

# 2024 SH<sub>2</sub> Sweet Corn

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Sweet corn is an important crop in both the fresh market and shipping market in North Central Ohio, where a significant percentage of Ohio vegetables are grown. Many different varieties of sweet corn are grown by producers with fresh market roadside stands, and still others are grown for early, mid, and late season shipping and processing markets, meaning growers demand a diverse selection of sweet corn varieties and maturities. Growers have indicated this diversity should focus on SH<sub>2</sub> varieties with different stages of maturity, and variance in other traits. Many new varieties are becoming available to meet these grower demands, and this study sought to determine which ones would perform acceptably in Northern Ohio, and which would have the desired traits growers are seeking. For this trial, 27 SH<sub>2</sub> varieties were grown in 4 replicated plots at the Ohio State University's North Central Agricultural Research Station near Fremont, Ohio.

## Materials and Methods

The purpose of this trial was to evaluate a significant number of newer varieties of sweet corn, helping seed companies determine which varieties would be suitable to continue breeding and developing for commercial seed sales, and helping growers determine which currently available varieties would be best suited for their specific market demands, including fresh market, shipping, and processing.

Growers and seed companies suggested varieties to be grown, with a strong preference for inclusion given to new and experimental varieties, for comparison alongside industry standard varieties. The evaluation used four replicated plots, grown under best management practices, to give growers a fair comparison of the different varieties grown on lakebed soils, within a normal Northern Ohio growing season. Plots were planted in 30-inch rows, 30 feet in length. Each variety is planted in a 4-row block, replicated 4 times, using randomized variety location within each replication. The centered 2 rows of each plot were harvested for data collection. After germination and stand counts, rows were trimmed to 25 feet. Plots were thinned to a final stand of 23,500.

The SH<sub>2</sub> trial was conducted on Hoytville silty clay loam soil on field CSE at the North Central Agricultural Research Station. Best management practices were utilized prior to and during the trial. Because of multiple heavy rain events during the summer of 2023, which cause compaction in the proposed test site, the areas were subsoiled with a Landoll 3 shank ripper. On April 29, 2024, the site was disk chiseled using a Brillion conservation tillage tool. On May 7, 2024, the test area was tilled using a Landall finisher and a finish packer. Fertilizer consisting of 400 lbs. 0-0-60, 150 lbs. 11-52-0, 150 lbs. 21-0-0-24 (sulfur), 175 lbs. 46-0-0, and 10 lbs. of Boron was spread on May 14 and incorporated lightly. Used a Kongskilde fine finisher and rolling basket. The plot was planted using a JD 7000 Planter equipped with Almaco cone units on May 20. Herbicide consisting of 20 oz/acre Dual Magnum and 5.75 oz/acre Justified was applied three days later and prior to emergence on 5/23/2024. As was feared prior to the season, the site was lumpier than we would normally expect at the research station. For this reason, a few of the plots were slow to emerge however, in due time, stands were adequate. The plots were thinned to a 9" in row spacing on June 10. On June 18, .75 inches of water was applied overhead. This was the only irrigation used.

Plot was side dressed on 6/6/2024 with 34 gal/acre, 28% UAN and 1 gallon/acre Aultramate LQ 12%.

Electric fence was installed around the entire trial in late July to protect against wildlife damage. No fungicide applications were made.

Insecticide applications were made as follows:

7/9/24	1.9 oz/acre Warrior II
7/15/24	8 oz/acre Radiant, 11.3 oz/acre Freeway
7/23/24	5 oz/acre Coragen
7/26/24	2.8 oz/acre Baythrad XL
7/31/24	2.8 oz/acre Baythroid 2

## **Results and Discussion**

Sweet corn plants were evaluated at harvest for the following characteristics, which are summarized in the tables: ease of harvesting ear (snap rating), ear height, stand population, harvested dozens per acres, and marketable dozens per acre. Immediately following harvest, 5 random marketable ears per variety were evaluated for flags, husk cover, tip fill, number of kernel rows/ear, kernel color, ear length, ear diameter, tenderness, sweetness, and overall flavor.

Results of the harvest and ear evaluation for each variety of sweet corn can be seen in the tables below, with total harvest data compiled and averaged from all four plots harvested. In determining the ear evaluation scores, a team of 5 individuals, including the principal investigator and 2 members of the research station staff and two student employees each made their individual rankings on the 5 ears for each characteristic, and the final reported value was the combined average individual scores. This process held true for the tenderness, sweetness, and overall flavor scores as well, determined by raw taste testing of the 5 aforementioned individuals.

