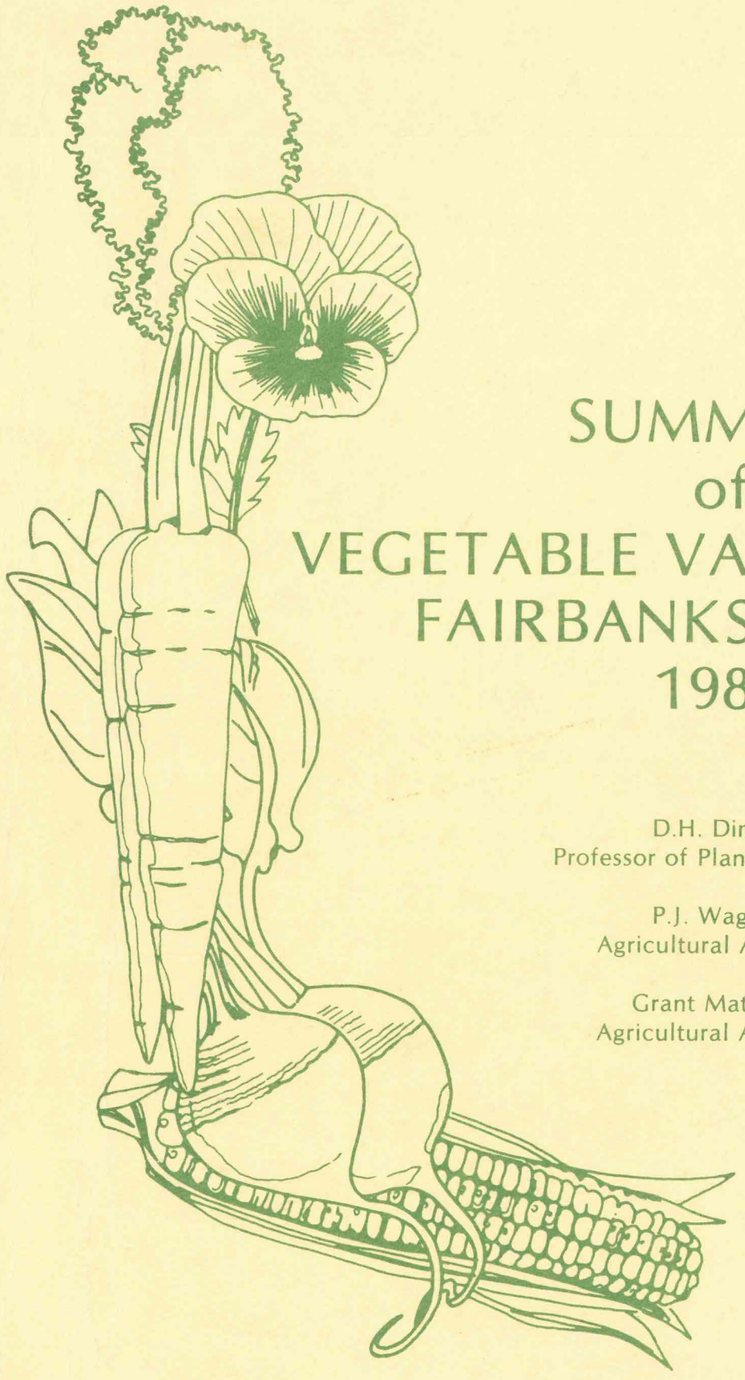

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Introduction

This report summarizes the vegetable variety evaluations of the Horticulture Department of the University of Alaska, Fairbanks, 1980. Variety trials were conducted at the Agricultural Experiment Station's research farm. Additional potato variety trials were conducted at Delta Junction, Alaska.

The objective of this research is to select varieties of vegetables that are adapted to this environment. It also identifies types whose adaptability may be improved through development of cultural techniques. The selection effort is directed at finding varieties useful to commercial and home-garden growers.

Varieties are chosen for inclusion in the variety tests on the basis of their description, their latitiude of origin, and the record of the plant-breeding program for producing kinds that have previously been found adapted. Standard recommended varieties are included for comparison.

In the past, the vegetable variety evaluation program has been responsible for a continuous improvement in yields, quality, and dependability for many vegetable crops. Our philosophy is to depend upon the many existing plant-breeding programs instead of investing in an expensive, on-site, plant-breeding program. Progress can be made more rapidly by selection than by breeding.

Growing-Season Summary

The climatic data in Table 1 shows that the 1980 growing season at Fairbanks was cooler than the 34-year average mean temperature. Growth and maturity of most crops were delayed. In addition the very hard frosts that occurred on September 1 and 2 caused a slightly shorter growing season for most crops. As a consequence of this cool, short season, fewer warm-season crops matured than in any of the previous twelve growing seasons.

Rainfall at Fairbanks was slightly above normal but soil moisture was low and irrigation was used on all crops in the Fairbanks trials.

Climatic data for the Delta Junction growing season is summarized in Table 2. The data show that the temperatures of the 1980 growing season were quite similar to the 24-year mean. There was a lower-than-normal rainfall which resulted in drier soils and, since irrigation could not be used, the yields were probably lower than normal.

Soil temperatures of the trial plots appeared to be near normal to slightly below normal for the growing season. As usual, crop growth was greatly improved where the soil temperature was improved through the use of clear polyethylene mulches or other methods.

The following tables show our results — including yields, maturity dates, and other useful characteristics and observations.

Table 1. Climatic Data for the Fairbanks Growing Season, 1979, 1980, and the Long-Term Average.

