

**SUMMARY
OF
VEGETABLE VARIETY TRIALS
FAIRBANKS, ALASKA
1978–1985**

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Introduction

Selection of the appropriate cultivar (cultivated variety, referred to as a variety hereafter) is a major factor in determining the success or failure of that crop for commercial growers and home gardeners. Plant breeding has brought about vast improvements in crop productivity by incorporating disease resistance, increased yield potential and environmental adaptability into new varieties. Because the environment and growing season in Interior Alaska are much different from most other agricultural regions, it is difficult to predict how a new variety will perform here without actual testing. For instance, the long hours of daylight during the growing season are used to advantage by such varieties as O-S Cross cabbage and Shogun broccoli, which grow to extremely large size. However, long days may cause some varieties of crops such as radishes, beets, spinach, carrots, cauliflower and Chinese cabbage to bolt (form flower stalks) before forming a usable product. Long days may delay fruiting with some varieties of winter squash and melons.

Another important aspect of the climate is the amount of heat received during the growing season (approximately 90 frost-free days in Fairbanks). Many varieties of warm-season crops such as sweet corn, tomatoes, peppers, and melons may not mature here because insufficient heat is accumulated during the growing season, even though the growing season is potentially long enough. The use of cultural techniques such as clear polyethylene row covers to increase air temperatures may enable adapted varieties to reach maturity.

Soil temperature is another important factor in the adaptability of vegetable varieties to our climate. The relatively cool soil temperatures (reaching a maximum of 70 degrees Fahrenheit) are adequate for good growth with cool-season crops (in general, crops where the stems, leaves, immature flower buds or roots are eaten — for example, broccoli, lettuce and carrots), but severely limit the growth of warm-season crops (crops where, in general, the fruit is eaten). With cultural techniques such as use of clear plastic mulch to raise soil temperatures, and the use of adapted varieties, many warm-season crops can be grown here.

Methods

This report summarizes results of the vegetable variety trials conducted at the Agricultural and Forestry Experiment Station, Fairbanks, Alaska, from 1978 to 1985. Most trials were conducted on gently sloping south-facing land, at an elevation of approximately 490 feet, on Fairbanks silt loam soil. A few crops (potatoes and other crops as noted) were grown on bottomland, elevation approximately 455 feet, on Tanana silt loam soil. All plots received full sun and were irrigated as required. Drip irrigation was used for all crops grown with polyethylene mulch. Fertilizer was broadcast and rototilled to a depth of about 10 inches prior to planting. Since age of plants, date of transplanting or seeding, and fertilizer rates differed from year to year, the range of values over all years is given. Herbicides and insecticides mentioned in this publication should be used only on crops for which they have been specifically cleared, and the label should be read carefully for information on application and safety precautions before using the product. A description of cultural practices, a list of recommended varieties, and a complete listing of all varieties tested are given for each vegetable crop.

Recommended varieties were selected on the basis of yield, quality, and consistency of yield and quality from year to year. Yields for varieties not tested in the same years could not be directly compared because growing conditions varied from year to year (see Appendix A for weather data). In order to make comparisons, a comparison standard was determined for each crop each year by calculating the average yield for the top 5 yielding varieties in that year. The yield for each variety was divided by this standard, then multiplied by 100 to give a “comparative yield rating.” Using this

system, a variety with a rating of 50 produced only 50 percent as much as the average of the top 5 yielding varieties, while a rating of 110 would indicate the variety produced 10 percent more than the average of the top 5 yielding varieties. If only a few varieties of a crop were tested in one year, a high rating is less meaningful than if a large number of varieties were tested. Also, if a variety was only tested in one year, the rating says nothing about the consistency of performance. Recommended varieties were selected from those tested at least 2 years, showing good quality and having the highest comparative yield ratings.

Cultural practices are explained for each crop, followed by the table of recommended varieties. Information on recommended varieties includes years tested, seed sources (addresses of seed companies are given in Appendix B), yield information (timing and quantity), and other descriptive comments. After the table of recommended varieties, all other varieties tested are listed in alphabetical order, along with the number of years tested, the average comparative yield rating for all years tested, and comments. If a variety was judged unsatisfactory for any reason other than low yield, that reason is stated. Weather data for the growing season each year is given in Appendix A. Graphs show maximum and minimum temperature for each month, and daily precipitation. Appendix B contains addresses for all seed companies listed as sources.

COOL SEASON CROPS

BROCCOLI

Cultural Practices

Broccoli transplants were seeded 4 weeks before the scheduled planting date in the third week of May. The actual transplanting date ranged from 18 to 28 May and the age of the transplants at transplanting ranged from 25 to 32 days. Fertilizer application averaged 1490 pounds per acre (range 1120 to 1830) 10–20–20 with K as K₂SO₄ plus 1.5 pounds per acre boron and 1.2 pounds per acre molybdenum or 2 ounces per 100 feet² Peters Soluble Trace Element Mix. Several different pesticides were used to control root maggots during the years these variety trials were conducted. The current recommended treatment is Lorsban at a rate of 1.6–3.3 ounces per 1000 lineal feet in 1.6 gallons of water applied as a drench (about 2.5 ounces per plant). Plants were spaced at 16 inches (except for 1979 and 1981, when spacing was 15 inches) in rows 3 feet apart and were weeded by hand. Broccoli terminal and lateral heads were harvested while young and tender before any of the blossom clusters began to open. Stems were cut just above any significant lateral growth for terminal heads, and to a length appropriate for the head size on lateral heads. Average yields (in pounds per 100 feet) calculated for the top 5 varieties in each year were:

1978	43.5	982	90.3
1979	68.0	1983	99.6
1980	43.8	1984	92.4
1981	80.0	1985	90.6

An increase in average yields occurred in 1982 with the introduction of Shogun, a large headed, high yielding variety. Recommended varieties were chosen on the basis of yield and quality. The best early maturing varieties were included even though yields were lower. Peak harvest dates were used to determine time of maturity. Earlier maturing varieties tend to produce smaller terminal heads.

Table 1a. Recommended Broccoli Varieties.

Varieties	Seed sources	Years tested	Avg. yield for years tested (lb/100 ft)		Avg. wt. Comp. term. (lb)	Avg. yield to peak harvest ³	Avg. days to peak harvest	Range of days to peak harvest	Comments
			terminals	laterals					
Shogun	St, A&C	82–85	221.7	9.7	2.96	238	71.8	68–78	very late, head may be too large for commercial production
Green Valiant	J, NK, Tw ¹	82–85	82.1	62.3	1.09	88	58.5	54–64	late, high quality
Emperor	P, J, St ¹	80–85	70.0	56.5	0.92	85	56.0	47–60	mid-season, adapted to commercial bunching
Clipper	RS	79–81	55.0	28.2	0.70	86	58.3	51–65	late
Coaster	RS ²	79–81	54.4	32.6	0.69	85	58.3	51–62	late
Green Duke	NK, VB, Tw ¹	78–85	50.6	56.3	0.66	67	53.1	44–64	mid-season
Gem	A	78–79	41.2	58.0	0.52	74	54.0	52–56	mid-season
Green Hornet	P, St	78–82	39.6	41.8	0.51	61	51.8	47–57	early
Southern Comet	A&C, H, A1	78, 80–82	38.1	45.2	0.49	59	51.5	47–59	early

¹widely available

²may no longer be available

³based on term yield

Table 1b. Broccoli Varieties Tested.

Variety	No. of years	Comparative yield rating	Comments
Blue Ocean	1	49	
Bonanza	1	21	
Bravo	1	65	
Cape Queen	1	51	flat heads, tend to rot with heavy rain
Cleopatra	1	30	
Corsair	1	29	
Corvet	4	44	
Cruiser	2	27	
Crusader	1	37	
Dandy Early	1	73	
Dandy No. 5	3	72	
Early Emerald	1	21	early
Early One	1	46	
Futura	2	60	
Goliath	2	47	early
Green Comet	2	54	
Green Delight	1	41	heads mature unevenly
Green Dwarf	8	55	compact plants, nice laterals
Green Globe	1	42	
Green Goliath	1	42	
Green Surf	1	21	early
Green Umbrella	6	66	yellow eye, uneven development
Kayak	1	29	
Laser	2	54	early
Mercedes	1	20	early
Orion	1	18	
Packer	1	56	
Packman	2	46	early
Paragon	1	12	early, hollow stem
Premium Crop	4	47	early
Prima	1	19	
Prominence	1	28	
Regal	1	113	not uniform
Romanesco	2	110	novelty, very late
SG 1	1	79	
Skiff	1	43	
Top Star	2	20	early
Waltham No. 29	1	25	

BRUSSELS SPROUTS

Cultural Practices

Brussels sprouts transplants were seeded 8 weeks before the scheduled planting date in the third week of May. The actual date of transplanting ranged from 20 to 26 May and the age of the transplants at transplanting ranged from 51 to 59 days. Fertilizer application averaged 1552 pounds per acre (range 1433 to 1830) 10–20–20 with K as K_2SO_4 plus 1.5 pounds per acre boron and 1.2 pounds per acre molybdenum or 2 ounces per 100 feet² Peters Soluble Trace Element Mix. Plants were spaced at 2 feet in rows 3 feet apart and were weeded by hand. Several different pesticides were used to control root maggots during the years variety trials were conducted. The current recommended treatment is Lorsban at a rate of 1.6–3.3 ounces per 1000 lineal feet in 1.6 gallons of water applied as a drench (about 2.5 ounces per plant). Brussels sprouts should be bright green, firm and approximately 11.5 inches in diameter at harvest. Light freezing does not injure Brussels sprouts and is believed by some to improve the quality. A once-over harvest was used in 1980–1982, and repetitive harvests in 1983–1985. Average yields (in pounds per 100 feet) calculated for the top 5 varieties in each year were:

1980	80.4	1983	96.6
1981	106.7	1984	62.2
1982	99.4	1985	70.0

Table 2a. Recommended Brussels Sprouts Varieties.

Varieties	Seed sources	Years tested	Average yield for years tested (lb/100 ft)	Comparative yield rating	Comments
Early Crop	H ¹	84–85	96.7	146	early, compact plants
Prince Marvel	P, St VB ²	82–85	95.2	116	uniform, excellent quality
Earli-Jade	A & C ¹	80–85	92.4	108	early, good quality
Jade Cross	E J, St, Nk ²	80, 82–85	88.5	108	taller plants, good sprout spacing

¹may no longer be available

²widely available

Table 2b. Brussels Sprouts Varieties Tested.

Variety	No. of years	Comparative yield rating	Comments
Acropolis	1	44	
Alcazar	1	75	
Bedford Fillbasket	1	14	
Bedford Marsters	1	–	did not form sprouts
British Allrounder	1	–	poor quality sprouts
Captain Marvel	1	82	
Craton	1	73	
Crenel	1	91	
Early Dwarf Danish	2	50	bolted
Focus	1	66	
Goldmine	1	123	large sprouts
Green Gem	3	96	may no longer be available
Improved Half Dwarf	1	–	very small plant
Jade Cross	1	107	replaced by Jade Cross E
Rubine Red	1	12	
Stiekema No. 1	1	58	

CABBAGE

Cultural Practices

Cabbage transplants were seeded 4 weeks before the scheduled planting date in the third week of May. The actual date of transplanting ranged from 18 to 28 May and the age of the transplants at transplanting ranged from 25 to 32 days. Fertilizer application averaged 1490 pounds per acre (range 1120 to 1830) 10–20–20 with K as K_2SO_4 plus 1.5 pounds per acre boron and 1.2 pounds per acre molybdenum or 2 ounces per 100 feet² Peters Soluble Trace Element Mix. Plants were spaced at 16 inches (except for 1978, when spacing was 12 inches, 1979 and 1981, when spacing was 15 inches, and except for Earliana, which was spaced at 12 inches in 1979 and 1983) in rows 3 feet apart. Plants were weeded by hand. Several different pesticides were used to control root maggots during the years these trials were conducted. The current recommended treatment is Lorsban at a rate of 1.6–3.3 ounces per 1000 lineal feet in 1.6 gallons of water applied as a drench (about 2.5 ounces per plant). Cabbage heads were harvested when firm and mature.