Smut was a moderate concern this year with nearly half of the varieties displaying a noticeable amount. Smutty ears are reflected in the harvest data as ‘nonmarketable’

Rainfall (in inches) from planting May 20, 2024 to first harvest July 28, 2024

5/21/24	.3
5/27/24	.95
5/29/24	.25
5/30/24	.7
6/2/24	.3
6/6/24	.35
6/9/24	.1
6/14/24	.05
6/23/24	.5
6/26/24	.4
6/27/24	.6
6/29/24	.4
7/5/24	.25
7/10/24	1.1
7/11/24	.2
7/14/24	.05

<b>TOTAL:</b>	<b>6.15</b>
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**Table 1.** Variety characteristics, emergence, observed maturity, and individual ear yield. All varieties planted on May 20, 2024

Variety #	Variety Name	Color	Listed Maturity	Harvest Date	Observed Maturity
1	Equinox	Yellow	70	7/29/2024	70
2	Golden Halo	Yellow	74	7/31/2024	72
3	Duration	Yellow	77	8/5/2024	77
4	Solstice	Bicolor	70	7/26/2024	67
5	Elysian	Bicolor	78	8/5/2024	77
6	Globetrotter	Bicolor	77	8/5/2024	77
7	White Lightening	White	78	8/2/2024	74
8	Bolt	Bicolor	67	7/26/2024	67
9	Kickoff	Bicolor	69	7/29/2024	70
10	Ignition	Bicolor	~	7/31/2024	72
11	Superb MXR	Bicolor	~	7/29/2024	70
12	Signature XR	Bicolor	72	7/31/2024	72
13	Xanadu	Bicolor	75	8/2/2024	74
14	Nirvana	Bicolor	75	7/31/2024	72
15	Troubadour	Bicolor	~	8/2/2024	74
16	Octane	Bicolor	78	8/7/2024	79
17	Cosmic	Bicolor	~	8/7/2024	79
18	SV5142	Bicolor	78	8/7/2024	79
19	EX08767143	Bicolor	~	8/7/2024	79
20	Eden RMN	White	74	7/29/2024	70
21	Glacial	White	76	8/5/2024	77
22	Magnolia	White	~	8/2/2024	74
23	HMC592105	Bicolor	68	7/29/2024	70
24	Spritz	Bicolor	74	8/2/2024	74
25	Liberty	Bicolor	79	8/5/2024	77
26	Redemption	Bicolor	80	8/7/2024	79
27	Stamina	Bicolor	~	8/7/2024	79

**Table 2.** Harvest Data. Populations varied significantly. Plots were not thinned as in past years.

Variety #	Variety Name	Ear Height (in.)	Snap	Harvested Dozen/acre	Marketable Dozen/acre
1	Equinox	17	3.75	1740	1680
2	Golden Halo	18	3.5	1770	1680
3	Duration	21	3	2000	1940
4	Solstice	15	3.75	1720	1660
5	Elysian	15	3.5	1890	1820
6	Globetrotter	20	3	1900	1840
7	White Lightening	19	3.5	1940	1900
8	Bolt	14	3.75	1770	1700
9	Kickoff	18	3.5	1780	1740
10	Ignition	18	3.25	1750	1750
11	Superb MXR	19	3.5	1860	1780
12	Signature XR	16	3.25	1830	1780
13	Xanadu	17	3.75	1740	1700
14	Nirvana	17	3.75	1980	1930
15	Troubadour	19	3.5	1840	1800
16	Octane	18	3.25	1670	1640
17	Cosmic	20	3.5	1960	1880
18	SV5142	22	2.75	1660	1520
9	EX08767143	19	3.5	2020	1990
20	Eden RMN	18	3.5	1900	1800
21	Glacial	17	3.75	1680	1640
22	Magnolia	18	4	1790	1760
23	HMC592105	20	3.5	1800	1720
24	Spritz	17	4	1950	1900
25	Liberty	20	3.5	1650	1600
26	Redemption	22	3.75	1840	1820
27	Stamina	22	3.75	1980	1910