	Temp. (°F)			
	daily max.	daily min.	daily mean	Precip. (in.)
		– – – May – – –		
1980	65.2	35.6	50.4	0.11
1979	66.8	33.9	50.4	0.35
34-year av.	60.2	33.6	46.9	0.80
		– – – June – – –		
1980	69.1	49.1	~~56.6~~ 59.1	2.26
1979	69.3	44.7	57.0	0.81
34-year av.	71.7	44.1	57.9	1.48
		– – – July – – –		
1980	72.9	47.9	60.4	3.35
1979	73.4	47.4	60.4	2.36
34-year av.	72.7	46.8	59.8	2.10
		– – – August – – –		
1980	65.6	40.4	53.0	2.00
1979	73.7	47.1	60.4	1.45
34-year av.	67.3	43.0	55.2	2.44
		– – – September – – –		
1980	52.4	29.6	41.0	0.93
1979	60.6	32.3	46.5	0.21
34-year av.	55.4	33.6	44.5	1.36

Table 2. Climatic Data for the Delta Growing Season; 1979, 1980 and 24-Year Average.

	Temp. (°F)			
	daily max.	daily min.	daily mean	Precip (in.)
		– – – May – – –		
1980	64.9	43.2	53.6	0.80
1979	62.5	40.0	51.3	0.10
24-year av.	57.1	36.9	47.0	0.86
		– – – June – – –		
1980	66.6	48.8	57.7	1.98
1979	65.4	47.8	56.6	2.97
24-year av.	67.1	47.1	57.1	2.26
		– – – July – – –		
1980	70.9	52.2	61.6	1.32
1979	70.5	52.0	61.3	3.55
24-year av.	69.1	50.1	59.6	2.68
		– – – August – – –		
1980	65.3	46.4	55.8	2.44
1979	68.9	52.1	60.5	2.08
24-year av.	64.0	45.6	54.8	2.00
		– – – September – – –		
1980	51.4	34.9	43.2	0.86
1979	57.9	38.7	48.3	0.51
24-year av.	51.8	35.3	43.6	1.24

Table 3. Broccoli Variety Trials, Upland, 1980

A. E. S. Accession No.	Variety	Source[a]	Spacing plant	Spacing row	First Harvest	Terminal x̄ wt (g)	Yield (lbs/100') terminals	Yield (lbs/100') laterals	Comments
4560	Romanesco	T&M	16"	3'	8-28	1620	268	—	only one head matured
4626	Emperor	NK	"	"	7-23	351	58	467	
3816	Green Duke	P	"	"	7-16	279	46	638	nice, large heads
4240	Green Hornet	St	"	"	7-11	235	38	747	good quality
4241	Green Dwarf	St	"	"	7-11	232	38	700	nice, compact heads, large laterals
3792	Coaster	RS	"	"	7-11	227	38	754	consistent high yields
3793	Clipper	RS	"	"	7-14	224	37	763	consistent high yields
1765	Green Umbrella	D	"	"	7-14	209	35	594	
4305	Southern Comet	Ag	"	"	7-11	190	31	622	
4463	Futura	A	"	"	7-11	168	28	659	
4375	Crusader	J&P	"	"	7-14	92	15	503	
4242	Cleopatra	St	"	"	7-11	81	13	598	
4306	Waltham No. 29	Ag	"	"	7-11	66	11	571	

[a]See seed-source list.

Note: Greenhouse-grown plants, 28 days old, were transplanted into the field May 28, 1980. Fertilizer application was 1500 lbs/A 10-20-20 plus 1.0 lb/A boron and 1.2 lb/A molybdenum applied prior to rototilling.

Table 4. Cabbage Variety Trials, Upland, 1980

A. E. S. Accession No.	Variety	Source[a]	Spacing plant	Spacing row	First Harvest	Head x̄ wt (g)	Yield (lb/100')	Av. Core Length Rating[b]	Av. Density Rating[b]	Comments
4511	Hinova	Se	16"	3'	8-19	3527	583	3.1	4.0	nice, dense, large heads, large ribs
6467	Alaska 6467	AK	"	"	8-26	3171	524	—	—	good storage type
4512	Predena	Se	"	"	8-19	2973	492	2.7	3.8	nice, dense, large heads
2187	Erin	Al	"	"	7-28	2701	447	2.1	2.5	excellent flavor
4243	Quick Green Storage	St	"	"	9-1	2469	408	2.8	1.9	
4074	Savoy Chieftain	NK	"	"	8-12	2373	392	3.3	1.0	
4244	Prime Pak	St	"	"	7-30	2198	363	2.8	1.2	
844	Hybrid 15	H	"	"	7-23	2072	343	3.1	2.9	excellent flavor
4345	Baby Red Early	WD	"	"	8-4	1874	310	2.0	3.4	red
4317	Ruby Perfection	Tw	"	"	8-12	1792	296	2.7	4.8	red
4042	Red Acre	Bu	"	"	7-30	1724	285	2.2	4.6	red
4374	Ice Prince	St	"	"	8-25	1703	282	3.0	2.7	savoy
4245	Tastie	St	"	"	7-14	1519	251	1.8	4.0	nice, dense head
4402	Badger Baby Head	Gu	"	"	7-16	1302	215	24	1.8	
4552	Greyhound	U	"	"	7-14	833	138	2.2	2.5	
4043	Earliana	Bu	"	"	7-11	783	129	1.8	3.9	nice, early, small head
4384	Widi L.D.	J	"	"	7-11	612	101	2.0	3.0	pointed head

[a]See seed-sources list.

[b]Core length is noted from 1 to 5, with 1 the shortest, most desirable and 5 being the longest.

[c]Density is noted from 1 to 5, with 1 being the least dense and 5 the most dense and most desirable.

Note: Greenhouse-grown plants, 28 days old, were transplanted into the field May 28, 1980. Fertilizer application was 1500 lb/A 10-20-20 plus a 1.0 lb/A boron and 1.2 lb/A molybdenum applied prior to rototilling.

