 plug trays on March 21. Transplanted into 38 cell trays on April 4, grown in a double-poly greenhouse. Field planted on May 17 (57 day old transplants). Planted on bare soil, using a mechanical pot transplanter.
Row Spacing:	1.5 m (60") between rows; 45 cm (18") between plants within row. (6,050 plant per acre population).
Fertilizer:	75 kg/ha actual N + 150 kg/ha K_2O broadcast and incorporated preplant.
Weed Control:	Treflan at 0.6 kg/ha a.i. pre-plant incorporated.
Irrigation:	Irrigated twice; 2.5 cm of water applied on July 2 and July 9.

Harvest and Evaluations:

Plots were harvested twice weekly. Fruit was harvested at the breaker stage. Harvest started on July 12 and continued until August 19. Cumulative yields are given for harvests up to July 22, August 1, August 6, and August 19 (Total Yield).

Yields of #1 fruit (fruit greater than 65mm diameter, without cracks or other defects) is expressed in # of 20 lb cases per acre. Yield of culls and small fruit (less than 65m in diameter) are expressed in % of total weight of fruit harvested.

Quality Evaluations:

Relative Maturity is the date on which a cultivar had 1 ripe #1 fruit per plant.

Vine Spread	:	1 - 5 rating; higher rating = larger plant type.
Appearance	:	1 - 5 rating; higher rating = more attractive fruit.
Firmness	:	1 - 5 rating; higher rating = firmer fruit.
Blossom Scar	:	1 - 5 rating; higher rating = smaller blossom scar.
Crack Resistance (radial and concentric)	:	1 - 5 rating; higher rating = less fruit cracking

Summary:

Sunrise continues to be one of the top early varieties in yield and quality.
Sun Start (XPH 100268R) is very early with good early yield ability.
Pik Rite and Sunbrite produced the largest fruit size.

Observation:

XPH 10028 and XPH 10025 were the earliest varieties. ST 31 X 108 and ST 103 x 108 produced the largest early fruit as well as good yields and fruit quality.

TABLE 16: 1996 FRESH MARKET TOMATO ADVANCED TRIAL: Yield Data

Variety	Source	Relative Maturity Date	Cumulative Yield (20 lb cases/acre) July 22	Aug. 1	Aug. 6	Aug. 19	Average Fruitsize (g) To Aug. 1	Overall	Cull Fruit (% of total harvest)	Small Fruit (% of total harvest)
Pik Rite	HM	July 25	77	233	759	2033	228	232	12	11
Sunrise	AS	July 24	24	289	862	1953	216	202	9	13
Sunbrite	AS	July 29	22	126	602	1952	240	226	12	9
HR 950153	HR	July 25	68	264	801	1882	205	199	16	18
Sunbeam	AS	July 30	17	65	416	1810	194	217	12	10
Shady Lady	SS	July 30	27	70	389	1571	203	201	11	17
Royal Mountie	BU	July 20	192	251	609	1505	188	209	22	13
Ultra Sweet	ST	July 26	33	162	465	1338	182	198	20	30
Mountain Spring	RO	July 30	28	55	203	1165	167	206	23	15
Sun Start (Pikquick)	AS	July 12	274	336	518	1053	219	197	12	18
LSD .05			43	80	193	517	52	22	7	6