Heads were cut in half lengthwise to assess core size and density. Core ratings were from 1 to 5, with 1 being the shortest and most desirable. Density ratings were from 1 to 5, with 5 being the densest and most desirable. Cabbage varieties were separated by color (red or green) and production season for comparison. Average yields for cabbage varieties (in pounds per 100 feet) calculated for the top varieties in each year were:

Early

1978	336.2	1980	154.8
1982	138.0	1984	146.2
1979	226.5	1981	189.7
1983	148.0		

Midseason

1978	409.6	1980	335.0
1982	285.8	1984	490.6
1979	360.0	1981	337.7
1983	333.0		

Late

1978	468.0	1980	409.0
1982	382.0	1984	556.0
1979	452.5	1981	359.4
1983	613.5		

Red

1978	316.3	1980	297.0
1982	296.6	1984	323.0
1979	184.3	1981	260.0
1983	317.0		

Table 3a. Recommended Cabbage Varieties.

Varieties	Seed sources	Years tested	Avg. yield for years tested (lb/100 ft)	Avg. wt. (lb)	Comparative yield rating	Avg. days to peak harvest	Range of days to peak harvest	Average core density	Comments	
EARLY										
Tastie	A&C, Bu, T&T	78-84	241.7	3.0	140	57.6	51-74	2.0	3.9	dependable high quality, uniform semi-savoyed can be grown at tighter spacing for higher yields
Salarite	St	83-84	164.5	2.2	112	49.0	47-51	2.5	3.5	
Vela	RS ¹	79, 84	148.0	1.9	73	52.5	46-59	2.9	4.0	
Ealiana	Al, Bu	79-83	144.4	1.8	88	51.0	41-63	2.3	3.4	
MIDSEASON										
Bravo	H, NK	83-84	464.0	6.2	113	71.0	65-77	2.4	3.8	use closer spacing to reduced head size
Erin	Al	78, 80-82	421.3	5.1	142	73.4	61-97	2.3	3.0	good flavor
Supermarket	Tw, A&C	79, 83	377.0	4.9	109	71.5	68-75	2.8	3.6	good quality
Hybrid 15 (Tuffy)	H, NK	78-83	312.7	3.5	97	69.8	56-83	2.8	3.2	may tipburn in wet years
LATE										
Winterkeeper	St	83-84	593.0	8.9	101	96.0	94-98	2.9	4.4	high density, good quality
Hinova	Se	80-84	584.8	7.7	126	94.6	89-102	3.1	3.4	variable quality year to year
Alaska 6467	ACI, D	78, 80-83	481.8	6.7	108	94.0	82-117	2.2	4.1	reliable quality
Superslaw	St ¹	82-83	408.5	5.4	82	107.5	103-112	2.6	4.6	solid heads
RED										
Baby Late Red	T&T ¹	82-83	335.5	4.5	109	111.0	110-112	2.4	4.9	dense heads, good storage type
Ruby Perfection	St, J, Tw ²	80-84	307.6	4.2	103	82.8	77-85	2.4	4.5	consistent quality
Ruby Ball	Al, Bu, Tw ²	78-79, 81, 8	277.7	3.4	101	75.2	71-82	2.6	4.3	good quality, holds well
Baby Early Red	T&T, S&G	78-80, 82	266.0	3.4	99	74.8	68-84	2.3	4.3	good quality, holds well

¹may no longer be available

²widely available

Table 3b. Cabbage Varieties Tested.

EARLY		Comparative		Comparative			
Variety	No. of years	yield rating	Comments	Variety	No. of years	yield rating	Comments
Bergkabis	1	81	good quality	Rio Verde	1	95	flat head
Chogo	1	106	dense, long core	Savoy Ace	4	83	savoy, most reliable
Dakri	1	104		Savoy Prince	1	80	savoy, loose heads, susceptible to tipburn
Delphi	1	92	new to trials, good quality	Shamrock	1	104	
Earlibird	1	121	long core	Sun Up	1	53	
Early Greenball	1	91	low density	Supermarket	1	89	
Early Wonder	1	60		Superpack	1	93	flat head
Emerald Acre	1	97	good quality	U-Neek	1	46	savoy, susceptible to tipburn
Express Early	1	63	pointed	Utopia	1	82	
Golden Acre	1	91		Viking	1	55	
Greyhound	2	62	pointed, slight tipburn	Wizard	1	81	
Hermes	1	70	good quality	Zodiac	1	49	
Hispi	1	110	pointed	LATE			
Hornspi	1	57	slight tipburn	A&C No. 5	1	86	
Maystar	1	110		Custodian	1	104	low density
Pride of the Market	1	87		Great Bowling Ball	1	113	
Princess	1	127	long core	Hercules	1	121	
Tokyo Pride	1	90		Hybrid H	1	88	long core
Widi L.D.	1	65		Ice Prince	2	69	susceptible to tipburn
MIDSEASON				Ice Queen	1	52	savoy tipburn, poor quality
Badger Baby Head	1	64		No. 1338	2	115	experimental variety
Blue Boy	1	109	good flavor	Polaris	1	135	long core, good density
Blue Max	1	63	savoy	Predena	3	119	low density
Blue Ribbon	1	75		Prime Pak	1	89	low density
Canada Kraut	1	98		Prizemaker	1	124	long core
Casio	1	128	promising new variety	Quick Green Storage2	2	95	low density
Gourmet	2	102	low density	Sanibel	1	91	
Green Boy	1	91		Savoy Chieftain	1	96	loose heads
Green Delight	1	67		Super Green	1	114	
Grenit	1	91		RED			
Jet Pak	1	85		Lasso	1	74	
June Star	1	81		Meteor	3	96	
Kappertjes	1	62	savoy, susceptible, tipburn	Red Acre	1	96	
Leo	1	73	large core	Red Debut	1	81	
Mimicole	1	73		Red Head	1	136	long core
Moneymaker	1	105	low density	Red Landedijker	1	105	loose heads
No. 1342	3	81	experimental variety				

CARROTS

Cultural Practices

Carrots were seeded from 11 May –5 June. Fertilizer application averaged 1430 pounds per acre (range 1120 to 1760) 10–20–20 with K as K₂SO₄. Carrots were seeded in rows 2 feet apart (except for 1982–1985, when rows were 3 feet apart) with a Planet Jr. Seeder using hole No. 7 or 8, or by hand, and were not thinned. LoroX 50W herbicide was applied at a rate of 1.5 pounds per acre after the carrots were at least 3 inches tall. Carrots were harvested when fully sized up, usually after first frost in early September. The number of growing days (days from seeding to harvest) ranged from 91 to 117, but did not seem to directly affect the yield. Average yields (in pounds per 100 feet) calculated for the top 5 varieties in each year were:

1978	262.2	1982	357.0
1979	271.2	1983	268.1
1980	141.6	1984	265.3
1981	140.7	1985	277.7

Carrot varieties are usually grouped according to shape and use. Carrots used mainly for fresh market are relatively long and slender, with attractive appearance and color. Processing carrots are significantly larger in diameter (producing less waste with slicing and dicing), and are of usable quality even at full maturity. Carrots in the Chantenay group are wide at the shoulder, with a short stubby shape, and are used mostly for processing because of their coarse texture (raw) and relatively small amount of waste. Carrots in the Imperator group are used as the principal commercial fresh market type. They are long, with a tapered tip and relatively uniform in shape. Danvers carrots are used for both fresh market and processing, and have a relatively long, broad-shouldered, tapered shape. Nantes carrots are the principal home and market garden cultivars, with slender, nearly cylindrical shape and blunt tip. Young carrots of the Amsterdam type are grown mainly as baby carrots, and are used for fresh market at full maturity. They have a slender cylindrical shape, blunt tip, are very smooth and somewhat brittle.

Table 4a. Recommended Carrot Varieties.

Varieties	Seed sources	Years tested	Avg. yield for years tested (lb/100 ft)	Comparative yield rating	Average wt. (oz)	Comments
Royal Danvers	Ag ¹	83–85	296.1	109	4	consistent high yields
Royal Chantenay	St, WD, P	78, 79, 84, 85	252.6	94	2	processor, good flavor
Touchon Deluxe	St	83–85	245.8	91	3	Nantes type
Kuroda Chantenay	J ¹	81–84	234.0	91	3	slight tendency to bolt, consistent high yields
Special Long Nantes	St ¹	78–82	227.2	97	2	excellent fresh market type
Spartan Bonus	F, T&T, A	78–81, 84, 85	211.1	93	2	Nantes–Imperator type
Early Cross	Al ¹	79–85	209.2	85	3	tapered shape

¹may no longer be available

Table 4b. Carrot Varieties Tested.

Variety	No. of years	Comparative		Variety	No. of years	Comparative	
		yield rating	Comments			yield rating	Comments
Amsterdam Forcing	1	81		Nantes Scarlet X-Large	1	87	
Amsterdam Forcing Sweetheart	1	52		Nantes Strong Top	1	34	
Bunny Bite	1	40	miniature type	Nevesta	2	74	Nantes type
Caramba	2	42	Amsterdam	Orange Sherbet	3	77	Nantes type
forcing type				Orlando Gold	1	62	Imperator type
Chantenay Favorite	1	106		Pioneer	1	92	Nantes type
Chantenay Supreme Long Type	2	72		Red-Cored Chantenay	1	72	
Clairon	1	67	Nantes type	Regulus Imperial	1	34	
Coreless Amsterdam	2	51		Royal Cross	2	70	Chantenay type
Danvers 126	2	72		Scarlet Nantes	7	80	
Des Dan	4	78	Danvers type	Spartan Classic	2	78	Nantes-Imperator type
Dexp 80-138-2	1	93		Spartan Delite	1	54	Nantes-Imperator type
Dexp 80-138-3	1	100		Spartan Deluxe	2	74	Nantes-Imperator type
Dexp 80-140-2	1	69		Spartan Fancy	2	66	Nantes-Imperator type
Dexp 80-140-3	1	73		Spartan Premium	3	81	Nantes-Imperator type
Dominator	1	101		Spartan Sweet Improved	1	80	Nantes-Imperator type
Fanci Pak	2	79	Imperator type	Spartan Winner	3	83	Nantes-Imperator type
Fancy Nantes	1	43		Super Nantes	1	53	
Fedora	1	102	long conical	Tip Top	1	80	Nantes type
shape, new to trials				XP Crookham Hyb W197 ¹	1	80	
Gold King	5	81	Chantenay type	XP Crookham Hyb W202 ¹	1	96	
Imperator	1	19		XP Crookham Hyb W241 ¹	1	74	
JSS-186	1	48		XP Crookham Hyb W279 ¹	1	92	
Jurarot	1	53	Nantes type	XP Crookham Hyb W284 ¹	1	74	
Kinko	3	79	early	Zino	1	44	conical shape
Chantenay type							
Klondike Nantes	1	88					
Lindoro	1	91	Nantes type				
Nandor	1	69	Nantes type				
Nantes Coreless	1	78					
Nantes Express	1	81					

¹experimental variety

CAULIFLOWER

Cultural Practices

Cauliflower transplants were seeded 4 weeks before the scheduled planting date in the third week of May. The actual date of transplanting ranged from 18 to 28 May and the age of the transplants at transplanting ranged from 25 to 32 days. Fertilizer application averaged 1490 pounds per acre (range 1120 to 1830) 10–20–20 with K as K_2SO_4 plus 1.5 pounds per acre boron and 1.2 pounds per acre molybdenum or 2 ounces per 100 feet² Peters Soluble Trace Element Mix. Plants were spaced at 16 inches (except for 1979 and 1981, when spacing was 15 inches) in rows 3 feet apart and were weeded by hand. Several different pesticides were used to control root maggots during the years these variety trials were conducted. The current recommended treatment is Lorsban at a rate of 1.6–3.3 ounces per 1000 lineal feet in 1.6 gallons of water applied as a drench (about 2.5 ounces per plant). Cauliflower heads were tied to prevent discoloration when the curd was first visible and were harvested just before the curd began to separate. Well-formed curd should be creamy white and dense, with a smooth texture. Average yields (in pound per 100 feet) calculated for the top 5 varieties in each year were:

1978	119.8	1982	134.8
1979	161.8	1983	151.5
1980	135.4	1985	121.3
1981	170.0	1984	154.4

Recommended varieties were chosen on the basis of yield and quality. The best early maturing varieties were included even though yields were lower. Peak harvest dates were used to determine time of maturity. Earlier maturing varieties tend to produce smaller heads.

