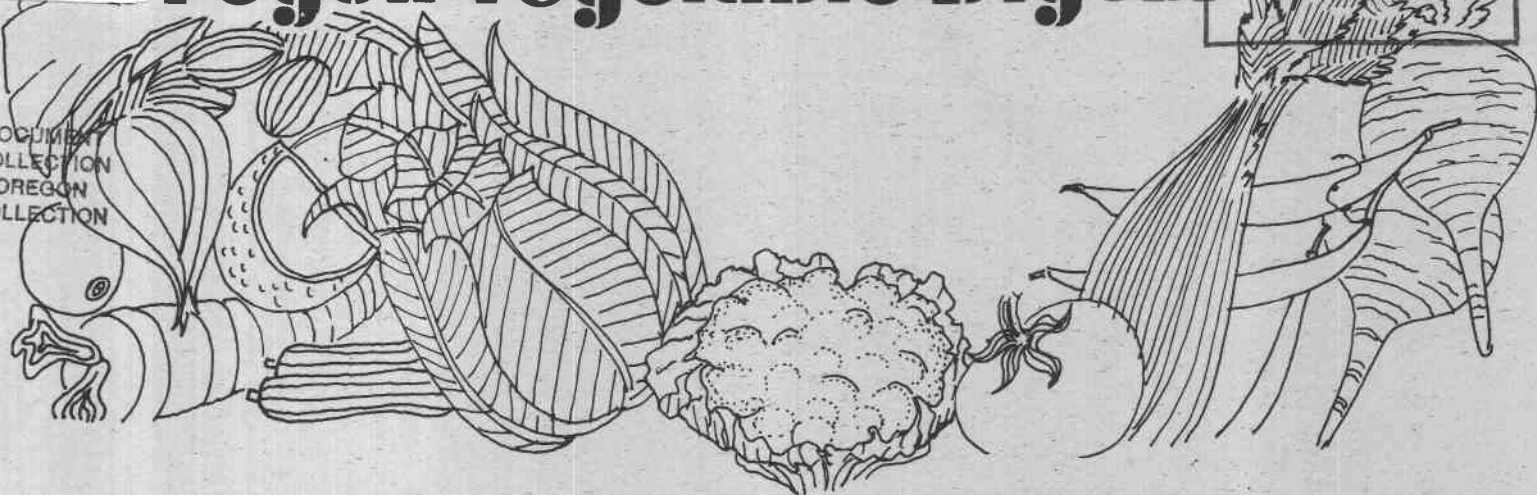


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Volume 23

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Corvallis Sweet Corn Variety Trial, 1974

Commercial and experimental sweet corn hybrids were planted at the Oregon State University Research Farm on May 17, 1974. Each hybrid was grown in six 35 foot plots, arranged in 4 randomized blocks with 15 foot guard plots on the ends of the field. Seedlings were thinned to 35 plants per plot.

A band application of 600 pounds of 8-24-8 fertilizer was made prior to planting and about 60 pounds per acre additional N, as ammonium nitrate, were applied July 12. Water was applied about every 10 days after the early growth stages. Vigor and uniformity of the planting were good.

Yields were usually obtained from 4 replications, with 2 replications picked on each of 2 days, but in some cases all four were picked on the same day. The 2 extra replications were used for preliminary harvests. Table 1 shows either 1 or 2 harvest dates, with days to maturity calculated to the first.

Processing tests were made on 13 of the most promising varieties. Results of panel evaluations of processed samples are shown in Table 3.

The varieties included in this trial also were planted in a commercial field at Scio, Oregon, for a test of head smut resistance. This test, reported in Table 2, also included 14 varieties not planted in the yield trial. Eight varieties were also included in a larger trial involving spacing variables. Results are shown in Table 4 as mean of all treatments since there were no spacing-variety interactions. One of these varieties, 70-2367 (source 2), was not included in the remainder of the trial.