**Ear Height** = Height in inches

**Snap Rating** = 1 difficult - 5 easy

**Table 3.** Ear Evaluation. \*All data is reported as the average rating of 10 ears from each variety

Variety	Variety Name	Husk Cover	Flags	Overall Husk	Shank	Tip Fill	Rows *	Rowing	Color	Length (inches)	Diameter (inches)
1	Equinox	1	4	2	3.25	3	16-18	3.5	3.5	8.1	1.8
2	Golden Halo	2.75	4	3	3	3.25	16-18	4	3	7.7	1.8
3	Duration	1	2	1.5	3.25	3	14-16	3.5	4	8.2	1.9
4	Solstice	3	3	3	3.25	3.75	14-16	4	2.75	8	1.8
5	Elysian	2.25	2.25	2	2	3.5	14-16	3.25	4	7.7	2.0
6	Globetrotter	1.25	3	2	2	3.5	14-16	3.25	4	8.1	1.9
7	White Lightening	2	2.5	2	2.75	3.75	18-20	3.25	3.5	8.1	2.0
8	Bolt	3	2.5	2.75	2	4	16-18	2.75	3	7.7	1.9
9	Kickoff	2.5	3.5	2.5	3.5	4	16-18	3.5	3	8.4	2.0
10	Ignition	3	4	3.5	2.5	4	16-18	3.75	2.75	8	1.8
11	Superb MXR	3	3	3	3	4	16-18	3.75	4	7.7	1.9
12	Signature XR	3	3.5	3	3	4	16-18	3.75	4	7.9	2.0
13	Xanadu	2	3.25	2.5	2	4	16-18	3.75	3.5	7.9	2.0
14	Nirvana	2	2.25	2	2.25	3.5	16-18	3.5	3.5	8.1	1.9
15	Troubadour	3.5	3	3	2.75	3.5	16-20	3.25	2.75	7.9	2.0
16	Octane	1.75	4	2.25	3.25	3.5	16-18	3	3.75	8	1.9
17	Cosmic	1.75	3.5	2	4	3	14-20	3.5	3.5	7.9	2.0
18	SV5142	3.5	2.75	3	2.5	3.25	16-20	2.75	3.5	8.3	2.0
19	EX08767143	1.75	3	2.75	3	3.25	16-18	3.5	4	8.1	1.9
20	Eden RMN	1.75	4	2.75	3.5	4	16-18	3.5	4	7.9	2.0
21	Glacial	1.5	2	2	2.25	3	14-18	3.75	3.75	8.4	2.0
22	Magnolia	2.5	3.75	3	4	3.75	16-18	2.75	3.5	7.9	2.0
23	HMC592105	1.5	2	2	3.5	3	12-16	2.5	3.5	8.2	1.9
24	Spritz	1	3.25	2	2.5	2.75	16-18	3.25	3.5	8	2.1
25	Liberty	2.75	3.5	3.5	3	4	16-20	3.25	3.25	8.2	2.0
26	Redemption	2.5	3	2.75	2.5	3	16-20	2.5	3.5	8.1	1.8
27	Stamina	3	2	2.25	2	3.75	16-18	2.5	3.75	8	2.1

**Rating Scale for Table 3** \*All scores are reported as the average of 10 ears from each variety.

Rating Scale	1	3	5
<b>Husk Cover (at tip)</b>	Exposed	2 fingers of cover	4 fingers of cover
<b>Flags</b>	None	Noticeable/attractive	Many, long, attractive
<b>Overall Husk</b>	Poor	Good	Outstanding
<b>Shank</b>	Short	Average	Long
<b>Tip Fill</b>	2 in. blank	1 in. blank	Complete
<b>Rows</b>	number of rows around entire cob		
<b>Rowing</b>	Scrambled	Mainly straight	All straight
<b>Color</b>	Dull/flat	Average	Bright/attractive
<b>Length</b>	measured from tip to base of shank with husk removed		
<b>Diameter</b>	measured at center of cob with husk removed		