Table 5a. Recommended Cauliflower Varieties

Varieties	Seed sources	Years tested	Avg. yield for years tested (lb/100 ft)	Avg. wt. (lb)	Comparative yield rating	Avg. days to peak harvest	Range of days to peak harvest	Comments
White Top	St, V, A&C	83–85	160.9	2.14	113	70.7	63–83	late, self wrapped type, high quality
Andes	St, J, V	83–85	149.6	1.99	105	64.3	58–69	midseason, self wrapped type, deep head
White Rock	St, A&C, Tw	82–85	145.1	1.93	103	73.8	68–81	late, self wrapped type, high quality
White Fox	St, A&C, NK	82–85	138.6	1.85	99	69.3	63–81	late, self wrapped type, high quality
Dominant	St, J	78–85	130.3	1.70	91	68.3	58–80	late
Snow Crown	St, NK, J ¹	78–85	96.7	1.12	67	55.3	44–63	dependable
Alpha Paloma	RS	79, 84, 85	85.5	1.10	59	55.3	45–62	early variety

¹widely available

Table 5b. Cauliflower Varieties Tested.

Variety	No. of years	Comparative yield rating	Comments	Variety	No. of years	Comparative yield rating	Comments
Abuntia	1	24	early	Raket	1	55	
Alert	3	45	early	Self Wrap	2	76	mid-season
Alpha Balanza	1	53		SG 105	1	109	experimental variety, seed not available
Alpha Durato	1	65		Snowball 123	2	83	mid-season
Alpha Fortados	2	52		Snowball 34	1	56	
Alpha Maveron	1	59	late	Snowball 741	1	75	
Alpha Pioneer	2	60		Snowball T-2	1	67	
Bostonian	1	0	did not produce	Snowball T-3	1	26	
Burpeeana	1	62		Snowball X	1	52	
Christmas White	1	114	may no longer be available	Snowball Y	1	74	
Danova	1	55		Snowbird	1	62	
Delira	6	75	late, self wrapping	Snowdri	2	33	
Dok Elgon	1	61		Snow King	1	0	bolted
Dwarf Erfurt	4	82	mid-season	Snow March	1	0	did not produce heads
Early Abundance	1	19	early	Snow Pak	1	98	
Early Dominant	1	73		Snowmound	1	43	
Early Snowball	6	64	mid-season	Spring Snow	1	53	
Early Super Snowball	1	58		Starlight	5	80	
Early White	1	87	green curd	Stovepipe	1	34	early, poor quality
Erfurter Duromax	1	75		Super Snowball	4	62	
Extra Early Snowball	2	68	mid-season	Taipan	1	60	
Formana	2	85	mid-season	Tornado	1	53	
Fortuna	1	68		Vernon	1	105	attractive heads, new to trials
Grandessa	2	71	late	Wallaby	1	52	
Hormade	1	51		White Baron	1	0	buttoned
Idol Original	1	44		White Contessa	1	0	buttoned
Imperial 10-6	2	81	late	White Empress	1	40	poor quality, tendency to bolt
Le Cerf	1	60		White Mountain	1	78	poor quality
Nevada	5	69	mid-season	White Summer	3	80	mid-season
Nimba Media	1	95		Winner Osená	1	76	
Panda	1	68					
Purple Giant	1	61	novelty				

CELERY

Cultural Practices

Celery transplants were seeded 9 weeks before the 1 scheduled planting date in late May. The actual date of transplanting ranged from 26 May –2 June and the age of the transplants at transplanting ranged from 57 to 77 days. Spacing differed each year, with plants from 8 to 18 inches apart in rows from 1 to 3 feet apart. Recommended spacing is 8 inches between plants in rows 1.5 to 2 feet apart. Fertilizer application averaged 1640 pounds per acre (range 1500 to 1900) 10–20–20 with K as K₂S₀4• Lorox 50W herbicide was applied at a rate of 1.5 pounds per acre after the celery was transplanted and established but before it was 8 inches tall. Plants were side dressed with 10–20–20 fertilizer (1/2–3/4 pounds per 100 feet²) in mid–July. Celery was harvested when fully mature, usually just before the first fall frost. Average yields (in pounds per 100 feet) calculated for the top 5 varieties in each year were:

1981	308.0	1984	267.9
1982	362.2	1985	307.4
1983	256.4		

Table 6a. Recommended Celery Varieties.

Varieties	Seed sources	Years tested	Avg. yield for years tested (lb/100 ft)	Comparative yield rating	Avg. wt. (lb)	Comments
Green Giant	Tw, A&C	81–85	326.5	109	3.4	consistent high yields
Transgreen	FM	81–85	300.1	100	3.0	consistent high yields
Utah 52–70	V	81–83	303.1	98	3.4	mostly replaced by improved strains
Florida No. 683	St, H, A&C	84, 85	287.7	100	2.4	
Stokes Impr. Utah 52–70	St	81, 83–85	271.8	95	2.8	consistent high yields

Table 6b. Celery Varieties Tested.

Variety	No. of years	yield rating	Comments
American Green Greensnap	2	83	
Clean Cut	2	86	
Emerson Pascal	1	84	poor quality
Florimart	2	98	susceptible to rot
Fordhook Giant	1	89	
Grande	1	78	
Stokes Golden Plume	1	95	tipburn, poor flavor
Surepak	1	92	
Utah 52–70	3	98	

PEAS

Cultural Practices

Peas were seeded from 5–29 May. Fertilizer application averaged 1414 pounds per acre (range 1120 to 1760) 10–20–20 with K as K_2SO_4 . Peas were seeded in plots 3 feet wide, consisting of 5 rows. A Planet Jr. Seeder (hole No. 36) was used and peas were not thinned. Pea trials were conducted on bottomland in 1980, 1982, and 1983, and on upland in all other years. Premerge 3 herbicide at a rate of 2 gallon per acre was applied prior to emergence. (Note. EPA removed Premerge's clearance in 1986. Treflan is a possible substitute.) Garden peas were harvested when pods were well filled, but before pods hardened or their color faded. Snap peas were harvested before peas reached full maturity. Average yields for pea varieties in the pod (in pounds per 100 feet²) calculated for the top 5 varieties in each year were:

Garden Peas

1978	28.6	1983	94.7
1979	47.8	1984	114.7
1980	53.9	1985	73.9
1982	67.1		

Snap Peas

1982	44.6	1984	83.1
1983	75.4	1985	55.5

Many varieties had no yield in 1981, as cool, wet conditions resulted in severely diseased vines.

Table 7a. Recommended Pea Varieties.

Varieties	Seed sources	Years tested	Avg. yield in shell for years tested (lb/100 ft ²)	Comparative yield rating	Avg. days to first harvest	Avg. days to peak harvest	Percent yield at peak harvest	Comments
GARDEN PEAS								
Greater Progress	V, F, Tw	84, 85	101.2	107	61.0	66.0	36	early, short vines, large pods
Mayfair	Ag, AI, RB	84,85	95.9	102	69.0	76.5	31	medium vines, long pods
Lincoln	St, VB, F ¹	83–85	93.6	99	69.3	76.3	28	medium vines and pods, good flavor
Novella	P, J	82–85	89.2	102	65.8	76.3	46	semi-leafless, compact self-supporting plants
Perfected Freezer 400	RB ²	79, 80	53.7	106	73.5	77.0	46	consistent high yields for years tested
SNAP PEAS								
Early Snap	Ag, F, H	82–85	71.4	111	60.5	68.3	26	compact vines, early
Sugar Rae	VB ²	82–85	69.9	108	63.3	75.5	32	compact vines
Sugar Snap	St, P, Tw ¹	82–85	55.4	99	65.8	80.2	30	high quality, tall vines need staking

¹widely available

²may no longer be available

Table 7b. Pea Varieties Tested.

Variety	No. of years	Comparative yield rating	Comments
GARDEN			
Almoto	3	94	
Alpha 1	1	90	
Beagle	1	60	
Early Frosty	4	80	
Freezer 68-178	1	82	
Freezer 70-091	2	89	
Freezer 72-244	1	59	
Freezonian	2	66	
Frosty	1	67	
Giant Stride	1	38	
Green Arrow	6	86	high quality
Hustler	1	57	
Knight	1	59	
Kosta	1	79	
Lacy Lady	3	87	semi-leafless
Maestro	1	101	
Miragreen	1	84	
Morse's Progress No. 60	1	69	
Morse's Progress No. 9	1	48	
Olympia	1	89	
Pacemaker	1	89	
Patriot	3	86	
Proto IV	1	90	
Sparkle	6	89	
Stratagem	1	48	
Superfection	1	78	
SNAP			
Early Honey Pod	1	128	poor quality
Sugar Ann	2	74	early, compact vines
Sugar Bon	2	70	
Sugar Daddy	1	74	stringless pods
Sweet Snap	2	89	small pods

POTATOES

Cultural Practices

Potatoes were planted from 15–30 May on bottomland amended with local Lemeta peat. Fertilizer application averaged 1430 pounds per acre (range 1120 to 1760) 10–20–20 with K as K_2SO_4 . Seed potatoes were cut so that each seed piece was greater than 2.5 ounces. Seed was planted 12 inches apart in rows 40 inches apart. Premerge 3 herbicide at a rate of 2 gallons per acre was applied prior to emergence. (Note. EPA removed Premerge's clearance in 1986. Eptam or a tank mix of Eptam and Sencor or Lexone are possible substitutes. See Dinkel, D.H. 1986. *Weed Control in Potatoes*. U of A Cooperative Extension Service Publication No. A-00141.) Hilling was done when most plants were 4 inches high, and again 2 to 3 weeks later. Potatoes were harvested in early September, usually after the first frost. Average yields (in pounds per 100 feet) calculated for the top 5 varieties in each year were:

1978	346.8	1982	278.0
1979	297.8	1983	241.6
1980	292.2	1984	269.4
1981	239.8	1985	322.4

Table 8a. Recommended Potato Varieties.

Varieties	Years tested	Avg. yield for		Comparative			
		years tested	(lb/100 ft)	yield rating	Avg. wt. (oz)	Percent U. S. No. 1	Comments
Green Mountain	79–85		276.5	100	7.7	88.2	good baker
Superior	83–85		261.0	94	7.9	90.1	short-oblong shape, used for boiling and processing
Bake King	79–85		260.8	91	7.1	88.3	oblong shape, medium deep eyes, good baker
Rote Erstling	79–85		248.5	87	6.5	79.0	red skin, yellow flesh, early
Alaska Red	80–85		237.2	87	4.8	81.7	red skinned variety, round-oblong shape, shallow eyes

Table 8b. Potato Varieties Tested.

Variety	No. of years	Comparative yield rating	Comments
2-5	2	88	
8-13	2	87	
10-1	2	86	
13-10	1	60	severe hollow heart
14-1	2	70	tendency for hollow heart & shatter cracks
21-6	2	72	severe shatter cracks
24-3	2	63	good quality
27-2	1	53	severe shatter crack
28-8	1	55	
31-3	1	64	severe hollow heart
82-11	2	78	tendency for shatter cracks
83-13	6	88	
87-8	1	100	
87-81	1	75	
Alaska 114	7	85	good quality
Alaska Frostless	1	60	
Allagash	2	78	
Butte	1	110	promising new russet variety
Denali	2	80	growth cracks
Emmet	3	88	
Highlat	1	73	severe hollow heart
Kennebec	6	85	early, tendency for hollow
heart			
Nooksack	1	42	russet
Norgold Russet	6	81	good quality russet
Norland	3	80	
Red Lasoda	2	92	tendency for hollow heart & secondary growth
Snowchip	2	96	used for chipping
Swedish	7	49	small oblong tubers, yellow flesh

Note: Numbered varieties bred by Dr. Curtis Dearborn. AFES, Palmer, Alaska.

WARM SEASON CROPS

CUCUMBERS

Cultural Practices

Cucumber transplants were seeded 4 weeks before the scheduled planting date of 1 June in a cold frame using bottom heat. The actual date of transplanting ranged from 31 May –8 June and the age of the transplants at transplanting ranged from 24 to 36 days. Fertilizer application averaged 1529 pounds per acre (range 1120 to 2018) 10–20–20 with K as K₂SO₄. Plants were spaced at 3 feet (except for 1978 and 1979 when spacing was 2.5 feet) in rows 5 feet apart and were grown through 1.5–mil clear polyethylene mulch. In 1979 and 1985 plants were also covered with clear polyethylene tunnel row covers during early June. In 1985, slit plastic row covers were used to protect plants from unseasonably cool temperatures in late June and early July. Premerge 3 herbicide at a rate of 1 gallon per acre was applied prior to application of the plastic mulch. (Note. EPA removed Premerge's clearance in 1986. Alanap–3 is a possible substitute.) Slicing cucumbers were harvested when firm, deep green, and well developed in length and form. Pickling cucumbers were harvested when they reached a size appropriate for pickling. Average yields for cucumbers (in pounds per 100 feet) for the top 5 varieties in each year were.