TABLE 17: 1996 FRESH MARKET TOMATO ADVANCED TRIAL: Quality Evaluation Data

Variety	Vine spread	Appear-ance	Firm ness	Crack Resistance Radial	Crack Resistance Conc.	Blossom Scar	Comments
Pik Rite	3.3	3.3	3.0	4.0	4.7	3.7	early, green shoulder, fairly smooth, large stem scar
Sunrise	3.3	4.0	4.0	5.0	5.0	4.3	early, smooth, uniform fruit, some sl. rough, blotchy fruit
Sunbrite	3.7	4.3	3.7	4.3	4.8	3.8	midseason, large, sl. flattened globe, nice uniform shape and color
HR 950153	3.0	3.7	2.7	4.7	4.7	3.7	early, flat globe, sl. soft, smooth uniform fruit
Sunbeam	3.7	3.5	4.3	4.2	5.0	3.8	late midseason, attractive, smooth, deep globes, good size and shape
Shady Lady	4.0	4.2	3.3	4.7	4.7	3.8	late midseason, attractive, smooth, round-oblong, some sl. flattened fruit
Royal Mountie	2.7	3.0	3.3	5.0	5.0	4.0	early, deep globe, farily smooth, small-med. open vine
Ultra Sweet	5.0	2.5	2.7	4.7	5.0	3.7	early globe, some rough fruit
Mountain Spring	4.0	3.5	4.0	5.0	5.0	4.0	late midseason, large, smooth globe, small bushy plant, good cover
Sun Start	1.8	2.7	2.7	5.0	4.7	3.5	very early, small, open plant, round globes, fairly smooth, but sl. soft fruit
LSD .05	0.8	1.1	1.0	0.6	0.7	0.9	

TABLE 18: 1996 FRESH MARKET TOMATO OBSERVATION TRIAL: Yield Data

Variety	Source	Relative Maturity Date	Cumulative Yield (20 lb cases/acre)				Average Fruitsize (g)		Cull Fruit (% of total harvest)	Small Fruit (% of total harvest)
			July 22	Aug. 1	Aug. 6	Aug. 19	To Aug. 1	Overall		
Sunrise	AS	July 26	30	115	571	1842	196	205	12	11
ST 31 X 108	ST	July 29	0	93	404	1760	249	246	17	8
ST 103 X 108	ST	July 26	0	185	630	1653	267	226	17	16
Acclaim	SA	July 31	40	40	354	1474	185	217	25	11
FT 4029	RO	July 27	20	126	387	1396	197	195	12	20
PS 804393	PS	July 30	0	53	254	1383	198	244	21	9
XPH 10028	AS	July 21	91	118	527	1373	170	207	22	11
XPH 10053	AS	Aug. 2	0	39	245	1340	187	226	21	8
ST 111 X 108	ST	July 29	0	137	294	1296	214	221	27	12
PX 862694	PS	July 30	0	58	381	1278	218	228	27	14
XPH 10025	AS	July 23	70	148	528	1276	185	191	14	21
Redstone	ST	July 26	0	141	458	1267	189	178	15	35
PSR 525495	PS	July 26	24	111	567	1208	173	197	12	16
Sunpride	AS	July 31	0	35	361	1193	163	201	3	21
HR 940127	HR	July 30	0	56	330	1181	175	199	13	15
BR 2754	BR(AS)	Aug. 3	0	7	137	1134	140	212	19	11
XPH 10045	AS	July 30	42	62	326	1120	193	218	26	8
MTH 944	ST	July 25	0	218	361	1093	227	191	18	32
PS 537291	PS	July 26	0	134	351	1065	167	198	10	28
Sunex 6569	SS	Aug. 6	0	26	89	1065	163	212	25	14
Leading Lady	SS	July 31	28	50	244	1027	157	200	24	20
Majesty	AS	Aug. 2	0	10	177	939	190	200	7	27
Affirm	SA	Aug. 8	0	20	117	922	190	219	14	9
PS 537891	PS	Aug. 4	6	25	126	904	153	195	20	20
XPH 10047	AS	Aug. 1	0	25	161	837	157	189	11	23
Springfield	FM	July 29	21	60	266	800	160	195	18	28
Sunex 6590	SS	Aug. 5	0	7	129	758	130	203	25	19
Scarlet Express	ST	July 26	0	115	331	713	143	161	16	51
BR 2745	BR(AS)	Aug. 10	0	0	44	671	-	213	7	23
FT 3256	RO	Aug. 5	0	21	111	629	195	187	11	24
Mountain Fresh	FM	Aug. 3	0	0	155	577	-	204	12	15
FT 4010	RO	Aug. 6	0	8	118	569	150	227	34	14
HR 950156	HR	July 26	29	127	234	564	169	179	18	38
Sultan	BJ	July 31	7	50	135	553	157	167	11	49
ST 4001	ST	Aug. 5	0	46	100	203	218	191	71	15