**Table 4.** SH2 Ear Evaluation. \*All data is reported as the average rating of 5 ears from each variety

Variety #	Variety Name	Tenderness	Sweetness	Flavor
1	Equinox	3.5	3.75	4
2	Golden Halo	3.5	4	3.5
3	Duration	2	2.75	2.75
4	Solstice	3.5	4	3.5
5	Elysian	2.25	3.25	2.75
6	Globetrotter	2.25	2.75	3
7	White Lightening	3	2.75	2.75
8	Bolt	3.5	3.5	3.5
9	Kickoff	3.5	3.75	3.5
10	Ignition	3.5	3.5	3.25
11	Superb MXR	3.25	2.75	2.25
12	Signature XR	3	3	2.25
13	Xanadu	3.5	4	3.25
14	Nirvana	3.5	4	3.75
15	Troubadour	3.25	4	3.75
16	Octane	2.25	3.25	3.25
17	Cosmic	2.5	3.25	2.75
18	SV5142	3.25	3.25	3
19	EX08767143	1.75	2.25	2
20	Eden RMN	4	4	3.5
21	Glacial	3.5	4	4
22	Magnolia	3	3.5	2.75
23	HMC592105	1.75	3.25	3
24	Spritz	2.75	3.5	3.5
25	Liberty	2.25	2.5	2.5
26	Redemption	2.5	2.75	1.5
27	Stamina	3	3	3

**Rating Scale for Table 4**

Rating Scale	1	3	5
<b>Tenderness</b>	Tough	Average	Very tender
<b>Sweetness</b>	Starchy/bland	Average	Very sweet/sugary
<b>Flavor</b>	Poor	Good	Outstanding

\*All scores are reported as the rating of 5 ears from each variety.

## Mike Gastier 2024 SH2 Sweet Corn Trial

Field: CSE

Date	Project Leader	Description of Operation	Staff # & hours	Staff hours	Staff # and	Seasonal Staff
9/18/2023	Gastier	South half of field - subsoiled wheat stubble with JD155M and Landoll 3 shank ripper	1 @ 1.25	1.25		
9/19/2023	Gastier	North half of field - subsoiled wheat stubble with JD155M and Landoll 3 shank ripper	1 @ 1.25	1.25		
4/1/2024	Gastier	Trial received .75 inches of rainfall				
4/2/2024	Gastier	Trial received 1.1 inches of rainfall				
4/3/2024	Gastier	Trial received .1 inches of rainfall				
4/4/2024	Gastier	Trial received .2 inches of rainfall				
4/5/2024	Gastier	Trial received .1 inches of rainfall				
4/8/2024	Gastier	Trial received .1 inches of rainfall				
4/11/2024	Gastier	Trial received .8 inches of rainfall				
4/12/2024	Gastier	Trial received .5 inches of rainfall				
4/13/2024	Gastier	Trial received .1 inches of rainfall				
4/18/2024	Gastier	Trial received .6 inches of rainfall				
4/19/2024	Gastier	Trial received .1 inches of rainfall				
4/24/2024	Gastier	Trial received .5 inches of rainfall				
4/29/2024	Gastier	Disc chiseled with 6155 abd Brillin chisel	1 @ 0.75	0.75		
4/29/2024	Gastier	Trial received .9 inches of rainfall				
5/4/2024	Gastier	Trial received .2 inches of rainfall				
5/7/2024	Gastier	Worked with Landoll, 6155M and Packer	1 @ .5	0.5		
5/8/2024	Gastier	Trial received .4 inches of rainfall				
5/10/2024	Gastier	Trial received .35 inches of rainfall				
5/11/2024	Gastier	Trial received .25 inches of rainfall				
5/14/2024	Gastier	Set drive flags for spreading fertilizer			2 @ .25	0.5
5/14/2024	Gastier	Spread fertilizer - 400lbs 0-0-6, 150lbs. 11-52-0, 150lbs. 21-0-0-24 sulfur, 175lbs 46-0-0, 10lbs Boron	1 @ .25	0.25		
5/14/2024	Gastier	Worked in fertilizer with 7210 and Kongskilde and Packer	1 @ .75	0.75		
5/15/2024	Gastier	Trial received .35 inches of rainfall				
5/17/2024	Gastier	Trial received .3 inches of rainfall				
5/19/2024	Gastier	Worked ground with 7210, Kongskilde and Packer	1 @ .75	0.75		
5/20/2024	Gastier	Drove alleys with 6310	1 @ .75	0.75		
5/20/2024	Gastier	Set drive flags for planting trial	1 @ .25	0.25		
5/20/2024	Gastier	Planted trial with JD6310 and JD7000 planter with Almaco cone units	2 @ 1.75	3.5	3 @ 1.75	5.25
5/21/2024	Gastier	Trial received .3 inches of rainfall				
5/23/2024	Gastier	Herbicide application - 20az/A Dual magnum and 5.75 oz/A Justified	1 @ 1.0	1		
5/27/2024	Gastier	Trial received .95 inches of rainfall				
5/29/2024	Gastier	Trial received .25 inches of rainfall				
5/30/2024	Gastier	Trial received .7 inches of rainfall				
5/31/2024	Gastier	Put out plot stakes	1 @ .75	0.75	1 @ .75	0.75
6/2/2024	Gastier	Trial received .3 inches of rainfall				
6/5/2024	Gastier	Flag corners of Reps	1 @ .25	0.25	2 @ .25	0.5
6/6/2024	Gastier	Trial received .35 inches of rainfall				
6/7/2024	Gastier	Side dressed trial - Applied 34 gallon/A of 28% UAN and 1 gallon/A of Ultramate LQ 12%	1 @ .5	0.5		
6/9/2024	Gastier	Trial received .1 inches of rainfall				