Slicing Cucumbers

1978	586.8	1980	281.8	1983	698.1	1985	372.3
1979	947.4	1982	598.4	1984	436.3		

Pickling Cucumbers

1978	699.4	1980	168.4	1983	536.6
1979	772.0	1982	446.0	1984	238.7

Pickling cucumbers were not tested in 1985. No yields are given for 1981 due to poor survival of transplants.

Table 9a. Recommended Cucumber Varieties.

Varieties	Seed sources	Years tested	Avg. yield for years tested (lb/100 ft)	Comparative yield rating	Avg. wt. (oz.)	Avg. days to first harvest	Range of days to first harvest	Comments
SLICING								
Early Pride	Bu	82–85	563.4	107	6	50.5	40–61	short fruits, high quality
Sweet Success P, Tw, WD ¹		82–85	538.7	102	10	48.0	40–55	long shape, spineless, seedless, excellent flavor
Euro–American	P	82–85	497.3	94	7	47.8	42–56	spineless, small seed cavity
Slicemaster	H, V, Al, A&C	83–85	488.3	97	6	52.0	47–61	high quality
PICKLING								
Saladin	BU, F, P	78, 79, 81, 83	814.3	122	5	49.0	47–57	white spined, can also be used as a slicer
Hokus	WD	79, 83	627.8	96	5	44.5	42–47	spineless, gherkin type
Lucky Strike	A&C, VB, B	82, 83	498.9	102	3	44.0	40–48	white spined, well shaped
Morden Early	T&T, Al	78, 79, 82–84	494.1	92	2	44.8	37–54	small fruits, turn yellow early

¹widely available

Table 9b. Cucumber Varieties Tested.

Variety	No. of years	Comparative		Comments
		yield rating	yield rating	
SLICING				
Amira	4	70		spineless
A&C Hybrid	2	92		
Burpeeana Hybrid II	1	63		
Burpless Hybrid	1	102		
Bush Crop	1	40		
Centurion	1	54		
Charger	1	104		small size fruits
Dasher	2	70		
Dublin	1	91		
Early Surecrop	4	82		
Factum	1	97		European type
Femdan	2	61		European type
Green Knight	1	37		
LaReine	1	104		European type
Maximore 101	1	47		
Pacer	1	77		
Park's Commanche	4	59		
Park's Whopper	1	87		
Raider	3	82		
Setmore 100	1	68		
Streamliner	1	—		only 4 varieties tested this year
Supercuke	2	96		no longer available
Suyo Long	2	59		
Sweet Slice	2	74		
Toska 70	1	71		
Ultraslice	1	83		
Universal	1	48		
Universal	1	48		
Victory	1	80		
PICKLING				
Alouette	1		75	
Calypso	1		84	
Chicago Pickling	1		99	
Country Fair	2		91	
Double Yield Pickling	2		54	
Earlipik	1		135	new to trials
Early Mincu	1		80	
Femcap	1		29	
Florino	1		67	spineless
Green Star	2		59	
Japanese Long Pickling	1		57	
Levo	1		80	spineless
Liberty	5		83	
Northern Pickling	3		89	
Peppi	1		71	
Perfecto Verde	1		28	
Pickle Dilly	1		93	
Pickleriffic	1		85	
Regal	2		90	
Salvo	1		102	
Spiffy	1		100	
Tiny Dill	3		89	
Triple Mech	2		91	
Venloer Export	1		65	
West Indian Gherkin	1		2	

PEPPERS

Cultural Practices

Pepper transplants were seeded 9 weeks before the scheduled planting date in early June. The actual date of transplanting ranged from 31 May –7 June and the age of the transplants at transplanting ranged from 57 to 71 days. Fertilizer application averaged 1500 pounds per acre (range 1120 to 2018) 10–20–20 with K as K₂SO₄. Plants were grown through 1.5–mil clear polyethylene mulch in double rows (12 inches apart) with plants 18 inches apart. Plastic mulch was laid on 5 foot centers. In 1979, 1980, 1983, 1984 and 1985 plants were also covered with clear polyethylene tunnel row covers during early June. Premerge 3 herbicide at a rate of 1 gallon per acre was applied prior to application of the plastic mulch. (Note. EPA removed Premerge’s clearance in 1986. Treflan is a possible substitute.) Peppers were harvested when full size, with fruit firm and crisp. After hot varieties were harvested for the first time, some peppers were left to develop full color. Average yields for pepper varieties (in pounds per 100 feet) calculated for the top 5 varieties in each year were:

Sweet Peppers

1978	86.0	1980	54.2	1983	234.2	1985	126.1
1979	219.6	1982	95.3	1984	207.5		

Hot Peppers

1982	51.8	1983	127.2	1984	84.1	1985	66.1
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Table 10a. Recommended Pepper Varieties

Varieties	Seed sources	Years tested	Avg. yield for Comparative years tested (lb/100 ft)	yield rating	Avg. wt. (oz)	Avg. days to first harvest	Range of days to first harvest	Comments
SWEET								
Park’s Early Thickset	P	82–84	175.7	98	2.0	52.3	47–60	early bell pepper
Stokes Early Hybrid	St	80, 83–84	148.8	90	2.2	58.7	50–74	bell pepper, good flavor
Early Prolific	NK, T&M, WD	79–85	133.6	98	2.2	56.6	48–70	bell, dependable, even under adverse conditions
Gypsy	P, St, Tw ¹	81–85	132.4	97	2.1	47.8	36–63	yellow wedge-shaped fruit, thick walled, good disease resistance
Cadice	Ag, A&C	79–82	103.2	108	2.3	66.8	60–73	bell, dark green blocky fruit
HOT								
Eastern Rocket	Ag, V	84–85	95.2	127	1.6	46.0	38–54	tapered yellow–green fruits, ripening to red
Surefire	Ag, V, Tw	82–83	92.2	103	1.0	47.0	34–60	similar to Hungarian Yellow Wax, larger fruits
Karlo	J	80, 82–85	84.0	122	1.2	59.6	43–80	yellow, mildly-hot Romanian type
Hot Portugal	St, G, H	82–85	80.0	97	0.9	57.8	44–90	long, tapered green fruits ripen to red
Hungarian Yellow Wax	P, St, J ¹	78, 80–85	39.6	58	0.6	57.3	38–86	attractive yellow tapered fruits, turn red when ripe, reliably hot

¹widely available

Table 10b. Pepper Varieties Tested.

Variety	No. of years	Comparative	
		yield rating	Comments
Ace	1	102	replaced by New Ace
Allbig	2	72	good quality
Bell Boy	1	84	
Bell Captain	1	23	
Blockbuster	1	44	
Burpee Fordhook	1	109	good quality bell type
Burpee's Early Pimento	1	64	
Burpee's Sunnybrook	1	12	
Butterfingers	1	40	sweet yellow, attractive fruit
Dutch Treat	2	48	sweet yellow, pointed shape
Earliest Red Sweet	4	57	
Early Bountiful	3	82	
Early Calwonder	1	21	
Early Thickset	1	75	
Faribo Hybrid	1	74	
Fordhook Sweet	1	61	
Golden Bell	4	85	
Golden Summer	1	75	
Goldie	1	97	golden bell, small fruits
Goldstar	1	10	
Green Belle	1	48	
Hy Fry	1	96	new to trials
Improved Cubanella	1	52	
Italian Sweet	6	80	
Jupiter	1	59	
King of the North	2	7	
Lady Bell	1	31	
Ma Belle	3	83	
Miss Belle	1	68	

Variety	No. of years	Comparative	
		yield rating	Comments
Morgold	1	67	fruits susceptible to disease
New Ace	2	92	
Park's Whopper	2	85	
Pedro	1	101	
Pekana	1	115	missshapen fruits
Permagreen	1	71	
Peter Piper	2	21	did not mature 1 year
Pro Belle II	1	44	
Ringer	1	126	new to trials, promising
Romanian	1	16	
Super Set No. 19	2	88	
Super Shepherd	2	71	
Sweet Banana	1	66	
Top Banana	1	67	
Vinedale	1	9	
Wisconsin Lakes	1	63	
Yellow Belle	1	29	
Anaheim	1	-	only 3 hot peppers tested
Crimson Hot	2	0	no mature peppers
Early Jalapeno	1	0	no mature peppers
Jalapa	1	23	
Large Cherry	1	0	no mature peppers
Long Thick Red	1	67	
Ring of Fire	1	39	late
Romanian Hot	1	-	only 2 hot peppers tested
Thai Hot	1	0	very late

PUMPKINS

Cultural Practices

Pumpkin transplants were seeded 4.5 weeks before the scheduled planting date in early June. The actual date of transplanting ranged from 4–8 June and the age of the transplants at transplanting ranged from 30 to 36 days. Fertilizer application averaged 1506 pounds per acre (range 1120 to 2018) 10–20–20 with K as K_2SO_4 . Plants were grown through 1.5–mil clear polyethylene mulch. In 1985 plants were also covered with slit plastic row covers from 21 June to 8 July. Spacing between plants was 8 feet (except for 1979, when spacing was 6 feet, and 1981 and 1982, when smaller types were spaced at 5 feet) and was also 8 feet between rows. Premerge 3 herbicide at a rate of 1 gallon per acre was applied prior to application of the plastic mulch. (Note. EPA removed Premerge's clearance in 1986. Alanap-3 is a possible substitute.) Pumpkins should be well matured and the shell hard before harvesting. They were usually harvested just prior to the first fall frost as they can be injured by exposure to a hard frost. If not orange (or completely orange) at time of harvest, mature pumpkins will usually reach full color by late October when stored between 50 and 60 degrees Fahrenheit. Average yields (in pounds per 100 feet) calculated for the top 5 varieties in each year were:

1979	1079.6	1981	351.8	1983	1415.6	1985	671.3
1980	444.1	1982	1355.7	1984	1411.9		

Table 11a. Recommended Pumpkin Varieties.

Varieties	Seed sources	Years tested	Avg. yield for years tested (lb/100 ft)	Comparative yield rating	Avg. wt. (lb)	Comments
Connecticut Field	Tw, St, H, WD ¹	79–85	1461	152	23.2	flattened globe shape, for jack o'lanterns, canning
Pankow's Field	H, V	84–85	1191	114	18.8	deep round to tall shape, sturdy stems
Small Sugar or New England Pie	St, VB, Bu ¹	81–85	851	82	4.2	small round shape, all purpose, good keeper

¹widely available

Table 11b. Pumpkin Varieties Tested.

Variety	No. of years	Comparative yield rating	Avg. wt. (lb)	Comments
Atlantic Giant	1	28	23.0	
Big Moon	1	98	51.9	some plants did not mature fruit
Cheyenne Bush	2	84	15.7	
Early Sugar	1	62	3.8	
Funny Face	4	87	11.3	
Half Moon	2	72	17.0	
Halloween Hybrid	1	116	12.5	poor keeping qualities
Howden	1	95	25.6	
Little Boo	7	64	8.4	white skin, good for painting faces
Sir Jack	1	82	9.4	
Spirit	2	50	10.8	semi-bush type, did not mature 1 year
Triple Treat	1	74	6.8	edible hull-less seeds
Winter Luxury	1	0		did not mature
Young's Beauty	1	71	11.5	

SNAPBEANS

Cultural Practices

Snapbeans were seeded when soil temperatures had warmed to 60 degrees Fahrenheit, on dates ranging from 18–30 May. Fertilizer application averaged 1402 pounds per acre (range 1120 to 1545) 10–20–20 with K as K_2SO_4 . Beans were seeded with a Planet Jr. Seeder using hole No. 38 and were not thinned. Beans were planted in blocks 4 feet wide with rows 1 foot apart in 1978 and 1979, in rows 2 feet apart in 1980, and in rows spaced at 3 feet for all other years. Bean trials were conducted on south-sloping upland except in 1980, when trials were carried out on bottomland. Premerge 3 herbicide at a rate of 1 gallon per acre was applied prior to emergence. (Note. EPA suspended clearance for Premerge in 1986. Eptam or Treflan are possible substitutes.) Snapbeans were harvested when the pods were nearly full size, but still smooth and crisp, with little or no seed bulge. Average yields (in pounds per 100 feet) calculated for the top 5 varieties in each year were:

1978	47.6	1982	144.4
1979	107.4	1983	103.3
1980	85.0	1984	99.4

No beans matured in 1981 due to freezing temperatures in mid–August.