TABLE 19: 1996 FRESH MARKET TOMATO OBSERVATION TRIAL: Quality Evaluation Data

Variety	Vine spread	Appearance	Firmness	Crack Resistance		Blos. Scar	Comments
				Radial	Conc.		
Sunrise	3.0	4.0	4.0	5.0	5.0	4.0	early standard for comparison
ST 31 X 108	5.0	4.0	3.5	5.0	4.5	4.0	very large, deep globe, smooth, uniform shape and size, almost seedless
ST 103 X 108	4.0	4.0	5.0	5.0	5.0	4.5	smooth, deep globe, firm, almost seedless
Acclaim	4.5	3.0	4.5	5.0	5.0	4.0	some large but var. size fruit, sl. rough, large sprawly plant
FT 4029	3.0	3.0	3.5	5.0	4.5	3.0	green sh., sl taper on some fruit
PS 804393	5.0	4.0	3.5	5.0	5.0	4.0	large uniform fruit, good color, small blossom scar for large fruit
XPH 10028	3.0	5.0	4.0	5.0	5.0	4.0	early, attractive, round, smooth uniform fruit, good color
XPH 10053	3.5	3.5	3.5	4.5	4.5	4.0	large, sl. flattened round, uniform shape, size and color
ST 111 X 108	4.5	3.5	4.0	5.0	5.0	3.5	globe shape, firm, bushy plant, almost seedless
PX 862694	3.0	4.0	4.0	4.5	5.0	4.0	attractive, smooth, round, uniform color, large stem scar
XPH 10025	2.0	4.0	3.0	5.0	4.5	4.0	small, compact plant, uniform color, smooth fruit
Redstone	4.0	3.5	2.0	5.0	5.0	4.0	smooth, uniform, small fruit
PSR 525495	2.5	3.5	3.5	4.5	5.0	3.5	uniform color, some rough fruit
Sunpride	4.0	3.5	3.0	4.0	5.0	3.5	attractive, uniform color, smooth globe, good vine cover
HR 940127	3.0	3.5	4.0	5.0	5.0	4.0	sl. green shoulder, smooth, sl. flattened globe
BR 2754	4.5	2.5	2.0	3.0	3.0	3.0	var. shape, susc. to cracking, soft, to much vine
XPH 10045	3.0	4.0	4.0	5.0	4.0	4.0	round-flattened globe, small plant, smooth attractive fruit
MTH 344	2.5	4.0	4.0	5.0	5.0	5.0	pointed fruit, fairly smooth, variable size and shape
PS 537291	2.0	2.0	2.0	4.0	5.0	3.0	globe, blotchy, late, small vine, poor cover
Sunex 6569	4.0	2.5	3.0	3.0	5.0	3.0	globe, var. size, some rough fruit
Leading Lady	4.0	4.0	3.0	5.0	5.0	3.5	smooth, attractive red color, large blossom end on some fruit
Majesty	4.0	2.0	4.0	2.0	5.0	2.0	large, upright vine, firm, flattened fruit, some pointed fruit
Affirm	5.0	2.0	2.0	3.0	4.0	3.5	large, spreading vine, sl. green shoulder, soft
PS 537891	3.5	3.0	4.0	5.0	5.0	3.5	sl. flattened globes, some blochy fruit
XPH 10047	3.0	4.0	4.5	5.0	5.0	3.0	smooth, attractive globe fruit, but small, firm
Springfield	3.0	3.0	4.0	5.0	5.0	4.0	uniform shape and size, lots of small fruit
Sunex 6590	3.5	3.0	3.5	5.0	5.0	3.5	sl. green shoulder, sl. flattened round, uniform size and shape
Scarlet Express	2.0	2.0	3.0	5.0	5.0	4.0	early, small plant with small fruit, soft
BR 2745	5.0	2.5	3.5	4.5	5.0	3.5	sl. flattened globe, to much vine, very late
FT 3256	4.0	3.0	4.0	4.0	5.0	3.0	nice shape, sl. small fruit, large stem scar
Mountain Fresh	4.5	3.0	3.5	4.0	5.0	3.0	large, upright vine, late, some rough fruit
FT 4010	5.0	2.0	4.0	5.0	5.0	3.0	large, spreading vine, flattened round, rough shoulders
HR 950156	2.0	4.0	3.0	4.0	5.0	4.0	small vine with small, smooth, attractive fruit
Sultan	3.5	2.0	3.0	4.0	5.0	4.0	small, var. shape, mostly large plum shape
ST 4001	2.5	2.0	2.0	3.0	2.0	2.0	jointless, soft, to many cracks, rough fruit, susc. to ground rot