Table Headings

Sources of varieties -

- (1) Charter Seed Company, P.O. Box Y, Twin Falls, Idaho 83301
- (2) Rogers Bros., P.O. Box 2188, Idaho Falls, Idaho 83401
- (3) Asgrow Seed Company, Kalamazoo, Michigan 49001
- (4) Ferry Morse Seed Company, Box 967, Mountain View, California 94040
- (5) FMC Seeds, Western Research, P.O. Box 2508, El Macero, California 95618

- (6) Harris Seeds, Moreton Farm, Rochester, New York 14624

Row straightness, tip fill: 1 to 5 score with the most desirable as 5.

Taper: 1 to 5 score with 5 for the most taper.

Maturity uniformity: a general estimate, based on husked ears, of uniformity of maturity.

The following varieties, excluding the standard 'Jubilee', appeared to deserve special discussion, based on yield or other considerations:

Tendertreat - good yield and quality scores, but quite susceptible to smut.

Mainliner - fair yield and quality, especially frozen, and fairly smut resistant.

Commander - fair to good yield (harvested at 74% moisture in both trials), very good quality scores and good smut resistance; very late maturity.

Stylepak - fair yield, good quality (especially in appearance and color, but not high in flavor), fairly good smut resistance.

NCX 243 - very high yield and very good smut resistance; not processed, but appeared to be tough and has a bad taper.

NCX 2004 - good yield and smut resistance, but only fair quality scores, rating down on texture and flavor; results in previous years have been about the same.

NCX 2008 - good yield and fair smut resistance; not processed but should have been; should be evaluated again.

Rapidpak - early maturity, excellent quality scores - highest overall score for both canning and freezing; very good smut resistance; yield only fair.

Fanfare - yield in regular trial fair (harvested at 74.6% moisture); adjusted yield in spacing trial very good; smut resistance fairly good; quality scores down in canned samples, especially for color, but this may have been affected by maturity also.

71-2291 - fair yield and very good smut resistance; quality fair in both canned and frozen samples, good for flavor.

(Continued next page)

Table 1. Characteristics of Sweet Corn Varieties Observed at Corvallis, Oregon, 1974

No.	Variety	Source	Harvest Date		Days to Mature	Avg. Ear Length (inch)	Avg. Diameter (inch)	Kernel Depth (mm)	Row No.	Row Str.	Tip Fill	Uniformity				Average Tenderness	Suckers
			A	B								Taper	Mat.	Ear	Kernel		
1	Eversweet	1	9- 6	9- 9	112	8.8	2.0	13	18	3.0	3.0	2.0	4.0	4.0	3.0	134	4.0
2	Tendertreat	1	9- 3		109	7.8	2.1	13	16-20	4.0	4.0	2.0	4.0	3.0	4.0	142	3.5
3	Mainliner	1	9- 5		111	9.1	1.95	12	18-20	3.0	3.0	3.0	2.0	3.0	3.0	148	3.0
4	69-1689	2	8-28	8-29	103	7.8	2.0	11	16-18	3.0	3.0	2.0	---	4.0	4.0	169	3.5
5	71-1686	2	8-22		97	7.7	1.8	10	16-18	3.0	4.0	2.0	2.0	4.0	4.0	142	3.0
6	71-2291	2	9- 3	9- 4	109	7.7	1.98	12	16-20	3.5	3.0	1.5	4.0	3.0	3.5	156	3.0
7	70-2021	2	8-30		105	8.4	2.0	11	16	3.0	2.0	2.0	3.0	3.0	3.0	126	3.0
8	Commander	3	9- 9	9-11	115	8.6	2.1	12	18	3.0	3.0	3.0	3.0	3.0	3.0	116	4.0
9	Comanche	3	8-30		105	7.2	1.85	11	16	3.0	4.0	4.0	---	3.0	4.0	162	3.0
10	Tendersweet	3	9- 3		109	8.7	1.7	10	16	4.0	3.0	1.0	4.0	4.0	4.0	121	3.0
11	Apache	3	9- 3		109	7.4	1.95	12	18	3.0	4.0	4.0	4.0	4.0	4.0	173	2.5
12	Rapidpak	4	8-29	8-30	104	7.2	1.9	10	18-20	3.0	4.0	3.0	4.0	4.0	4.0	144	4.5
13	Stylepak	4	9- 6	9- 9	112	8.2	2.6	13	20	4.0	4.0	2.0	3.0	4.0	4.0	117	4.0
14	E4208	4	9- 3		109	7.6	2.1	12	18-20	3.0	3.5	3.0	3.5	3.0	3.0	155	3.0
15	E4209	4	9- 5		111	8.2	2.0	13	18-22	2.0	4.0	4.0	3.0	4.0	2.0	138	3.0
16	NCX243	5	9- 4	9- 6	110	8.4	2.1	13	18	3.0	3.0	4.0	3.0	3.0	3.0	171	3.0
17	NCX2004	5	9- 6		112	9.1	2.1	12	18	4.0	3.0	2.0	4.0	3.0	3.0	149	3.0
18	NCX2008	5	9- 4	9- 5	110	8.5	2.15	13	18	4.0	4.0	2.0	4.0	3.0	3.0	133	4.0
19	NCX2004 (Florida)	5	9- 3		109	8.1	2.0	12	12-18	4.0	3.0	3.0	4.0	3.0	3.0	149	3.5
20	Harmony	6	8-21		96	7.3	1.9	10	14-18	4.0	5.0	3.0	3.0	2.0	3.0	147	3.0
21	JL49	6	9- 4	9- 6	110	8.0	1.9	12	14-16	3.0	4.0	3.0	4.0	4.0	3.0	133	4.0
22	Sundance	6	8-21		96	7.0	1.8	10	16-18	4.0	4.0	2.0	4.0	4.0	3.0	134	4.0
23	Jubilee	2	9- 4		110				14-18	4.0	4.0	3.0	4.0	4.0	3.5	118	3.0
24	Golden Cross Bantam	2	9- 3		109	7.6	1.75	10	12-14	3.5	3.5	2.5	4.0	4.0	3.0	182	4.0
25	Fanfare	2	8-29	8-30	104	8.2	2.1	12	16-20	4.0	4.0	3.0	4.0	3.0	4.0	140	3.0