Table 12a. Recommended Snapbean Varieties.

Varieties	Seed sources	Years tested	Avg. yield for years tested (lb/100 ft)	Comparative yield rating	Avg. days to first harvest	Range of days to first harvest	Comments
Strike	St	82–84	116.0	100	69.3	68–72	good quality
Bountiful	VB	82–84	108.4	94	67.3	65–69	long flat pods, good flavor
Golden Wax	VB, P	83, 84	96.9	96	66.5	65–68	wax, flat pods, good quality
Improved (Top Notch) Provider	St, J, V ²	78–80, 82–84	89.6	92	73.8	65–84	consistent yield and quality
Contender	St, P, Tw ²	78–80, 82–84	85.2	87	76.2	68–87	consistent yield and quality
Beurre de Rocquencourt	J, V	80, 82–84	85.0	79	72.3	65–87	wax, some tolerance for cold soils
Dwarf Contender	Hb ¹	82, 83	121.4	98	68.5	68–69	
Oregon 1604	RB ¹	79, 80, 82, 83	111.2	90	75.0	68–87	bush Blue Lake type, high quality
Rogers 76–102	RB ¹	79, 80	92.6	96	81.5	76–87	bush Blue Lake type, high quality

¹may no longer be available

²widely available

Table 12b. Snapbean Varieties Tested.

Variety	No. of years	Comparative		Comments
		yield rating	yield rating	
Amateur	1	0	51	did not germinate
Avalanche	1	58	0	
Beryl	1	0	86	too late
Burpee's Brittle Wax	1	41	82	poor quality
Bush Blue Lake 47	2	67	22	
Bush Blue Lake 92	1	50	75	
Bush Blue Lake 94	1	38	76	
Bush Blue Lake 274	1	14		
Bush Blue Lake 290	1	28		
Bush Blue Lake Advance	1	78		good quality
Bush Blue Lake Rio	2	44		
Bush Romano	1	0		too late
Checkmate	2	66		
Daisy	1	49		
Dubresco	1	0		did not germinate
Dutch Stringless	1	26		
Dwarf Kentucky Wonder	1	31		
Eagle	2	47		
Earlipol	1	0		too late
Epoch	1	18		got washed out
Executive	1	43		
Experimental 116	1	30		
Flits Dutch Stringless	1	51		
Frenchie	1	37		short, slender pods
Gaelic	1	0		quality too poor to harvest
Gator Green	1	24		poor germination
Gina	1	53		flat
Gitana Dwarf French	1	11		
Gold Crop	1	82		
Golden Butterwax	1	35		
Golden Rod Wax	1	61		
Goldimmens	1	17		poor color, germination
Greencrop	2			quality
Green Needle	1			did not germinate
Greenpak	1			
Green Ruler	2			flat, good quality
Greenway	1			
Harvester	1			
Honey Gold Wax	6			some disease resistance, good quality
Jumbo	1			
Kentucky Wonder Bush	1			did not germinate
Keygold Wax	1			new to trials
Limelight	1			flat
Majestic Wax	1			
Moongold Wax	1			poor yield
Plano	1			too late
Rainier	1			
Roma	3			flat
Roma II	3			flat
Royal Burgundy	1			purple pod
Rustproof Golden Wax	1			poor quality
Salem Blue Lake	1			good quality
Selka Improved Runner	1			too late
Spartan Arrow	5			good quality, straight
Spring Green	1			
Stretch	1			
Sungold	1			
Tendercrop	1			
Topcrop	1			
White Half Runner	1			
White Seeded Provider	1			
Widuco	1			did not germinate
Wondergreen	1			

SUMMER SQUASH

Cultural Practices

Summer squash transplants were seeded 3.5 weeks before the scheduled planting date in early June. The actual date of transplanting ranged from 4–8 June and the age of the transplants at transplanting ranged from 21 to 29 days. Fertilizer application averaged 1506 pounds per acre (range 1120 to 2018) 10–20–20 with K as K₂S₀₄. Plants were grown through 1.5–mil clear polyethylene mulch. In 1985 plants were also covered with slit plastic row covers from 21 June to 8 July. Plants were spaced 3 feet apart in rows 5 feet apart. Premerge 3 herbicide at a rate of 1 gallon per acre was applied prior to application of the plastic mulch. (Note. EPA removed Premerge's clearance in 1986. Alanap-3 is a possible substitute.) Summer squash were harvested immature while the skin was still tender. Average yields (in pounds per 100 feet) calculated for the top 5 varieties in each year were:

1978	1119.2	1982	1142.7
1979	1296.4	1983	1181.0
1980	801.6	1984	1073.5
1981	363.8	1985	667.8

Yields for yellow squash were lower than for green zucchini-type squash; however, as these are preferred by some people, we have included the best yellow varieties in the recommended list.

Table 13a. Recommended Summer Squash Varieties.

Varieties	Seed sources	Years tested	Avg. yield for Comparative		Avg. wt. (lb)	Avg. days Range of days		Comments
			years tested (lb/100 ft)	yield rating		to first harvest	to first harvest	
Hyzini	FM	79, 80	1197.5	114	1.4	44.5	43–46	zucchini type, straight cylindrical shape
Greenzini	FM	79, 80, 82	1129.9	105	1.1	44.7	39–50	zucchini type, dark glossy green
Zucchini Elite	H	82–85	1050.7	103	0.9	37.8	30–49	zucchini type, dark green long slim fruit
Buccaneer	J	83–85	979.8	101	0.9	38.0	30–51	zucchini type, dark green fruit with lighter flecking
Senator	Se ¹	83–85	940.1	97	0.9	38.3	33–47	zucchini type, medium dark green fruit
Greyzini	St, F, RS	78, 81–85	906.5	98	0.8	39.0	30–51	light medium green, tapered fruit
Gold Rush	St, P, Tw ²	79–85	716.3	77	0.6	41.9	30–54	deep gold zucchini, slender fruit
Seneca Prolific	P, Ts, Bu ²	78, 81–85	546.6	59	0.6	42.0	33–54	creamy yellow straightneck

¹may no longer be available

²widely available

Table 13b. Summer Squash Varieties Tested.

Variety	No. of years	Comparative yield rating	Comments
Aristocrat	4	71	zucchini type
A & C Improved	1	88	zucchini type
Black Beauty	1	104	zucchini type
Black Eagle	4	83	zucchini type
Black Jack	1	102	zucchini type
Black Magic	1	69	zucchini type
Black Satin	1	74	zucchini type
Black Zucchini	4	79	zucchini type, early fruit, poor quality
Blondy	1	54	light green, novelty
Clarita	1	84	stubby shape, light green
Cracker	1	19	yellow semi-crook neck, poor quality
Daytona	2	21	yellow crook neck
Dixie	1	51	yellow crook neck
Early Prolific	1	68	yellow straight neck
Early Summer Crookneck	1	14	yellow crook neck
Elini	1	81	zucchini type
Gold Strike	1	37	yellow straight neck
Goldbar	1	67	yellow straight neck
Golden Bush Scallop	1	11	scalloped type
Golden Eagle	1	47	yellow straight neck
Gourmet Globe	2	64	round zucchini
Green Magic	3	90	zucchini type
Ingot	1	69	yellow straight neck
Kuta	3	82	light green, novelty
Market King	1	60	yellow straight neck
Milano	1	104	zucchini type, some plants produced striped fruit
Moneymaker	1	44	yellow straight neck
Park's Green Whopper	1	88	zucchini type
Peter Pan	1	28	scalloped type
President	3	91	zucchini type
Richgreen	3	87	zucchini type
Rocky Gold	1	34	gold zucchini
Royal Knight	1	44	novelty
Scallopini	2	41	scalloped type
Seneca	1	69	zucchini type
Seneca Butterbar	1	53	yellow straight neck
Seneca Gourmet	1	78	zucchini type
Smoothie	2	63	yellow straight neck
Summer sun	1	86	yellow semi-crook neck
Sunburst	1	37	scalloped type
Sundance	6	66	yellow crook neck
White Zucchini	1	65	cream colored zucchini
Zucchini Select	1	107	zucchini type
Zucco	1	77	zucchini type

WINTER SQUASH

Cultural Practices

Winter squash transplants were seeded 4.5 weeks before the scheduled planting date in early June. The actual date of transplanting ranged from 4 – 8 June and the age of the transplants at transplanting ranged from 30 to 36 days. Fertilizer application averaged 1506 pounds per acre (range 1120 to 2018) 10–20–20 with K as K₂SO₄. Plants were grown through 1.5–mil clear polyethylene mulch. In 1985 plants were also covered with a slit plastic row cover from 21 June to 8 July. Plants were spaced 8 feet apart (except in 1980–82, when bush types were spaced 5 feet apart, 1979, when spacing was 6 feet, and 1978, when spacing was 6.5 feet with bush types at 5 feet) in rows 8 feet apart. Premerge 3 herbicide at a rate of 1 gallon per acre was applied prior to application of the plastic mulch. (Note. EPA removed Premerge's clearance in 1986. Alanap-3 is a possible substitute.) Winter Squash should be well matured and the shell hard before harvesting. They were usually harvested just prior to the first fall frost as they do not store well if injured by hard frost. Average yields (in pounds per 100 feet) calculated for the top 5 varieties in each year were:

1978	739.4	1980	361.2	1984	1115.0	1982	631.9
1979	690.0	1981	263.3	1985	645.4	1983	977.7

Many different types of winter squash were tested in our trials. The Acorn type (*Cucurbita pepo*) is a deeply furrowed small squash with pointed blossom end. Butternut squash (*C. moschata*) has a neck narrower than the base, with a thin hard tan rind. Squashes in the species *C. maxima* include: Hubbard types, with warted fruits constricted at both ends; Delicious types, top-shaped and warted; Marrow types, with lemon shape and irregular rind surface; Buttercup or Turban type, where the rind does not cover the ovary at the blossom end of the squash; and Banana types, smooth to slightly warted elongate fruits with pointed ends. The best varieties of several types and sizes were included in the recommended variety list.

Table 14a. Recommended Winter Squash Varieties.

Varieties	Seed sources	Years tested	Avg. yield for years tested (lb/100 ft)	Comparative yield rating	Avg. wt. (lb)	Comments
Hungarian Mammoth	St, Gu	84–85	1470	167	36.2	oval shape, rind color variable
Improved Hubbard	St, NK, WD	83–84	1220	117	21.9	dark green rind, thick flesh
Sweet Meat	H, Ar	82–85	748	89	10.7	flattened round shape, slate gray rind
Boston Marrow	*	78–82,84	701	110	16.8	large Marrow type, orange rind
Pink Banana	H, A&C, Ar	79–85	602	89	16.3	Banana type, light yellow rind
Faribo Hybrid R	*	78–80, 82, 83	547	80	6.3	Delicious type, orange rind
Sweet Mama	St, P, Tw ¹	78–79, 81–85	444	61	5.5	dark green rind, drum shaped
Golden Hubbard	St. Tw. Se	79–85	434	65	7.3	orange–red rind, deep orange flesh

*no known source

¹widely available

Table 14b. Winter Squash Varieties Tested.