Table 5. Carrot Variety Trials, Bottomland, 1980

A. E. S. Accession No.	Variety	Source[a]	Spacing[b] (row)	Harvest	Average Size (g)	Marketable Yield (lb/100')	Comments
3588	Early Cross	Al	2'	9-5	51.4	186.7	excellent flavor
4247	Special Long Type Nantes	St	"	"	70.2	165.0	good flavor
4520	Supreme Long Chantenay	St	"	"	49.9	140.0	excellent flavor
4554	Nantes Express	U	"	"	30.0	115.0	excellent flavor
4249	Spartan Bonus	St	"	"	48.0	101.7	
3084	Spartan Winner	C	"	"	51.4	98.3	
1761	Spartan Premium	C	"	"	42.5	90.0	
4250	Super Nantes	St	"	"	44.0	75.0	good flavor
4557	Juwarot	T&M	"	"	41.8	75.0	
4553	Amsterdam Forcing Sweetheart	U	"	"	29.6	73.3	
4179	Scarlet Nantes	Hb	"	"	45.4	63.3	
4248	Spartan Fancy	St	"	"	42.5	50.0	good flavor

[a]See seed-sources list.

[b]Carrots were seeded with a Planet Junior seeder, using hole No. 8, and were not thinned.

Note: Carrots were seeded May 13, 1980. Fertilizer application was 1320 lb/A 10-20-20.

Table 6. Cauliflower Variety Trials, Upland, 1980.

A. E. S. Accession No.	Variety	Source[a]	Spacing plant	Spacing row	First Harvest	Head $\bar{x}$ wt. (g)	Yield (lb/100')	Comments
4255	Dominant	St	16"	3'	7-28	982	162	nice curd, large head, consistent high yield
4591	Nevada	RZ	"	"	7-28	794	131	
4558	Self Wrap	T&M	"	"	7-18	748	124	tying necessary
4254	Delira	St	"	"	7-21	735	122	tended to be self blanching – good wrapper leaves
4590	Starlight	RZ	"	"	7-30	729	120	nice curd, somewhat self blanching
3611	Early Snowball	NK	"	"	7-25	698	115	
4251	Snow Crown	St	"	"	7-14	653	108	
4532	White Mountain	S	"	"	7-18	643	106	poor quality
4339	Dwarf Erfurt	WD	"	"	7-16	621	103	
4533	Snowball Y	S	"	"	7-21	608	100	
4595	Early Dominant	V	"	"	7-16	596	99	
4368	Burpeeana	Bu	"	"	7-16	510	84	
4252	Snowbird	St	"	"	7-14	506	84	
4075	Super Snowball	NK	"	"	7-14	481	80	
4232	Alert	St	"	"	7-16	476	79	
3810	Early Super Snowball	P	"	"	7-11	469	78	
4253	Raket	St	"	"	7-21	448	74	

[a]See seed-sources list.

Note: Greenhouse-grown plants, 28 days old, were transplanted into the field May 28, 1980. Fertilizer application was 1500 lb/A 10-20-20 plus 1.0 lb/A boron and 1.2 lb/A molybdenum applied prior to rototilling.

Table 7. Cucumber Variety Trials, Upland, 1980.

A. E. S. Accession No.	Variety	Source[a]	Spacing plant	Spacing row	First Harvest	Yield (g)/plant	Yield (lb/100')	Average Fruit Size (g)	Comments
4421	Dasher	Tw	3'	5'	7-28	4478	329	206	slicer, attractive
4376	Supercuke	J&P	"	"	7-25	4146	305	263	slicer
4386	Suyo Long	J	"	"	8-4	3614	266	380	slicer, long shape with ridges, good flavor
4420	Triple Mech	Tw	"	"	7-25	3478	256	102	pickler
3495	A & C Hybrid	A&C	"	"	8-1	3082	227	123	slicer
4492	Spiffy	McF	"	"	7-25	2296	169	81	pickler
4217	Tiny Dill	P	"	"	7-25	1951	143	59	pickler
4504	Femcap	H	"	"	7-28	1911	140	90	pickler
4491	Early Mincu	McF	"	"	7-25	1824	134	49	pickler
4490	Alouette	McF	"	"	7-25	1731	127	39	pickler
4363	W. Indian Gherkin	Bu	"	"	8-6	59	4	10	very small, round

[a]See seed-sources list.

Note: Greenhouse-grown plants, 30 days old, were transplanted into the field June 6, 1980. Plants were grown through 1.5-mil, clear polyethylene mulch on soil fertilized with 1500 lb/A 10-20-20.

Table 8. Green Pea Variety Trials, Bottomland, 1980.

A. E. S. Accession No.	Variety	Source[a]	Block Size	First Harvest	Yield (in shell) (lb/100 ft^2)	Comments
3450	Perf Fr. 400	RB	6' x 15'	8-5	64.3	consistent high yield
3452	Sparkle	RB	" "	7-29	57.3	consistent high yield
4041	Maestro	Bu	" "	8-5	54.3	
1974	Early Frosty	Bu	" "	8-5	49.3	
3458	Fr. 70-091	RB	" "	8-14	44.3	
3273	Sugar Snap	Bu	" "	8-14	40.0	edible pod
4358	Snowbird	Bu	3' x 15'	7-24	31.7	edible pod, very early, but became over-mature rapidly
4040	Green Arrow	Bu	6' x 15'	8-14	28.4	
4395	Snowbiz	J	" "			edible pod, very large size, not harvested as stand was mixture of edible & nonedible pod types

[a]See seed-sources list.

Note: Peas were seeded in bottomland plots May 20, 1980. The fertilizer application was 1320 lb/A 10-20-20.

Table 9. Crisphead Lettuce Variety Trials, Bottomland, 1980.