JL 49 - a home garden variety with excellent smut resistance.

Four additional varieties not included in the yield test should be mentioned because of outstanding low smut readings: 'Sweet Sue' and NCX 2010 with 0%, NCX 2007 with 4%, and 72-1605 with 3%.

--J. R. Baggett and H. J. Mack
Horticulture Department

--G. W. Varseveld
Food Science and Technology Department

Table 1. (Cont.)

<u>Variety</u>	<u>Notes</u>
1	Tips slightly ragged; color fair - uniform.
2	Color good and quite uniform, but slightly light.
3	Light color; tips somewhat rough; slightly variable in maturity.
4	Kernels fairly wide; most coarse in appearance; color slightly light.
5	Many immature.
6	Good color; slightly variable color.
7	Good quality; tenderness and flavor; good whole ear pak but tips somewhat variable. Possibly should be picked 1-2 days late. Some slightly curved; hard to pick.
8	Color good, slightly variable.
9	Color uniform and light; medium early; may be good medium early garden corn.
10	Good color; good quality; good whole ear, tight.
11	Color variable; slightly bumpy.
12	Very good color and kernel type; some row break.
13	Uniform; light, but good color.
14	Good and fairly even color; generally not refined, now break toward shank.
15	Not very refined looking; taper not even; strong and consistent row; break 1/3 up from tip.
16	Very many unfilled culls; slightly light color; taper very bad.
17	Very good color; length variable.
18	Slightly coarse kernel type; good yield; should have processed this.
19	Slightly rough and uneven; good yield, good color. See No. 17.
20	Attractive smooth bi-color; many aborted ears; row break near shank; good for early garden.
21	Variable taper and ear diameter; color medium and very uniform; almost every plant had one very small ear.
22	Smooth and uniform.
23	Medium high ears; hard to pick.
24	Good and even color.
25	Medium wide kernel; uniform slightly light color.

Table 2. Mean Yield Data From Four Replications, Corvallis; and Head Smut Resistance Test, Scio, Oregon 1974¹.