Variety	No. of years	Comparative Avg. wt.		Comments
		yield rating	(lb)	
Autumn Pride	1	23	20.2	bush habit, orange Hubbard type
Baby Blue	3	34	3.9	blue-green rind, flattened globe
Baby Butternut	1	0		Butternut type, did not mature
Baby Green Hubbard	1	92	9.6	dark green rind
Baby Hubbard	2	59	8.3	orange rind
Burpee's Butterbush	2	0		Butternut type, did not mature
Bush Buttercup	1	99	5.7	bush habit, Buttercup type
Butterball	1	30	3.2	grey-green rind, flat oval shape
Butterbar	1	68	5.4	
Buttercup	4	47	4.2	Buttercup type
Delica	1	83	3.4	green rind, flat globe shape
Early Butternut	1	0		Butternut type, did not mature
Emerald	1	35	3.0	bush habit, green rind, Buttercup type
Gold Nugget	1	49	1.4	small Buttercup type, bush habit
Golden Turban	1	0		Buttercup type, did not mature
Green Delicious	1	52	6.3	delicious type
Green Hokkaido	1	40	5.4	slate green rind, fruits slightly ribbed and rounded
Green Hubbard	2	55	12.3	dark green rind
Kindred	1	41	3.2	orange rind, buttercup type
Little Gem	2	67	3.8	gold, miniature Hubbard type
Moregold	1	90	5.6	
New Buttercup	1	51	5.2	Buttercup type
Perfection	1	66	3.6	dark green rind, drum shape
Red Kuri	1	89	3.2	teardrop shape, bright red-orange rind
Show King	1	118	46.0	variable rind color, round shape, very large
Table Ace	1	10	3.2	Acorn type
Table Gold	1	0		Acorn type, did not mature
Tahitian	1	0		Butternut type with long curved neck, did not mature
Turk's Turban	1	70	5.4	Buttercup type

SWEET CORN

Cultural Practices

Sweet corn was seeded from 2–20 May. Fertilizer application averaged 1524 pounds per acre (range 1120 to 1834) 10–20–20 with K as K_2SO_4 . Plants were seeded at 1 foot spacing, 3 seeds per hole, with rows 5 feet apart, and were covered with 1.5–mil clear polyethylene mulch. AAtrex 80W herbicide at a rate of 3/4 pounds per acre was applied prior to application of the plastic mulch. When the corn plants were 3–6 inches tall and the weather warm, the plastic mulch was slit to allow the plants to emerge from the mulch. Additional fertilizer, 35 pounds per acre nitrogen as 20–20–20 soluble fertilizer, was applied through the drip irrigation when corn was approximately 12 inches tall. Sweet corn was harvested when the kernels were pale yellow and plump, with ears filled out almost to the tip and when the juice had turned from clear to milky. Average yields (in pounds per 100 feet) calculated for the top 5 varieties in each year were:

1979	260.2	1983	281.6
1980	90.0	1984	44.5
1981	71.8	1985	64.2
1982	152.3		

Table 15a. Recommended Sweet Corn Varieties.

Varieties	Seed sources	Years tested	Avg. yield for years tested (lb/100 ft)	Comparative yield rating	Avg. wt. (lb)	Avg. days to first harvest	Range days of first harvest	Comments
Polar Vee	St, V, T&M	80–85	128.8	110	9	93.3	81–108	uniform ears, good quality
Earlivee	St, V, J ¹	79–85	122.7	89	10	103.4	90–120	high quality
Early Arctic	T&T, T&M	81, 82	111.1	99	10	113.0	106–120	late
Yukon Chief		80–85	74.3	63	5	91.0	78–110	early, open-pollinated, variable

¹widely available

Table 15b. Sweet Corn Varieties Tested.

Variety	No. of years	Comparative yield rating	Comments
75-1637*	2	74	
Alta Gold	1	56	variable maturity
Amazing Early Alberta	1	17	flint corn
Ashworth	2	18	
Aztec	1	0	did not mature
Beacon	2	52	
Blitz	2	0	did not mature
Borealis	2	16	
Butter Vee	6	73	did not mature 1 year
Butter & Sugar	1	8	bicolor
Candidawn	3	26	did not mature 1 year
Classic Touch	1	0	did not mature
CR 7801*	1	109	
Dawn	2	16	did not mature 1 year
Earligem	2	73	did not mature 1 year
Earliglo	1	0	did not mature
Earliking	6	53	did not mature 1 year
Early Gold & Silver	2	5	bicolor, did not mature 1 year
Early Golden	1	0	did not mature
Early Sunglow	3	48	did not mature 1 year
Early Sunray	2	12	did not mature 1 year
Explorer	2	19	did not mature 1 year
Extra Early Super Sweet	1	0	did not mature
Extra Early Sweet	1	0	did not mature
Faribo Sugar & Gold	5	36	bicolor, did not mature 1 year
First In	1	5	
First of All	1	21	
Garden Treat	1	72	
Gold Crest	2	5	did not mature 1 year
Golden Beauty	2	0	did not mature
Golden Earlipak	2	46	
Golden Miniature	1	65	
Golden Vee	4	0	did not mature
J-6 Cross	1	108	
Kelvedon Glory	1	2	very late
Kelvedon Sweetheart	1	44	
Marcross	1	0	did not mature
Morden 71112*	1	9	
Morden 71276*	4	46	did not mature 1 year
Morning Star	4	69	
MTD 481*	2	11	
MTD 482*	2	0	did not mature
MTD 483*	2	2	very late, did not mature 1 year
MTD 484*	2	37	did not mature 1 year
MTD 485*	2	0	did not mature
MTD 487*	2	0	did not mature
MTD 488*	2	0	did not mature

Variety	No. of years	Comparative yield rating	Comments
MTD 489*	2	0	did not mature
New Dorinny	1	73	
Northern Sweet	2	1	very late, did not mature 1 year
Northern Vee	5	68	variable quality
Northlite	2	23	
Onthyb 741*	5	68	did not mature 2 years
Onthyb 742*	1	0	did not mature
Onthyb 802*	1	125	experimental, seed not available
Onthyb 803*	4	62	did not mature 1 year
Onthyb 804*	5	87	did not mature 2 years
Onthyb 805*	4	72	did not mature 1 year
Onthyb 806*	3	44	
Onthyb 806*	3	44	
Onthyb 808*	1	1	very late
Onthyb 809*	3	40	
Onthyb 811*	1	93	
Onthyb 812*	1	28	late
Peaches & Cream	3	0	bicolor, did not mature 2 years
Pearls & Gold	1	0	bicolor, did not mature
Royal Crest	1	0	did not mature
Seedway Beauty	1	20	
Seneca 60	1	22	poor quality
Seneca Horizon	1	24	
Seneca Pathfinder	1	0	did not mature
Seneca Sunbeam	2	35	
Silver Sweet	1	14	
Six Shooter	2	0	did not mature
Spring Crystal	3	0	white, did not mature
Spring White	2	76	white
Sprite	1	2	
Starbrite	1	50	
Sugar & Gold	3	62	bicolor
Sunny Vee	3	54	did not mature 1 year
Sweet Beauty	2	36	
White Sunflower	2	3	white, very late, did not mature 1 year

*experimental varieties, seed not available

CONTAINER TOMATOES

Cultural Practices

Container tomatoes were seeded 6 to 10 weeks prior to 1 June (26 March – 19 April), transplanted into 4 inch pots after the development of the first true leaves and transplanted into 8 1/2 inch diameter x 8 1/2 inch deep No. 2 nursery containers in early May. In 1985, 30 grams of Osmocote 14-14-14 were placed in the nursery container at time of transplanting. Plants were fertilized weekly with 20-20-20 soluble fertilizer applied at a rate of 1 tablespoon per gallon of water. Container tomatoes were grown in the greenhouse until about the first of June and then were placed outdoors in a cold frame. Tomatoes were harvested at the fully pink to red ripe stage. For home use, tomatoes may be left on the vine until they are fully colored if the maximum daily temperature is below 75 degrees Fahrenheit. However, under any conditions they should be harvested while still firm. Average yields (in pounds per plant) calculated for the top 5 varieties in each year were:

1982	2.1	1984	1.8	1986	2.9
1983	1.7	1985	3.8		

Tomatoes grown in containers can be protected from frosts and inclement weather by moving the container indoors or to a sheltered area, thus effectively extending the production period. Many people also prefer the flavor of container tomatoes (which they find more like the greenhouse varieties) to that of the early garden varieties.

Table 17a. Recommended Container Tomato Varieties.

Varieties	Seed sources	Years tested	Avg. yield for years tested (lb/plant)	Comparative yield rating	Avg. wt. (oz.)	Avg. date of first harvest	Range dates of first harvest	Comments
Goldie	P	85-86	4.0	119	1.0	7/12	7/8-7/15	round 1" golden fruit, good flavor, firm flesh
Basket King	Bu	82-86	3.1	122	1.1	7/14	7/1-7/30	consistent high yields
Pixie	Bu, WD, B	82-86	2.7	111	1.7	7/18	7/13-7/30	very good flavor, fruit size variable

Table 17b. Container Tomato Varieties Tested.

Variety	No. of years	Comparative yield rating	Comments
Better Bush	2	54	very large fruit
Bitsy	2	103	fair flavor
Burgess Early Salad	1	101	new to trials
Celebrity	1	20	
City Best	1	90	
Florida Petite	1	97	poor quality
Heartland	1	32	
Minibel	1	54	
Patio	1	41	
Presto	1	108	large cherry tomato
Revolution	1	33	
Tiny Tim	1	41	cherry tomato
Toy Boy	3	87	excellent flavor

TOMATOES

Cultural Practices

Tomato transplants were seeded 7 weeks before the scheduled planting date in early June. The actual date of transplanting ranged from 31 May – 6 June and the age of the transplants at transplanting ranged from 45 to 60 days. Fertilizer application averaged 1539 pounds per acre (range 1120 to 2018) 10–20–20 with K as K_2SO_4 . Plants were grown through 1.5–mil clear polyethylene mulch. In 1979 and 1985, plants were also covered with clear polyethylene tunnel row covers during early June. There is some danger of delaying fruit set by use of row covers on tomatoes. Rows were 5 feet apart with plants spaced at 2.3 feet in 1982–5, at 3 feet in 1980–81, and at 2.5 feet in 1978–9. Premerge 3 herbicide at a rate of 1 gallon per acre was applied prior to application of the plastic mulch. (Note. EPA removed Premerge's clearance in 1986. Treflan was used with good results on other tomato studies in 1986 and 1987.) Tomatoes were harvested at the fully pink to red ripe stage. For home use, tomatoes may be left on the vine until they are fully colored if the maximum daily temperature is below 75 degrees Fahrenheit. However, under any conditions they should be harvested while still firm. Average yields (in pounds per 100 feet) calculated for the top 5 varieties in each year were:

1978	93.8	1982	89.8
1979	80.1	1983	154.8
1980	5.0	1984	122.4
1981	26.5	1985	73.3

Many experimental varieties from breeding programs at the University of Idaho, Oregon State University, and from Simcoe, Ontario were tested. Some of the varieties from Idaho (identified by number only) were among our top rated varieties; however, as they have not been released to the public, we did not include any in our list of recommended varieties.

Table 16a. Recommended Outdoor Tomato Varieties

Varieties	Seed sources	Years tested	Avg. yield for years tested (lb/100 ft)	Comparative yield rating	Avg. wt. (oz)	Avg. days to first harvest	Range of days to first harvest	Comments
Subarctic 25	D, JH	78, 85	106.3	127	1.2	49.5	38–61	earliest ripe fruit
Sprint	J	82, 85	87.3	107	1.3	61.5	61–62	
Gem State	J, M	82–85	86.9	79	1.0	57.0	42–71	good flavor