A. E. S. Accession No.	Variety	Source[a]	Spacing plant	Spacing row	First Harvest	Head $\bar{x}$ wt (g)	Yield (lb/100')	Av. Core Length Rating[b]	Av. Density Rating[c]	Comments
4323	Montello	Tw	1'	2'	7-24	553	122	1	3.0	flavor good, slight bitterness
4322	Green Lake	Tw	"	"	"	534	118	1	2.6	flavor okay
3918	Ithaca	G	"	"	"	425	94	1	2.3	flavor good, slight bitterness
4268	Capitan	St	"	"						did not form usable heads (either tip burn or bolting)
4509	Commander	K	"	"						"
4398	Conquest Cross	Q	"	"						"
4407	Crisp as Ice	G	"	"						"
4397	Frontier Cross	Q	"	"						"
4399	Grand Duke	Q	"	"						"
4390	Great Lakes 118	J	"	"						"
4551	Irma	U	"	"						"
4255	Minilake	St	"	"						"
4180	Minneto	Hb	"	"						"
3806	Super 59	FM	"	"						"

[a]See seed-sources list.

[b]Core length is noted from 1 to 5, with 1 the shortest, most desirable, and 5 the longest.

[c]Density is noted from 1 to 5, with 1 the least dense and 5 the most dense and most desirable.

Note: Lettuce was seeded May 13, 1980. Fertilizer application was 1320 lb/A 10-20-20. Dry conditions early in summer resulted in tip burn and reduced yields.

Table 10. Pepper Variety Trials, Upland, 1980.

A. E. S. Accession No.	Variety	Source[a]	Spacing plant	Spacing row[b]	First Harvest	Yield (g/plant)	Yield (lb/100')	Average Size (g)	Comments
3920	Early Prolific	G	18"	18"	8-1	425.0	124.9	59.3	turns red early
4274	Earliest Red Sweet	St	"	"	9-1	152.5	44.8	67.8	
1875	Super Set No. 19	Sa	"	"	8-19	126.7	37.2	95.0	
3373	Park's Whopper	P	"	"	8-8	125.8	37.0	75.5	
4273	Stoke's Early	St	"	"	8-19	91.7	26.9	68.8	
1825	Cadice	S&G	"	"	8-15	76.7	22.5	57.5	nice, blocky
4181	Romanian Hot	Hb	"	"	8-15	61.7	18.1	28.5	hot
3469	Karlo	J	"	"	8-25	55.0	16.2	47.1	hot
4072	Hungarian Yellow Wax	NK	"	"	8-8	41.7	12.2	15.6	hot
4340	Early Calwonder	WD	"	"	9-1	39.2	11.5	47.0	
4275	Vinedale	St	"	"	9-1	17.5	5.1	21.0	
4105	Dutch Treat	AAS	"	"	8-1	5.8	1.7	11.7	pointed, yellow, sweet
4272	Crimson Hot	St	"	"					peppers did not mature
4182	Peter Piper	Hb	"	"					peppers did not mature
4046	Large Cherry	Bu	"	"					peppers did not mature

[a]See seed-sources list.

[b]Staggered spacing on 3-ft.-wide, clear, polyethylene mulch.

Note: Greenhouse-grown plants, 65 days old, were transplanted into the field June 6, 1980. Plants were grown through 1.5-mil, clear polyethylene in tents constructed from clear polyethylene. Fertilizer application was 1320 lb/A 10-20-20.

Table 11. Potato Variety Trials, Mile 1408 Alaska Highway, Delta Jct., 1980.

A. E. S. Accession No.	Variety	Source[a]	Spacing plant	Spacing row	Harvest Date	U.S. No. 1 Yield (ton/acre)	U.S. No. 1 Yield (lb/100')	Comments
227	83-13	CD	1'	3.5'	8-29	11.5	173	nice potato, slight tendency to second growth
245	31-3	"	"	"	"	11.4	172	tendency for shatter cracks
237	10-1	"	"	"	"	11.3	170	tendency for shatter cracks
232	Alaska Frostless	"	"	"	"	11.0	166	unattractive, poor potato
243	8-13	"	"	"	"	10.7	162	tendency for growth cracks
235	2-5	"	"	"	"	10.1	153	tendency for growth and shatter cracks
233	Alaska Red	"	"	"	"	10.1	152	nice potato
247	13-10	"	"	"	"	10.1	152	tendency for growth and shatter cracks
229	Highlat	"	"	"	"	9.2	138	skin cracks off and growth cracks
228	Snowchip	"	"	"	"	8.5	128	slight tendency for shatter cracks
239	87-8	"	"	"	"	8.3	125	
234	Denali	"	"	"	"	7.5	113	tendency for shatter cracks
231	24-3	"	"	"	"	7.4	112	tendency for shatter cracks & dumbell shape
241	Allagash	"	"	"	"	7.3	110	severe K deficiency evident on foliage
240	28-8	"	"	"	"	7.1	107	
236	21-6	"	"	"	"	7.1	107	severe shatter cracks
242	14-1	"	"	"	"	7.0	105	severe shatter cracks
238	27-2	"	"	"	"	6.1	92	severe shatter cracks
244	82-11	"	"	"	"	5.8	87	some K deficiency on foliage

[a]See seed-sources list.

Note: These potatoes were planted May 15, 1980, on newly cleared land. The fertilizer application was 1500 lb/A 10-20-20. Approximately 1.5-oz. seed pieces were planted 1 ft. apart in rows spaced 42 inches apart.

Table 12. Potato Variety Trials, Fett's Farm, Delta Jct., 1980.

A. E. S. Accession No.	Variety	Source[a]	Spacing plant	Spacing row	% Frosted[b] 8/2/80	Harvest Date	U.S. No. 1 Yield (ton/acre)	U.S. No. 1 Yield (lb/100')	Comments
241	Allagash	CD	1'	3.5'	20	8-29	7.3	110	tendency for growth and shatter cracks
237	10-1	"	"	"	30	"	6.8	102	
233	Alaska Red	"	"	"	25	"	6.5	97	
229	Highlat	"	"	"	20	"	6.1	92	
245	31-3	"	"	"	35	"	5.8	88	
242	14-1	"	"	"	50	"	5.8	87	
244	82-11	"	"	"	15	"	5.1	77	shatter cracks
236	21-6	"	"	"	45	"	4.8	73	
238	27-2	"	"	"	35	"	4.5	68	
235	2-5	"	"	"	35	"	4.5	68	blackleg
247	13-10	"	"	"	40	"	4.3	65	growth cracks severe
228	Snowchip	"	"	"	50	"	4.0	60	
232	Alaska Frostless	"	"	"	10	"	3.8	54	poor potato
227	83-13	"	"	"	35	"	3.2	48	shatter cracks severe
243	8-13	"	"	"	30	"	3.2	48	
234	Denali	"	"	"	50	"	2.8	43	
240	28-8	"	"	"	30	"	2.5	37	blackleg, shatter cracks
231	24-3	"	"	"	25	"	2.0	30	shatter cracks

[a]See seed-sources list.