No.	Name	Source	Gross Wt. T./A	Culls		Good Ears			% Water ³	% Smut Infection ⁴				Mean
				100 Ears/A	Wt. T/A	100 Ears/A	Wt. T/A ²	Lb./Ear		Rep. 1	Rep. 2	Rep. 3	Rep. 4	
1	Eversweet	1	10.4	58	1.4	178	6.6	.75	68.3	14	35	24	16	22
2	Tendertreat	1	12.3	58	.9	243	7.3	.60	72.0	30	38	56	31	39
3	Mainliner	1	12.6	81	1.6	215	6.7	.62	72.8	4	8	27	12	13
4	69-1689	2	8.8	35	0.6	172	5.3	.62	70.3	0	4	8	4	4
5	71-1686*	2	10.9	90	1.8	172	4.7	.55		4	11	0	0	4
6	71-2291	2	11.0	62	1.1	210	6.4	.61	72.2	0	0	4	0	1
7	70-2021	2	10.2	46	.8	226	6.4	.56		7	12	8	0	7
8	Commander	3	12.1	62	1.2	192	6.8	.71	74.0	3	4	0	0	2
9	Comanche	3	7.1	10	.1	181	4.3	.48		5	12	4	3	6
10	Tendersweet	3	10.5	20	.3	246	5.9	.48		8	0	11	0	5
11	Apache*	3	----	---	---	---	---	---		10	0	0	8	5
12	Rapidpak	4	10.1	54	.9	215	5.6	.53	71.6	4	0	3	0	2
13	Stylepak	4	12.2	63	1.2	186	6.7	.73	72.7	20	5	0	10	9
14	E4208	4	9.2	11	.6	169	6.2	.74		57	18	57	28	40
15	E4209	4	10.0	33	.5	157	5.5	.70		41	23	32	29	31
16	NCX243	5	15.7	91	2.0	236	8.2	.70		4	0	4	0	2
17	NCX2004	5	12.8	40	.5	236	7.7	.65	70.8	9	0	12	10	8
18	NCX2008	5	11.9	50	.9	196	7.1	.72		17	20	0	7	11
19	NCX2004 (Florida)	5	12.5	42	.7	246	8.0	.65	73.4	0	5	0	12	4
20	Harmony	6	6.5	22	.3	120	3.0	.50		58	71	44	72	61
21	JL49	6	11.0	31	.4	249	6.2	.50		0	0	0	4	1
22	Sundance	6	5.2	21	.2	111	2.6	.47		82	48	34	61	56
23	Jubilee*	2	11.1	37	.7	229	7.9	.62	73.8	17	17	32	32	25
24	Golden Cross Bantam	2	10.8	50	.8	236	6.2	.52	68.4	4	0	4	0	2
25	Fanfare	2	10.4	51	1.0	193	6.4	.66	74.6	4	7	5	17	8
26	Blitz	6								0	7	12	10	7
27	Sweet Sue	6								0	0	0	0	0
28	NCX2006	5								16	18	28	21	21
29	NCX241R	5								5	5	10	0	5
30	NCX2007	5								7	0	6	4	4
31	NCX2010	5								0	0	0	0	0
32	2023-73	4								56	44	57	48	51
33	2163-73	4								0	4	3	15	6
34	2728-73	4								12	15	29	5	15
35	2324-73	4								10	4	10	17	10
36	72-1707	2								0	32	16	5	13
37	72-1605	2								4	0	0	7	3
38	72-2479	2								4	14	0	8	7
39	72-1654	2								54	7	36	12	27

*Yield data from less than 4 replications; not included in analyses of variance.

¹Varieties 26-39 were included in the smut test only.

²LSD for wt. good ears per acre: @ 5% - 1.1 tons; @ 10% - 1.5 tons/acre.

³% moisture of varieties included in processing quality tests.

⁴From four plots, about 16 long and about 25 plants/plot, arranged in randomized blocks in two long rows; planted May 28, results read September 10.