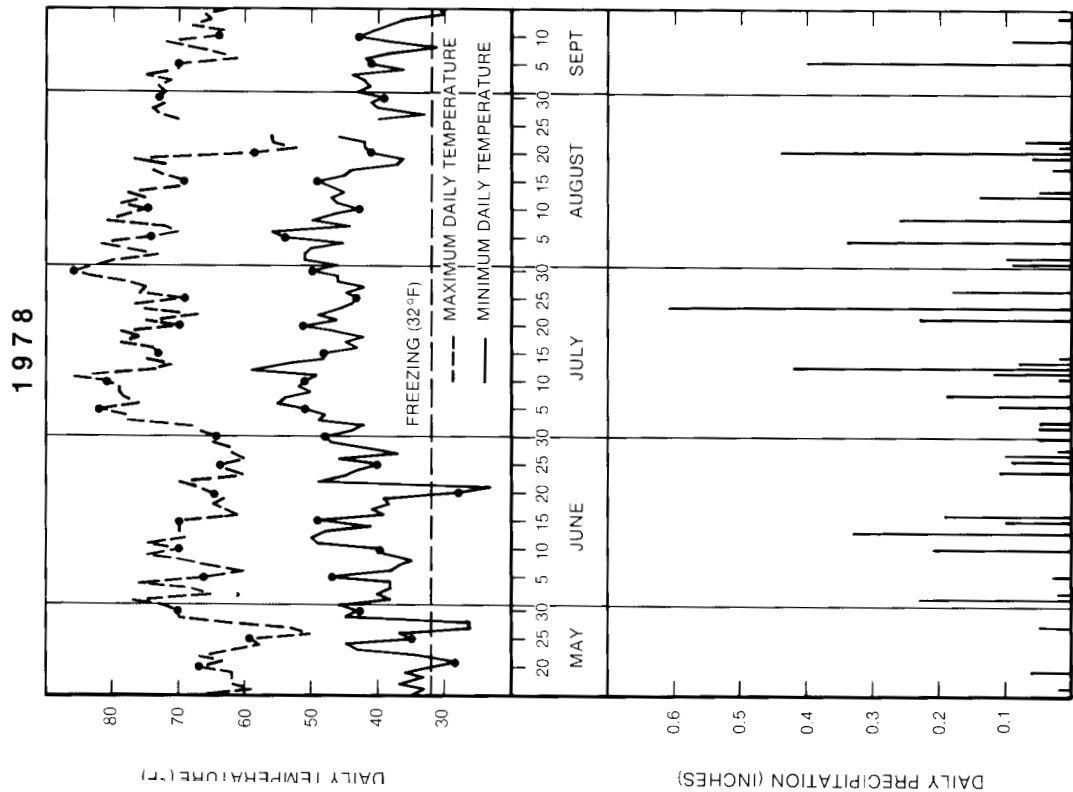
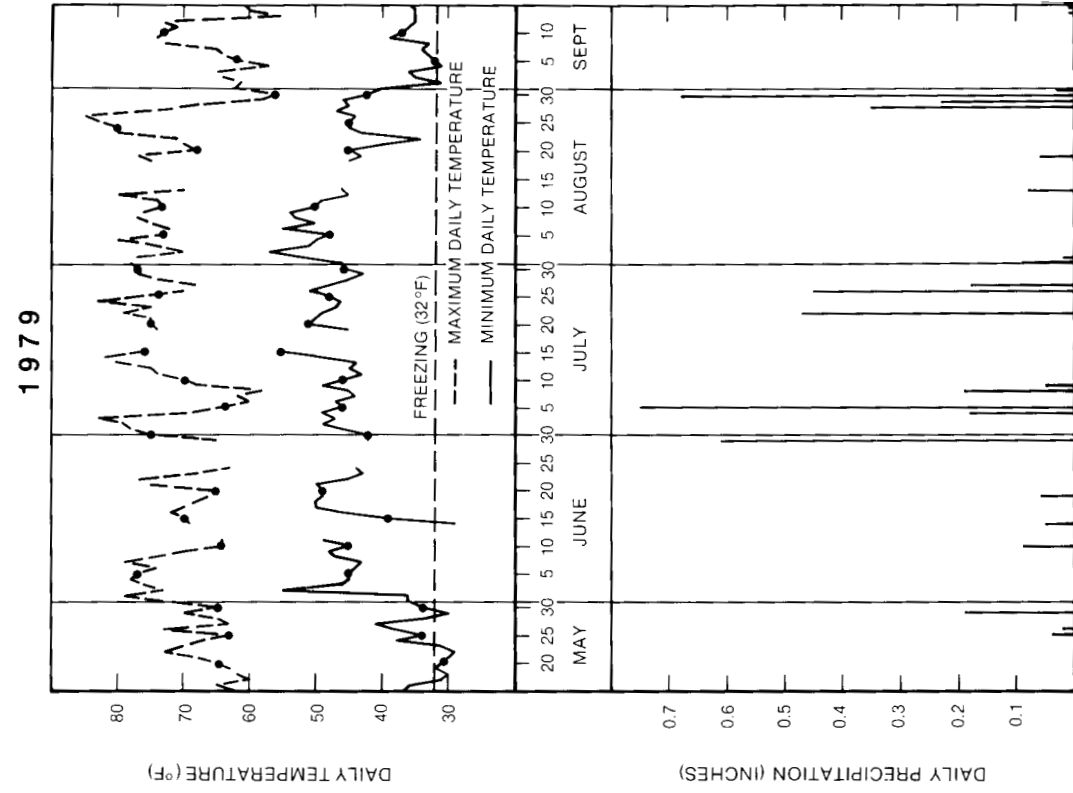
Table 16b. Tomato Varieties Tested, cont.

Variety	No. of years	Comparative yield rating	Comments
Santiam	1	71	new variety
Scotia	1	0	no ripe fruit
Severianin	2	123	very late, did not ripen 1 year, large fruit
Sheyenne	1	0	no ripe fruit
Shirley	1	1	very late
Shoshone	5	65	
Siberia	2	22	
Sigmabush	1	28	
Sleaford Abundance	3	79	late
Springset	2	15	did not ripen 1 year
Sprinter	1	0	no ripe fruit
Starfire	2	19	large fruit, did not ripen 1 year
Starshot	1	0	no ripe fruit
Stokes Early	1	4	very late
Stokesalaska	1	14	
Subarctic Cherry	1	53	
Subarctic Early	1	26	
Subarctic Maxi	2	20	
Subarctic Plenty	5	59	small fruit size
Sunset	1	0	no ripe fruit
Super Marmande	1	19	
Super Roma	1	0	no ripe fruit
Super Sioux	1	0	no ripe fruit
Super Star	1	0	no ripe fruit
Superarctic F2	1	56	larger fruit
Sweet-n-Early	1	17	
Swift	1	0	no ripe fruit
T11-2	1	85	
T 54-3	1	214	experimental variety, poor flavor
Tanana	5	21	
Toy Boy	1	17	
Whippersnapper	1	9	
Willamette	1	0	no ripe fruit

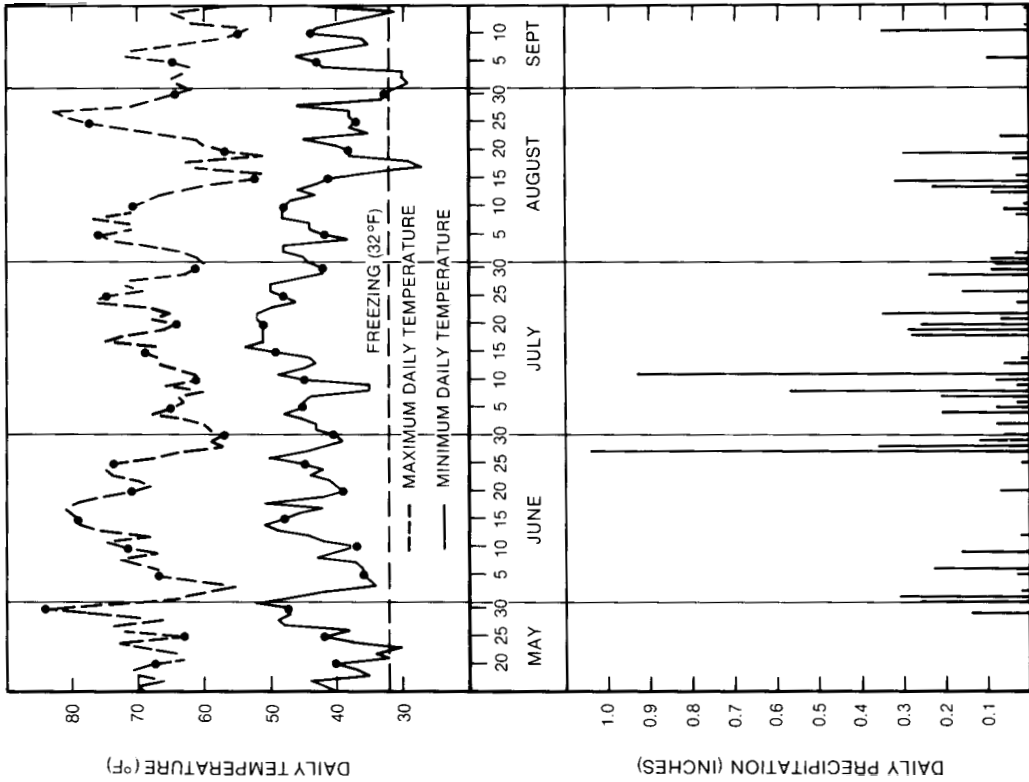
Variety	No. of years	Comparative yield rating	Comments
Willamette Cherry	1	45	cherry tomato
1*	1	34	
4*	3	79	
18*	3	74	consistent yields
22*	1	58	
24*	2	62	
25*	1	39	
29*	1	51	medium fruit
31*	1	25	
35*	1	16	
37*	2	57	
38*	2	81	
39*	2	83	
43*	1	8	
44*	1	1	very late
45*	1	11	
46*	1	23	
61*	1	4	very late
63*	3	107	high yields, late
68*	3	40	
69*	1	24	large fruit
73*	3	90	good flavor
74*	1	0	no ripe fruit
268*	2	34	large fruit, late
823*	1	19	
4957*	1	1	very late
4965*	1	37	