[b]Percent foliage killed by severe frost that occurred August 2, 1980.

Note: These potatoes were planted May 15, 1980 on previously farmed ground. The fertilizer application 1500 lb/A 10-20-20. Approximately 1.5-oz. seed pieces were planted 1 ft. apart in rows spaced 42 inches apart.

Table 13. Potato Variety Trials, Fairbanks, Bottomland, 1980.

A. E. S. Accession No.	Variety	Source[a]	Soil	Spacing plant	Spacing row	Harvest Date	U.S. No. 1 Yield (tons/acre)	U.S. No. 1 Yield (lb/100')	Comments
233	Alaska Red	CD	Peat	1'	3.3'	9-3, 4	20.1	300	tendency for shatter crack, nice
			Silt	"	"	"	21.4	320	"
228	Snowchip	CD	Peat	"	"	"	21.2	316	
			Silt	"	"	"	17.5	262	
239	87-8	CD	Peat	"	"	"	19.6	292	
			Silt	"	"	"	16.8	251	
—	Green Mountain	AK	Peat	"	"	"	19.3	289	
			Silt	"	"	"	16.7	250	
244	82-11	CD	Peat	"	"	"	15.7	234	tendency to shatter crack
			Silt	"	"	"	18.9	283	
248	Red Lasoda	P&S	Peat	"	"	"	16.9	252	tendency for hollow heart and second growth
235	2-5	CD	Peat	"	"	"	16.5	246	
			Silt	"	"	"	17.2	257	
227	83-13	CD	Peat	"	"	"	17.2	257	nice shape
			Silt	"	"	"	15.9	238	"
—	Alaska 114	AK	Peat	"	"	"	15.7	235	nice potato
			Silt	"	"	"	17.4	260	"
243	8-13	CD	Peat	"	"	"	16.3	244	slight tendency to second growth
			Silt	"	"	"	16.1	240	"
237	10-1	CD	Peat	"	"	"	17.5	261	slight tendency for hollow heart
			Silt	"	"	"	14.8	221	"
—	Emmet	AK	Peat	"	"	"	17.7	264	nice shape
			Silt	"	"	"	14.2	212	"
229	Highlat	CD	Peat	"	"	"	14.2	212	severe hollow heart, immature skin
			Silt	"	"	"	16.5	246	"
241	Allagash	CD	Peat	"	"	"	15.8	236	severe hollow heart
			Silt	"	"	"	14.6	218	"
234	Denali	CD	Peat	"	"	"	16.3	244	severe growth and shatter crack
			Silt	"	"	"	14.1	210	"
—	Rote-Erstling	AK	Peat	"	"	"	12.9	194	nice shape, mature skin, yellow flesh
			Silt	"	"	"	16.2	242	"
231	24-3	CD	Peat	"	"	"	12.5	187	nice shape
			Silt	"	"	"	16.6	248	"
247	13-10	CD	Peat	"	"	"	11.8	176	severe hollow heart
			Silt	"	"	"	15.0	224	"
242	14-1	CD	Peat	"	"	"	14.4	215	tendency for shatter cracks and hollow heart
			Silt	"	"	"	12.3	184	"
245	31-3	CD	Peat	"	"	"	12.5	186	severe hollow heart and second growth
			Silt	"	"	"	14.2	212	"
232	Alaska Frostless	CD	Peat	"	"	"	11.8	176	not attractive, poor shape
			Silt	"	"	"	14.2	212	"
240	28-8	CD	Peat	"	"	"	10.8	161	severe hollow heart and growth cracks
			Silt	"	"	"	15.1	225	"
249	Norgold Russet	P&S	Peat	"	"	"	12.4	185	slight hollow heart tendency
			Silt	"	"	"	10.5	156	"
—	Bakeking	AK	Peat	"	"	"	12.2	182	nice shape, slight tendency to hollow heart
			Silt	"	"	"	11.2	168	"
236	21-6	CD	Peat	"	"	"	11.0	164	severe shatter cracks and second growth
			Silt	"	"	"	12.2	182	"
—	Swedish	AK	Peat	"	"	"	10.2	152	many small tubers, yellow flesh
			Silt	"	"	"	14.1	210	"
238	27-2	CD	Peat	"	"	"	10.4	156	severe shatter cracks and second growth
			Silt	"	"	"	10.8	160	"
—	Kennebec	AK	Peat	"	"	"	9.2	138	severe hollow heart and oversize
			Silt	"	"	"	11.2	168	"

[a]See seed-sources list.

Note: These potatoes were planted May 16, 1980 in bottomland soils at Fairbanks. Peat plots were amended with approximately 1000 yd^3/A peat which was acquired from the College Peat bogs. The pH of the peat-amended soils was 5.4 while the unamended soil was 6.7. Fertilizer was applied to both soils at a rate of 1320 lb/A of 10-20-20.

Table 14. Pumpkin Variety Trials, Upland, 1980.

A. E. S. Accession No.	Variety	Source[a]	Spacing	Harvest Date	Average Size (Kg)	Yield (Kg/plant)	Yield (lb/100')	Comments
4279	Connecticut Field	St	8'	9-1	10.43	17.39	479	
4325	Big Moon	Tw	"	9-1	23.59	15.72	433	
4307	Little Boo	Ag	5'	9-1	4.08	9.52	420	interesting white-fleshed pumpkin
3015	Spirit	St	"					not mature 9-1

[a]See seed-sources list.