1996 FRESH MARKET ROMA TOMATO CULTIVAR OBSERVATION TRIAL

Crop Management:

This was a single replicate observation trial. All management practices were the same as in the "Fresh Market Tomato Cultivar Trial" on page 24.

Harvest and Evaluations:

Plots were harvested 3 times during the season; August 1, 9, 16. Fruit were harvested at the breaker to fully ripe stage. Yields are expressed in 20 lb cases per acre accumulated by harvest dates and tonnes per hectare (total yield). Percent culls are in percent of total yield. Average fruit size is in grams.

Firmness: 1 - 5 rating; higher rating = firmer fruit
Vine: 1 - 5 rating; higher rating = larger plant type.

Summary:

Early Pear was the earliest maturing variety and is well adapted to early shipping markets. HMX 2867 was the highest yielder. HMX 2867, H9497 and RPT 1832 are comparable to Pacheco in the early midseason range.

TABLE 20: 1996 ROMA TOMATOES FOR FRESH MARKET OBSERVATION TRIAL

Variety	Source	Cumulative Yield (20 lb cases/acre) Aug. 1	Aug. 9	Aug. 16	t/ha	% culls	Ave. Size (g)	Firmness	Vine	Comments
HMX 2867	HM	434	1110	2848	66	1.7	72	4.0	3.5	square-round, jointless, uniform shape and size, smooth
Early Pear	PS	670	1448	2673	62	5.7	56	4.0	3.0	elongated pear, jointed, early, nippled blossom end
Heinz 9497	SSp	457	1051	2636	61	4.7	66	4.0	3.0	elongated, jointless, small blossom scar
Sun 6170	SS	315	1249	2579	60	3.9	80	3.5	3.5	elongated plum, jointless, smooth, uniform shape and size
Sheriff	FM	101	622	2276	53	1.4	62	5.0	4.0	square-round, jointed, uniform, very firm, good color
Pacheco	AS	428	1078	2273	53	1.6	66	3.0	3.5	square-round, jointed, some hollow locules
RPT 1852	RO	575	1073	2254	52	1.0	76	4.0	3.5	square-round plum, jointed/jointless, variable stem and shape
Ronco	BJ	355	830	2104	49	0.9	58	4.0	2.5	square-round, jointed, small blossom scar, smooth, some yellow eye
Aztec	PS	259	1137	2084	48	4.4	76	3.5	3.0	square-round, jointless, fairly large stem scar, small blossom scar
Puebla	PS	256	735	1970	46	2.7	62	3.0	4.0	elongated plum, jointless, very smooth, small blossom scar
Veronica	SA	120	648	1857	43	1.4	68	2.5	5.0	elongated plum, jointless, large stem scar, indented blossom end, soft
Sunre 6237	SS	150	900	1839	43	0.2	92	5.0	4.0	plum, jointed, smooth, uniform shape and size, thick walls, very firm
RPT 1563	RO	159	528	1717	40	1.9	72	3.5	4.0	elongated pear, jointless, large stem scar, small blossom scar
Marina	SA	178	615	1665	39	1.5	78	4.0	4.0	elongated, jointless, uniform, very small blossom scar