*experimental variety, seed not available

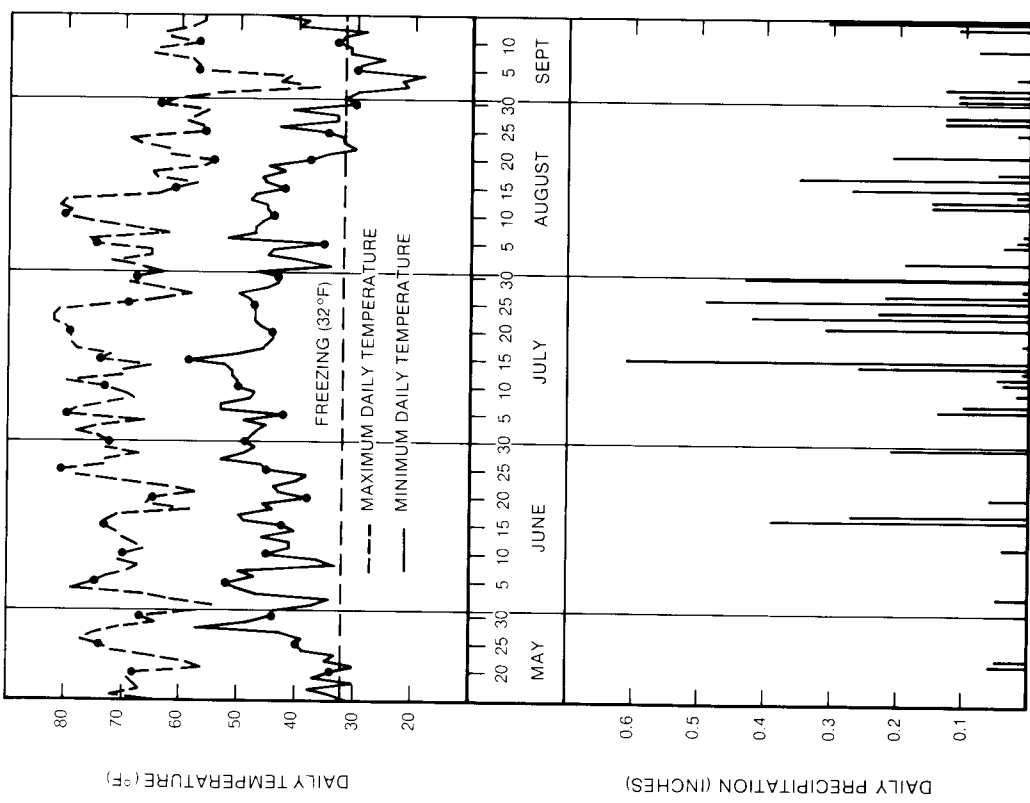
APPENDIX 1. WEATHER DATA



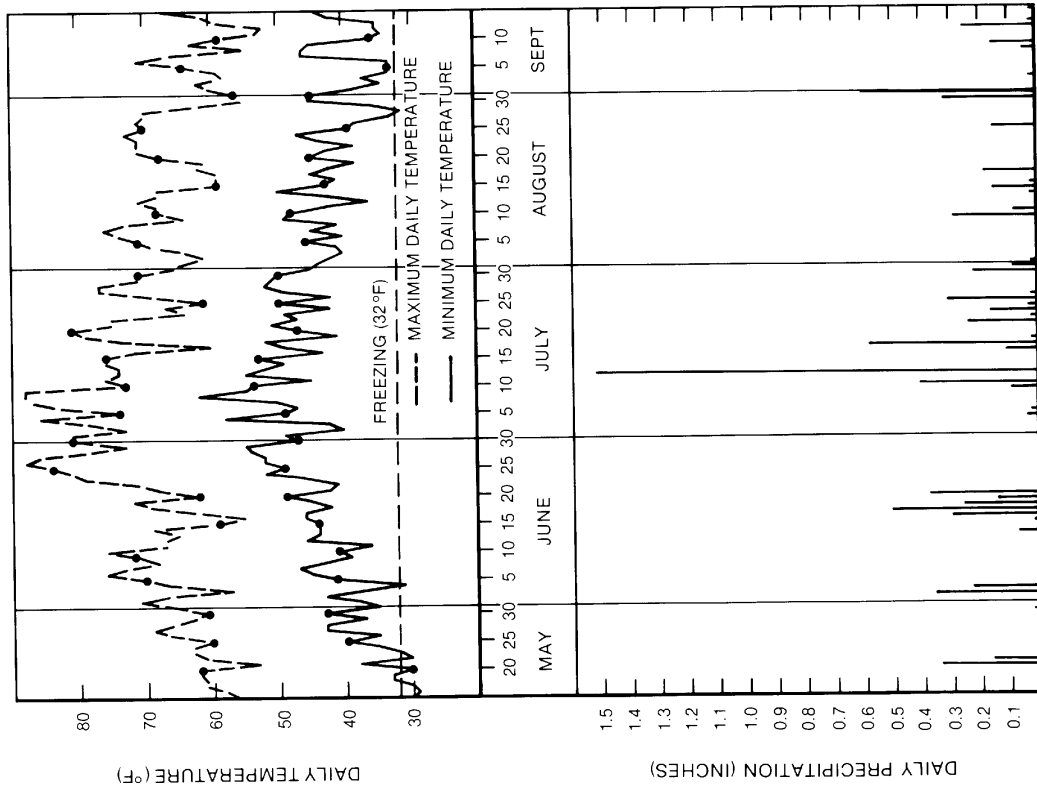
1981



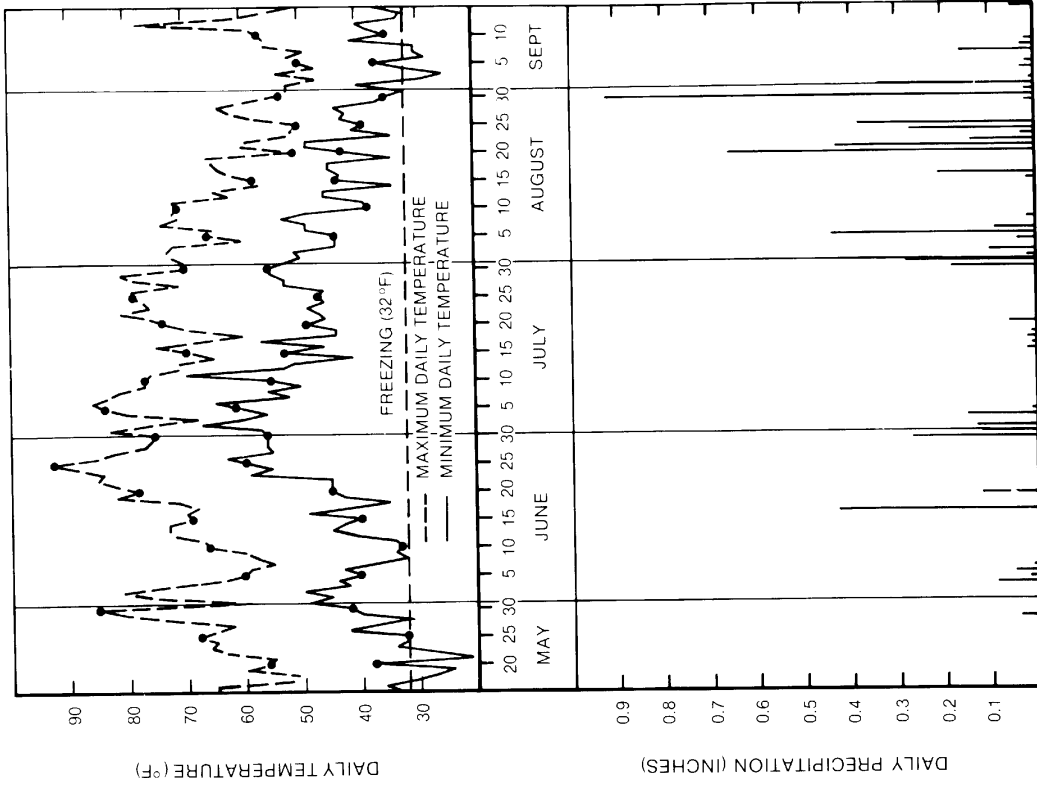
1980



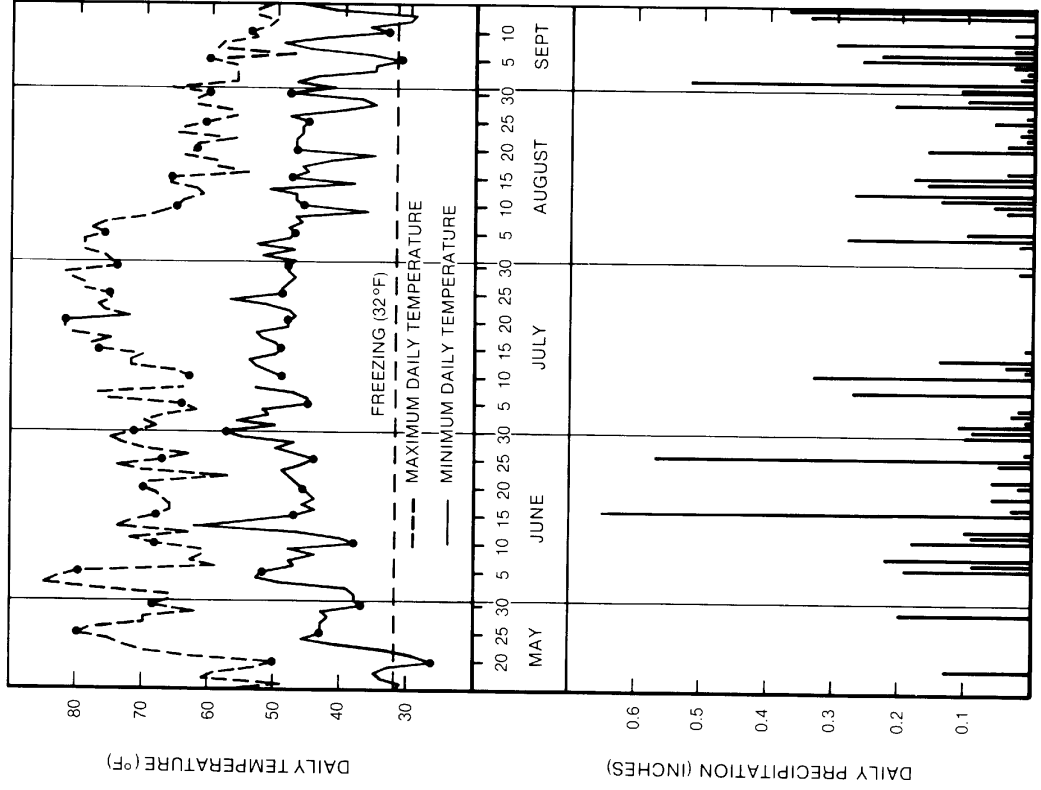
1982



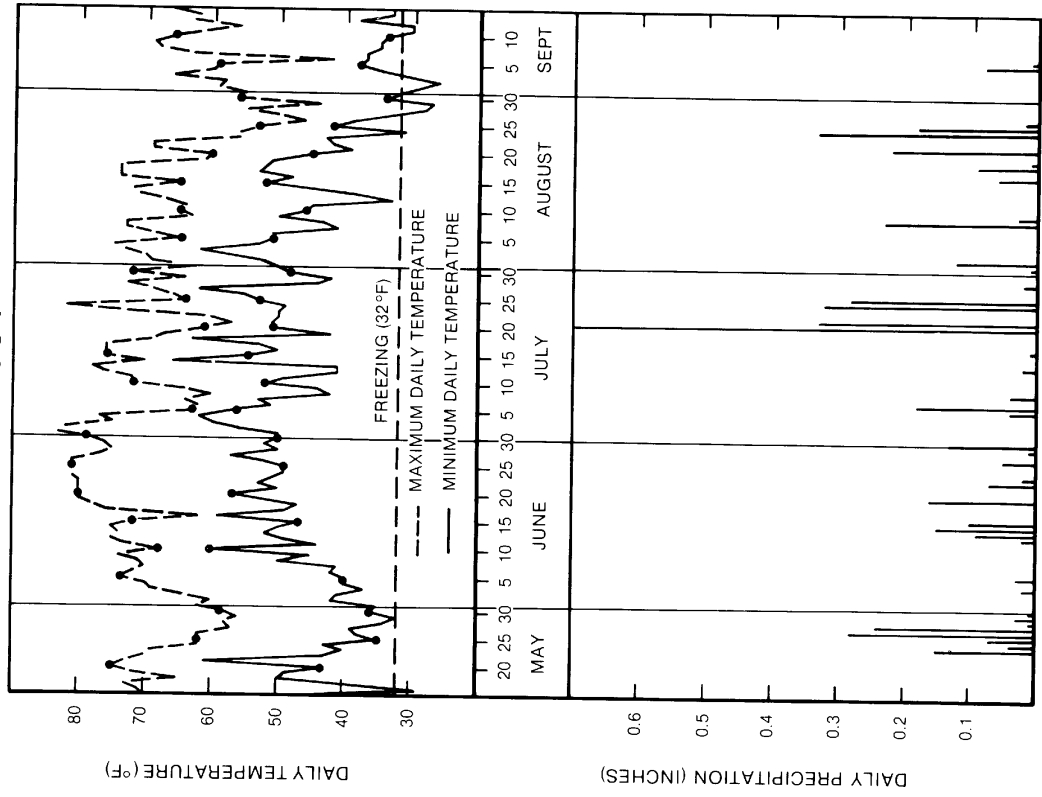
1983



1985



1984



APPENDIX 2. SEED SOURCES

A	Asgrow Seed Company, 7000 Portage Rd., Kalamazoo, MI 49001
A&C	Abbot and Cobb, Inc., P.O. Box 307, Feasterville, PA 19124
ACI	Alaska Crop Improvement Assoc., P.O. Box 895, Palmer, AK 99645
Ag	Agway, Inc. Seed Plant, 1225 Zeagcr Rd., Elizabethtown, PA 17022
Al	Alberta Nurseries & Seeds Ltd., Box 20, Bowden, Alberta TOM OKO, Canada
Ar	Arco Seed Company, Box 181, El Centro, CA 92244-0181
B	Ball Seed Company, P.O. Box 335, West Chicago, U. 60185
Bu	W. Atlee Burpee & Co., 300 Park Ave., Warminster, PA 18991
D	Denali Seed, Anchorage, AK 99511-1425
F	Farmer Seed & Nursery Co., Faribault, MN 55021
FM	Feny-Morse Seed Co., P.O. Box 4938, Modesto CA 95352
G	H.G. German Seeds, Inc., Box 398, Smethport PA 16749
Gu	Gumey Seed & Nursery Co., Yankton, SD 57079
H	Harris Moran Seed Co., 3670 Buffalo Rd., Rochester, NY 13624
J	Johnny's Selected Seeds, Foss Hill Rd., Albion, ME 04910
JH	John Holm, P.O. Box 1196, Fairbanks, AK 99707
M	Mountain Seed & Nursery, Box 271, Rt. 1, Moscow ID 83843
NK	Northrup King Co., Horticultural Division, P.O. Box 949, Minneapolis, MN 55440
P	Park Seed Co., Greenwood, SC 29647-0001
RS	Royal Sluis, Inc., 1293 Harking Rd., Salinas CA 93907
Se	Seedway, Inc., Hall, NY 14463-0250
S&G	Sluis & Groot of America, 124A Griffin St., Salinas, CA 93907
St	Stokes Seeds Inc., P.O. Box 548, Buffalo NY 14240-0548
T&M	Thompson & Morgan, P.O. Box 1308, Jackson, NJ 0S527
T&T	T&T Seeds, Ltd., Box 17100, Winnipeg, Manitoba R3C 3P6, Canada
Tw	Otis S. Twilley Seed Co., Inc., P.O. Box 65, Trevoise, PA 19047
V	Vesey's Seeds, Ltd., York, Prince Edward Is. COA 1PO, Canada
VB	Vermont Bean Seed Co., Garden Lane, Fair Haven, VT 05743
WD	William Dam Seeds. P.O. West Flamboro, Ontario LOR 2KO, Canada