Note: Greenhouse-grown plants, 30 days old, were transplanted into the ground June 6, 1980. Plants were grown through 1.5-mil, clear polyethylene. Fertilizer application was 1320 lb/A 10-20-20.

Table 15. Snapbean Variety Trials, Bottomland, 1980.

A. E. S. Accession No.	Variety	Source[a]	First Harvest	Yield (lb/100')	Comments
4396	Beurre de Rocquencourt Wax	J	8-15	97.1	
3461	Oregon 1604	RB	8-15	81.9	consistent high yield
3462	Rogers 76-102	RB	8-15	77.2	consistent high yield
4237	Honey Gold	St	8-15	73.4	
4236	Contender	St	8-15	58.1	
4302	Provider	Ag	8-12	51.5	
4316	Roma	Tw	8-15	44.5	flat bean, high quality
4347	Dutch Stringless	WD	8-15	33.7	
4235	Spring Green	St	8-15	33.1	
4556	Gitana Dwarf French	U	8-20	9.3	
4400	Moongold Wax	Gu	8-15	3.4	
4565	Selka Improved Runner	T&M			no mature beans

[a]See seed-sources list.

Note: Beans were seeded into bottomland plots May 20, 1980. The fertilizer application was 1320 lb/A 10-20-20.

Table 16. Squash, Summer, Variety Trials, Upland, 1980.

A. E. S. Accession No.	Variety	Source[a]	Spacing	First Harvest	Yield (g/plant)	Yield (lb/100')	Comments
3507	Greenzini	FM	3'	7-21	11570	850	consistent high yield and quality
4310	Black Beauty	Ag	"	7-19	11358	835	
4311	Milano	Ag	"	7-19	11350	834	some plants produced striped fruit
4534	Black Jack	S	"	7-19	11142	819	
4223	Clarita	P	"	7-19	9118	670	stubby shape, light green
3506	Hyzini	FM	"	7-19	8935	657	
4326	Aristocrat	Tw	"	7-19	8142	598	
4100	Gold Rush	AAS	"	7-19	7655	563	attractive golden yellow
4535	White Zucchini	S	"	7-19	7092	521	stubby shape, cream color
3186	Sundance	Pe	"	7-19	3990	293	crook neck, good quality
4415	Cracker	Tw	8'	7-23	5632	155	poor quality

[a]See seed-sources list.

Note: Greenhouse-grown plants, 25 days old, were transplanted into the field June 6, 1980. Plants were grown through 1.5-mil clear polyethylene. Fertilizer application was 1320 lb/A 10-20-20.

Table 17. Squash, Winter, Variety Trials, Upland, 1980.

A. E. S. Accession No.	Variety	Source[a]	Spacing	First Harvest	Average Size (Kg)	Yield (Kg/plant)	Yield (lb/100')	Comments
2018	Hybrid R	F	5'	9-1	3.80	15.20	670	good quality
4417	Boston Marrow	Tw	8'	9-1	11.96	15.95	440	
3443	Pink Banana	Ho	8'	9-1	5.14	10.28	283	
4186	Turk's Turban	Hb	5'	9-1	2.46	5.75	253	
4278	Golden Hubbard	St	8'	9-1	2.91	5.82	160	
4394	Green Hokkaido	J	5'	9-1	2.44	3.25	143	
4276	Burpee's Butterbush	St	4'					did not mature because fruit set very late
4224	Tahitian	P	8'					"
4231	Golden Turban	F	5'					"
4416	Table Gold	Tw	5'					bush type, set fruit very late

[a]See seed-sources list.

Note: Greenhouse-grown plants, 30 days old, were transplanted into the field June 6, 1980. Plants were grown through 1.5-mil, clear polyethylene. Fertilizer application was 1320 lb/A 10-20-20.

Table 18. Sweet Corn Variety Trials, Upland, 1980.

A. E. S. Accession No.	Variety	Source[a]	Spacing plant	Spacing row	First Harvest	Yield (lb/100 ft)	Comments
4259	Polar Vee	St	1'	4'	8-17	135 (215 ears)	
4260	Earlivee	St	"	"	8-25	99 (130 ears)	
4261	Northern Vee	St	"	"	8-25	79 (120 ears)	
	Yukon Chief	AK	"	"	8-25	47 (130 ears)	
4594	Aztec	V	"	"			did not mature
4258	Butter Vee	St	"	"			"
4528	Candidawn	S	"	"			"
4483	Dawn	Al	"	"			"
4067	Earliking	NK	"	"			"
4263	Early Gold & Silver	St	"	"			"
4320	Explorer	Tw	"	"			"
4227	Faribo Sugar & Gold	F	"	"			"
4527	Gold Crest	S	"	"			"
4501	Northern Sweet	St	"	"			"
4513	Peaches & Cream	Bg	"	"			"
4494	Royal Crest	McF	"	"			"
4493	Seneca Pathfinder	McF	"	"			"
4500	Sunny Vee	St	"	"			"
4262	White Sunglow	St	"	"			"

[a] See seed-sources list.

Note: Sweet corn was seeded May 7, 1980, and covered with 1.5-mil, clear polyethylene. After plants were approximately 4" tall, slits were made to allow plants to emerge from beneath the plastic. The fertilizer application was 1500 lb/A 10-20-20.

Table 19. Tomato Variety Trials, Upland, 1980.

A. E. S. Accession No.	Variety	Source[a]	Spacing plant	Spacing row	First Harvest	Yield (g/plant)	Yield (lb/100')	Average Fruit size (g)	Comments
4392	Earlirouge	J	3'	5'	9-1	97	7	138	
3475	Tanana	F	"	"	8-2	78	6	70	
1810	Sleaford Abundance	Sh	"	"	9-1	23	2	47	
4499	Basket Vee[b]	St	"	"					blossom end typically pointed, many showed cold damage
3182	Floramerica[b]	Pe	"	"					
1811	Hardicross[b]	Sh	"	"					small size
4229	Nepal[b]	F	"	"					
3811	Park's Extra Early[b]	P	"	"					
3769	Severianin[b]	OSU	"	"					necrosis around stems

[a] See seed-sources list.