Table 3. Panel Quality Evaluation, Processed Sweet Corn Varieties.¹

No.	Variety	% Moisture	% Cut Off	Canned Samples					Individual Remarks	Frozen Samples					Individual Remarks
				Overall Quality	Color	Appear.	Text.	Flav.		Overall Quality	Color	Appear.	Text.	Flav.	
1	Eversweet	68.3	61.1	5.8	5.8	6.6	6.0	6.0	Sl. pale, var. kernel shape	6.3	7.4	7.1	5.6	6.4	Unif. bright yellow; sl. tough
2	Tendertreat	72.0	---	6.0	5.6	6.0	6.8	6.3	Sl. dull	6.2	6.8	6.3	6.6	5.5	Orange spotted; bland flavor
3	Mainliner	72.8	57.1	5.8	6.0	6.5	6.5	5.5	Small kernel, atypical flavor	6.4	7.3	7.5	5.8	6.3	
4	1689	70.3	61.2	5.7	6.2	5.6	5.6	6.1	pale yellow, flat kernel, tough skin	5.1	6.5	5.5	4.6	5.5	Quite tough, flat kernel, lacks flavor
6	71-2291	72.2	61.8	6.0	5.7	6.0	6.4	6.7		6.1	7.2	5.7	5.9	6.6	
8	Commander	74.0	61.2	6.7	7.0	7.1	6.6	6.3		6.4	7.4	6.9	6.2	6.2	
12	Rapidpak ²	72.7	55.3	7.3	6.7	7.1	7.4	7.3	Deep color	7.3	7.2	7.1	6.8	7.3	
12	Rapidpak ²	70.5	58.0	7.2	6.4	7.4	7.1	7.0		6.6	7.1	7.7	6.2	6.4	
13	Stylepak	72.7	62.5	6.6	6.7	7.2	6.6	6.1		6.3	7.6	6.9	6.2	5.6	Sl. bland flavor
14	E4208	---	53.7	6.4	7.2	6.9	5.7	5.5	Bright gold-yellow, sl. tough texture	4.7	6.6	6.6	5.0	4.5	Soft pasty text.; v. bland flavor
17	NCX2004	70.8	61.9	5.2	5.8	6.1	5.0	5.0	Quite bland flavor, tough	5.7	6.9	5.8	5.1	5.7	Tough; sl. starchy flavor
19	NCX2004	73.4	61.6	5.7	6.3	6.2	5.5	5.6	Tough; lacks sweet flavor	5.9	7.0	6.4	5.6	5.9	Sl. tough
23	Jubilee	73.8	65.1	6.0	5.9	6.0	6.5	5.8	Sl. dull and pale	6.3	6.6	6.1	6.3	6.2	
23	Jubilee ³	70.2	63.2	5.9	6.7	6.7	6.1	5.7	Bright yellow-gold; chalky flavor	6.4	6.7	6.4	6.1	6.8	
25	Fanfare	74.6	62.1	5.1	4.8	5.1	6.1	5.4	Dull gray-yellow, flat kernel	6.0	6.3	5.9	6.3	6.4	Definite orange spot; various kernel shape

¹Average scores of 9-11 evaluators; scoring from 1.0 (poor) to 9.0 (outstanding).

²Two harvests of 'Rapidpak' one day apart.

³Second sample of 'Jubilee' was from a different planting, 12 days later.

Table 4. Average Yield of Sweet Corn Varieties in Variety-Spacing Test¹.

No.	Variety	Plant Height (ft.)	Date of Full Silk	Yield-T/A Husked Accept.	% Moisture Kernels	Adjusted ² Yield T/A	Ear Wt. (lb.) Husked	Cut-off ³ %
1	Eversweet	8.5	8/4	6.7	70	6.4	.68	57
2	Tendertreat	9.2	8/4	8.0	69	7.4	.64	--
8	Commander	9.8	8/10	6.4	74	6.7	.78	64
12	Rapidpak	8.2	7/31	6.8	69	6.3	.55	--
17	NCX 2004	9.7	8/1	8.4	70	8.0	.66	58
23	Jubilee	9.0	8/1	8.4	69	7.8	.64	63
25	Fanfare	8.8	7/29	7.6	75	8.1	.69	61
--	70-2367	9.3	8/7	6.6	74	6.9	.65	62

¹Planted May 21. Yields shown are averages for three spacings (6, 9 and 12 inches between plants in 36" rows) with five replications for each spacing. No variety-spacing interactions. LSD for yield @ 5% = 0.5 T/A.

²For each 1% change in moisture above or below 72%, yield was adjusted 2.4%.

³Cut-off % based on husked ear wt.

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