6/10/2024	Gastier	Thinned sweet corn to 9 inch in-row spacing	1 @ 1.5	1.5	2 @ 2.5	5
6/14/2024	Gastier	Trial received .05 inches of rainfall				
6/18/2024	Gastier	Irrigated with OMIS overhead gun, put on approx. 3/4 inch				
6/21/2024	Gastier	Cultivated 3/4 sweetcorn with AC-G	1 @ 2.0	2		
6/23/2024	Gastier	Trial received .51 inches of rainfall				
6/24/2024	Gastier	Finished cultivating trial with AC-G	1 @ .5	0.5		
6/26/2024	Gastier	Trial received .4 inches of rainfall				
6/27/2024	Gastier	Trial received .6 inches of rainfall				
6/29/2024	Gastier	Trial received .4 inches of rainfall				
7/1/2024	Gastier	Walked and hoed 3/4 of sweetcorn			4 @ 3.0	12
7/2/2024	Gastier	Finished walking and hoeing sweetcorn			4 @ 1.0	4
7/5/2024	Gastier	Trial received .25 inches of rainfall				
7/9/2024	Gastier	Insecticide application - Warrior II 1.9 oz/A	1 @ .5	0.5		
7/10/2024	Gastier	Trial received 1.1 inches of rainfall				
7/11/2024	Gastier	Trial received .2 inches of rainfall				
7/14/2024	Gastier	Trial received .05 inches of rainfall				
7/15/2024	Gastier	Insecticide Application - 8oz/A Radient, 11.3oz/A Freeway	1 @ .5	0.5		
7/18/2024	Gastier	Put up electric fence	1 @ .5	0.5	4 @ 2.0	8
7/23/2024	Gastier	Insecticide Application - 5oz/A Coragen	1 @ 1	1		
7/26/2024	Gastier	Insecticide Application - 2.8oz/A Baythrad XL	1 @ .5	0.5		
7/28/2024	Gastier	Harvested and evaluated 2 varieties, numbers 4 & 8	2 @ 1.5	3	4 @ 2.0	8
7/29/2024	Gastier	Harvested and evaluated 5 varieties 1,9,11,20 & 23	2 @ 2.0	4	4 @ 3.0	12
7/30/2024	Gastier	Trial received .35 inches of rainfall				
7/31/2024	Gastier	Insecticide application - 2.8 oz/A Baythroid 2	1 @ .5	0.5		
7/31/2024	Gastier	Harvested and evaluated 4 varieties, numbers 2,10,12 & 14	2 @ 1.5	3	4 @ 2.0	8
8/2/2024	Gastier	Harvested and evaluated 5 Varieties, numbers 7, 13,15, 22 & 24	2 @ 1.5	3	3 @ 2.0	6
8/2/2024	Gastier	Trial received .45 inches of rainfall				
8/3/2024	Gastier	Trial received .25 inches of rainfall				
8/5/2024	Gastier	Harvested and evaluated 5 varieties 3,5,6,21 & 25	2 @ 1.5	3	3 @ 2.0	6
8/5/2024	Gastier	Pulled out approx.. 400 dozen ears of corn and donated to the Society of St. Andrews	2 @ 3.0	6	3 @ 3.0	9
8/6/2024	Gastier	Trial received .05 inches of rainfall				
8/7/2024	Gastier	Harvested the last 6 varieties 16, 17, 18, 19, 26 & 27	2 @ 2.0	4	3 @ 3.0	9
8/7/2024	Gastier	Trial received 1.3 inches of rainfall				
8/12/2024	Gastier	Took down electric fence			4 @ 1.25	5
8/14/2024	Gastier	Mowed down sweetcorn trial	1 @ .75	0.75		
Total Staff Hours				46.75		99

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