[b] Produced mature green fruit, but no ripe fruit in the field. Many varieties received cold injury prior to harvest and consequently did not ripen satisfactorily indoors.

Note: Greenhouse grown plants, 52 days old, were transplanted into field June 6, 1980. Plants were grown through 1.5-mil, clear polyethlene. Fertilizer application was 1320 lb/A 10-20-20.

Miscellaneous Vegetables Tested

Crop		Source	Comment
Artichokes			
No. 3412	Green Globe	Hb	yielded 18 lb/100' at 24" spacing
No. 4635	Grand Beurre	T&M	yielded 24 lb/100' at 24" spacing
Beets			
No. 3606	Ruby Queen	NK	some bolting
No. 4226	Sweetheart	F	bolted
No. 4418	New Early	Tw	bolted
No. 1981	Burpee's Golden	Bu	golden color, good quality
No. 1908	Little Egypt	St	good
No. 4238	Spring Red	St	good
No. 4662	Avonearly	Su	good
No. 1739	Formanova	V	long shape, slight tendency to bolt
Brussels Sprouts			
No. 3798	Crenel	RS	yielded 73 lb/100' at 24" spacing
No. 3799	Craton	RS	yielded 59 lb/100' at 24" spacing
No. 3205	Green Gem	K	yielded 88 lb/100' at 24" spacing
No. 4424	Earli-Jade	A&C	yielded 101 lb/100' at 24" spacing
No. 4064	Jade Cross E	NK	yielded 81 lb/100' at 24" spacing
No. 4338	Rubine Red	WD	yielded 10 lb/100' at 24" spacing
Celery			
No. 1895	Improved Utah 52-70	St	average size 928g at 12" x 18" spacing
No. 3892	Transgreen	FM	average size 1266g at 12" x 18" spacing
No. 4488	Florimart	McF	average size 996g at 12" x 18" spacing, severe blackheart
No. 4505	Fordhook Giant	W	average size 1264 at 12" x 18" spacing
Chard			
No. 4256	White King	St	nice, did not bolt
No. 1798	Rex	OE	large size, did not bolt
No. 4360	Perpetual	Bu	bolts if allowed to stand
No. 4257	Rhubarb Chard	St	bolts if allowed to stand
No. 4377	Large Ribbed Dark Green	J&P	bolts if allowed to stand
Chinese Cabbage			
No. 4177	Wong Bok	Hb	bolted
No. 4318	Statue	Tw	bolted
No. 4385	Spring A-1	J	bolted
No. 4178	Pai Tsai	Hb	bolted

Crop		Source	Comment
Dill			
No. 4313	Dukat	Ag	satisfactory
No. 4069	Long Island	NK	satisfactory
No. 3297	Tuve	Ag	uniform plants
Greens			
No. 4387	Pac Choi	J	nice, slow to bolt
No. 981	Dwarf Blue Kale	G	very nice
Herbs			
No. 4383	Horehound	J	satisfactory
No. 3819	Sage	P	satisfactory
No. 3818	Spearmint	P	satisfactory
No. 3820	Curled Mint	P	better flavor than spearmint
No. 4382	Coriander	J	matures seed
No. 4049	Anise	Bu	marginal
No. 4175	Oregano	Hb	poor flavor
No. 2050	Basil	NK	marginal
No. 2055	Summer Savory	NK	satisfactory
No. 2057	Thyme	NK	satisfactory
No. 4070	Chervil	NK	satisfactory
No. 3821	Chives	P	satisfactory
Kohlrabi			
No. 3517	Grand Duke	AAS	earliest, good quality
No. 4405	Prima	Gu	large
No. 4218	Azurstar	P	nice purple color
No. 3616	Early Purple Vienna	NK	very small, late
No. 4422	Grand Master	A&C	good
Leaf Lettuce			
No. 4045	Green Ice	Bu	good
No. 4219	Red Salad Bowl	P	dark red color, nice
No. 4496	Deep Red	H	good
No. 3619	Salad Bowl	NK	dependable
No. 4369	Royal Oak Leaf	Bu	attractive leaf shape
No. 4341	Dunsel	WD	bolted
No. 4220	Crispy Sweet	P	poor germination
Butterhead Lettuce			
No. 1884	Ostinata	St	O.K.
No. 4342	Neckarriesen	WD	tip burn
No. 4653	Sigmadeep	Su	not much flavor
No. 4654	Sigmaball	Su	O.K.
No. 4656	Continuity	Su	red tip
No. 4652	Dandie	Su	bolted

Crop		Source	Comment
Leeks			
No. 3472	King Richard	J	satisfactory
No. 4343	Giant Elefant	WD	largest size
No. 4344	French Summer	WD	many did not reach marketable size
No. 1800	Titan	OE	satisfactory
Mangels & Sugarbeets			
No. 4304	Giant Western Sugarbeet	Ag	yielded 100lb/100'
No. 4303	Mammoth Long Red Mangel	Ag	yielded 302lb/100'
Bunching Onions			
No. 1778	Heshiko	D	harvestable 1st week in August
No. 4271	Hardy White Bunching	St	harvestable 1st week in August
No. 4631	Eclipse	J	pickling onion, poor germination
Parsley			
No. 4300	Curlina	St	very attractive
No. 4301	Unicurl	St	nice
No. 4068	Dark Green Moss	NK	flat leaf—seed packet incorrectly labeled
Radish			
No. 3031	Burpees White	Bu	
No. 1223	Cherry Belle	St	
No. 3628	Giant White Globe	NK	
No. 4230	White Prince	F	poor germination, bolted
No. 4423	Rosie	A&C	bolted
No. 3533	White Icicle	SS	
No. 4184	Scarlet Knight	Hb	bolted
No. 4309	Sparkler	Ag	bolted
No. 4183	Hailstone	Hb	
No. 4308	Early Scarlet Globe	Ag	bolted
No. 4185	Red Prince	Hb	bolted
No. 4391	Tokinashi	J	large, Daikon-type, satisfactory
No. 4517	Sakuajima	Bg	large, Daikon-type, bolted
Rutabaga			
No. 3326	Altasweet	St	
No. 4047	Purple Top Yellow	Bu	poor germination

