

**RESEARCH REPORT - OREGON PROCESSED VEGETABLE COMMISSION****Title:**

Evaluation of Sweet Corn Varieties for Production in the Columbia Basin

**Project Leader:**

George H. Clough, Horticulturist

**Department:**

Hermiston Agricultural Research and Extension Center

**Status:**

Continuing, projected completion date - Aug. 1991

**Funding:**

Approximately 2/3 of the \$1,500.00 allotted to this project for 1989 was expended for labor, with the remainder utilized for services and supplies. Additional funding for laboratory equipment to support corn research was received from the Agricultural Research Foundation.

**Objectives:**

Determine yield and quality characteristics of sweet corn cultivars which may be appropriate for climate and cultural practices in the Columbia basin.

**Progress:**

Several varieties of supersweet (sh<sub>2</sub>) and regular (se, su) sweet corn were grown in replicated trials to evaluate their potential for early sweet corn for processing in the Columbia Basin. Data recorded included tasseling and silking dates, harvest date, yield (number and weight) of marketable and cull ears, per cent moisture, ear weight, ear length, ear diameter, kernel depth and number of kernel rows.

**Summary:**

Measured characteristics varied significantly among the 8 cultivars evaluated (see Tables 1-3). With a late April planting, time to harvest ranged from 86 to 99 days. Earlier planting dates probably would not produce an earlier crop due to cool soil temperatures. Acceptable yields were obtained with 6 of the 8 varieties evaluated. Due to variations in climatic conditions from year to year, the trials will be repeated, with additional varieties included, over a 3-year period.

Table 1. Sweet corn maturity, Hermiston, Oregon, 1989.

Variety	Type	Time to			Moisture
		Tassel	Silk	Harvest	
			<u>Days<sup>z</sup></u>		<u>%</u>
HMX7345E	se	65.0ab <sup>y</sup>	68.0b	90	70.0b
Horizon	su	61.8b	64.0b	86	74.9ab
Jubilee	su	72.0ab	75.0ab	93	78.9a
Seneca Star	su	64.0ab	67.0b	86	76.8a
HMX7348S	sh <sub>2</sub>	71.5ab	75.3ab	93	77.1a
Landmark	sh <sub>2</sub>	66.5ab	72.5ab	93	77.5a
Supersweet					
Jubilee	sh <sub>2</sub>	76.5a	81.5a	99	79.8a
Upmost	sh <sub>2</sub>	67.0ab	71.5ab	93	74.9ab

<sup>z</sup> From Apr 23 planting date.

<sup>y</sup> Means followed by different letters are significantly different at alpha = 0.05 (DMRT).

Table 2. Sweet corn yield, Hermiston, Oregon, 1989.

Variety	Type	Yield (Husked)		Ear Weight
		Marketable	Cull	
		<u>Tons/acre</u>		<u>Pounds</u>
HMX7345E	se	5.6ab <sup>z</sup>	0.6	0.53ab
Horizon	su	5.8a	0.7	0.58a
Jubilee	su	5.3abc	0.3	0.49ab
Seneca Star	su	4.4bc	0.1	0.47b
HMX7348S	sh <sub>2</sub>	5.4abc	0.7	0.57a
Landmark	sh <sub>2</sub>	4.2c	0.9	0.53ab
Supersweet				
Jubilee	sh <sub>2</sub>	5.2abc	0.1	0.53ab
Upmost	sh <sub>2</sub>	5.0abc	0.5	0.53ab

<sup>z</sup> Means followed by different letters are significantly different at alpha = 0.05 (DMRT).

Table 3. Sweet corn ear characteristics, Hermiston, Oregon, 1989.

Variety	Type	Ear <sup>z</sup>		Kernel	
		Length	Diameter	Depth	Rows
			<u>Inches</u>		<u>No.</u>
HMX7345E	se	7.23b <sup>y</sup>	1.91ab	0.36	16.6ab
Horizon	su	7.17b	2.02a	0.38	15.4ab
Jubilee	su	7.83ab	1.83ab	0.35	16.0ab
Seneca Star	su	7.61a	1.73b	0.37	14.5ab
HMX7348S	sh <sub>2</sub>	7.73ab	1.89ab	0.38	15.4ab
Landmark	sh <sub>2</sub>	8.15a	1.81b	0.37	12.6b
Supersweet Jubilee	sh <sub>2</sub>	7.93ab	1.88ab	0.37	17.6a
Upmost	sh <sub>2</sub>	8.09a	1.81b	0.38	12.6b

<sup>z</sup> Average of 8 ears/replication, 4 replications.

<sup>y</sup> Means followed by different letters are significantly different at alpha = 0.05 (DMRT).

Signatures:

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