Crop		Source	Comments
Spinach			
No. 3919	Melody	G	slow to bolt
No. 4664	Greenmarket	Su	produced useable leaves before bolting
No. 4665	Sigmaleaf	Su	bolted
No. 4563	Monnopa	T&M	bolted
No. 4364	Malabar	Bu	bolted
No. 4410	Northland	Gu	bolted
No. 4530	Winter Bloomsdale	S	produced useable leaves before bolting
No. 4529	Nores	S	bolted
No. 4555	Symphonie	U	bolted
No. 4642	Munduro	ARZ	bolted
Turnips			
No. 3814	Tokyo Cross	P	bolts if left to stand
No. 4666	Golden Ball	Su	
No. 4393	Yorii Spring	J	
No. 1849	Tokyo Top	Sa	
No. 4312	Amber Gold Turnip	Ag	

Seed Sources

A	Asgrow Seed Co., Subsididary of the Upjohn Co., Kalamazoo, MI 49001
AAS	All-American Selections, 4546 El Camino Real, Suite A, Los Alto, CA 94022
A&C	Abbot and Cobb, Inc., P. O. Box 307, Feasterville, PA 19124
Ag	Agway Inc., Seed Division, Box 4933, Syracuse, NY 13221
AK	Alaska Agriculture Experiment Station, Fairbanks, AK 99701
Al	Alberta Nurseries & Seeds, Ltd., Box 20, Bowden, Alberta T0M 0K0, Canada
ARZ	A.R. Zwaan en Zoon B.V., Prinses Mariannelaan 296, P. O. Box 992, 2270 AZ Voorburg, The Netherlands
Bg	Burgess Seed and Plant Co., 905 Four Seasons Road, Bloomington, IL 61701
Bu	W. Atlee Burpee Co., 6350 Rutland Ave., Box 748, Riverside, CA 92502
C	Crookham Co., P. O. Box 520, Caldwell, ID 83605
CD	Dr. Curtis H. Dearborn, Agricultural Experiment Station, Box AE, Palmer, AK 99645
D	Dessert Seed Co., P. O. Box 181, El Centro, CA 92243
F	Farmer Seed & Nursery Co., Faribault, MN 55021
Fi	Henry Field Seed & Nursery Co., Shenandoah, IA 51602
FM	Ferry-Morse Seed Co., P. O. Box 100, Mountain View, CA 94042
G	H. G. German Seeds, Inc., Box N, Smethport, PA 16749
Gu	Gurney Seed and Nursery Co., Yankton, SD 57079
H	Joseph Harris Co., Inc., Moreton Farm, Rochester, NY 14624
Hb	Herbst Brothers Seedsmen, Inc., 1000 N. Main St., Brewster, NY 10509
Ho	Hollar & Company, Inc., P. O. Box 106, Rocky Ford, CO 81067
J	Johnny's Selected Seeds, Albion, ME 04910
J&P	Jackson & Perkins Co., Medford, OR 97501
K	Keystone Seed Co., P. O. Box 1438, Hollister, CA 95023
McF	McFayden Seed Co., Ltd., Box 1600, 30-19th St., Brandon, Manitoba R7A 6A6, Canada
NK	Northrup King & Co., 1500 Jackson St., N.E., Minneapolis, MN 55413
OE	Ohlesens-Enke, NY Munkegaard, Copenhagen-Toastrup, Denmark
OSU	Dept. of Horticulture, Oregon State University, Corvallis, OR 97331
P	George W. Park Seed Co., Box 31, Greenwood, SC 29647
Pe	Petoseed Co., Inc., P. O. Box 4206, Saticoy, CA 93003
P&S	Pay 'n Save Stores, Fairbanks, AK
Q	Quali-Sel Seeds, 11 W. Laurel Dr., Suite 125, Salinas, CA 93906
RB	Rogers Brothers Co., P. O. Box 1674, Idaho Falls, ID 83401
RS	Royal Sluis Inc., 1293 Harking Rd., Salinas, CA 93907
RZ	Rijk Zwaan Zaadteet en Zaadhandel B. V., 6, Chapel Hill Road, Pocklington, York, Y04 2JQ, England
S	Siegers Seed Co., 7245 Imlay City Rd., Imlay City, MI 48444
Sa	Sakata Seed Co., 2 Kiribatake, Kanagawa-KV, Yokohama, Japan
Se	Seedway, Inc., Hall, NY 14463
S&G	Sluis & Groot of America, 124A Griffin St., Salinas, CA 93907
Sh	Charles Sharpe, Sleaford, Lincolnshire, England
SS	R. H. Shumway, Seedsman, Rockford, IL 61101
St	Stokes Seeds, Inc., 5008 Stokes Bldg., Buffalo, NY 14240
Su	Sutton Seeds, Hele Road, Torquay, Devon TQ2 7QJ, England
T&M	Thompson & Morgan, Inc., Box 100, Farmingdale, NJ 07727
Tw	Otis S. Twilley Seed Co., Inc., P. O. Box 65, Trevose, PA 19047
U	W. J. Unwin, Ltd., P. O. Box 9, Farmingdale, NJ 07727
V	Vesey's Seeds, Ltd., York, Prince Edward Is. C0A 1P0, Canada
W	Willhite Melon Seed Farms, P. O. Box 85, Weatherford, TX 76085
WD	William Dam Seeds, P. O. West Flamboro, Ontario L0R 2K0, Canada