

NYS 2022 PROCESSING SWEET CORN CULTIVAR TRIAL REPORT

(su, se, sh2 & Augmented types)

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Procedures and Materials:

Location: Cornell AgriTech (Research North) – Geneva NY

Soil Type: Honeoye silt loam

Planting Dates: su/se Types – 5/20; sh2/aug. Types – 6/22

Row Width: 30 inches, **Row length:** 40 ft.

In-row Spacing: 11 inches

Fertilizer: 350#/A of 15-5-10 with Mn and Zn banded, 400#/A 22-0-0 at side-dressing

Tillage: Conventional

Herbicide: Dual post plant, Impact post emergence (su) and Basagran post emergence (sh2)

Insecticide: Elevest sprayed when majority of trial began silking and again 7 days later

Planter - Two Row Monosem Vacuum Planter

Plot Size: 2 row - 4 replications (Replicated entries)

Objectives and Season Summary:

The trials were located at the Cornell AgriTech Vegetable Research Farm in Geneva, NY. The objective was to harvest su/se gene types at 71-74% moisture and the sh2/aug. types at 76-79% moisture. Plot size for the replicated entries was 2 rows, 40 feet in length, and 30 inches between the rows. Each cultivar has four replications, three for harvest and one for viewing. Yield data were taken from a single harvest of a 20 feet section of each of the two rows (40 row feet total). A subsample of 15 ears were used for ear data.

All plantings were sown with a Monosem vacuum planter with double disc openers. The fertilizer used was a 15-5-10 (with Mn and Zn) at a rate of 350 pounds per acre. Fertilizer was banded two inches below and two inches to the side of the seeds at planting. Desired population was 19,000 plants per acre (11 inches in row spacing). For weed control, Dual was used at the labeled rate pre-emergence. Both su and sh2 trials received a post emergence herbicide as well, see above. One cultivation was made to enhance weed control and to side-dress N (was done roughly 30 days from planting (400 pounds of 22-0-0 per acre)).

Planting conditions for both the su and sh2 trials were satisfactory. In June, Geneva NY recorded over 5 inches of rain, which was followed by a droughty July and August. The trials showed minimal signs of pathogens. The drastic change in weather from wet to dry was the biggest environmental factor for 2022. The su trial, planted 5/20, seemed more negatively impacted from the weather than the sh2 trial planted on 6/22. The su trial developed longer in wet conditions and therefore likely had more shallow, fibrous root systems, than the sh2 trial. See weather data at end of report.

**A vegetable cutting was held November 1st, 2022. Samples of full cobs and kernels were microwaved and put-on display.*

Table 1: 2022 Cultivar List (in order of maturity listed by company)

su Type	Seed Source	Color
Suza	Harris Moran	Y
Azlan	Harris Moran	Y
GH6055	Syngenta	Y
SVSU5255	Seminis	Y
GH6462	Syngenta	y
SVSU6942	Seminis	y
GH8199	Syngenta	Y
Generator	Harris Moran	Y
Stud Premium	Crookham	W

sh2 + Aug. Type	Seed Source	Color
1972XR	IFSI	Y
GSS8937	Syngenta	Y
HMC599302	Harris Moran	Y
Pronghorn	Seminis	Y
HMX59YS718	Harris Moran	Y
SVSK4540	Seminis	Y
Bighorn	Seminis	Y
XTH4079	IFSI	Y
Bullmoose	Seminis	Y
GVS7433	GVS	Y
Braveheart	Crookham	Y
GSS3951	Syngenta	Y
Townsend (91253)	Crookham	Y
Shiras	Seminis	Y
4182MXR	IFSI	Y
Dall	Seminis	Y
GSS2259P	Syngenta	Y
CSHYP16-1029	Crookham	Y
CSHYP17-1231	Crookham	Y
Sequoia XR	IFSI	Y
CSHYP18-1446	Crookham	Y
Messenger	Seminis	Y
HMX59WS831	Harris Moran	W
Platinum XR	IFSI	W
Devotion	Seminis	W
WSS7070	Syngenta	W

Column Descriptions for Tables: 3 & 6

Ear Uniformity – E=excellent (entire sample was the same length, diameter, and uniform tip fill); VG=very good; G=good; F=fair; P=poor

Ear Shape Rating – (Rating of overall ear shape with a focus on tip shape)
C=cylindrical; SL Taper=slightly tapered; T=tapered

Round. Rating – (Roundness of ear) R=round; SL O=slightly oval; O=oval

Kernel Rowing – (The straightness of the rows of kernels.) Str=straight; SL IRR=slightly irregular; IRR=irregular

Kernel Row Range - The number of rows around an ear listed as a range

Pericarp – S=soft; A=acceptable; T=tough

Flavor – P=poor, little to no sweetness and off flavors; A=acceptable, some sweetness and no off flavors; G=good, sweet and no off flavors; S=sweet, above average sweetness and no off flavors

Column Descriptions for Tables: 4 & 7

Husk Extension - The measurement in inches of the distance from the tip of the cob to where the husk opens. A negative measurement indicates exposed kernels.

Unfilled Tip - The measurement in inches of the tip of the ear that had not formed kernels.

Ear Length - The measurement in inches of the husked ear butt to tip.

Ear Diameter - The measurement in inches of the diameter of the middle of the ear.

Kernel Depth - Kernels measured with handheld calipers, from tip of kernel to base.

Kernel Row Range - The number of rows around an ear listed as a range.

Wt. per Unhusked Ear - The weight in pounds of an unhusked ear. (Total yield weight divided by total number of ears harvested in plot.)

Sample Wt. per Unhusked Ear - The weight in pounds of an unhusked ear based on the sample 10 ears brought in from the field.

Samp. Husked Wt. per Ear - The weight in pounds of a husked ear based on the sample. Husking done by hand.

Sample Kernel Wt. per Ear - The weight in pounds of the kernels cut from the ear, based on sample.

Plants per acre - Plant Population per acre based on population within harvest plot (Harvest plots were two rows by 20 ft per replication).

Ears per plant - The number of ears harvested divided by the number of plants in the harvest area.

Moisture percentage - Percent Moisture of the harvest sample. A slurry of cut kernels were dried to determine the percent moisture.

Tons per Acre - The extrapolated yield of the plot listed as tons per acre. Harvest plot were two rows by 20 ft (40 row feet) per replication.

Recovery - (Sample average kernel weight per ear/Sample un-husked weight per-ear)
*100

Table 2: Trial Maturity & Plant Metrics (su) (in order of harvest)

Cultivar	Days to Harvest	GDD to Harvest (50F)	Moisture %	Plant Height (in)	Ear Height (in)
Suza	87	1693	70.5	63.1	16.9
Azlan	89	1733	71.7	67.9	21.9
GH6055	90	1752	72.2	75.3	24.4
GH6462	93	1817	71.5	83.5	27.4
SVSU6942	96	1885	71.5	84.1	25.0
GH8199	96	1885	71.5	89.5	25.2
Generator	97	1908	70.7	74.8	25.2
Stud Premium (W)	98	1929	73.7	68.1	25.4
SVSU5255	99	1951	76.5	86.1	31.0

Table 3: Ear Observations (su)

Cultivar	Ear Uniformity Rating	Ear Shape Rating	Round. Rating	Rowing Straightness Rating	Pericarp Rating	Flavor Rating
Suza	G	Sl Taper	R	Sl Irr	A	A
Azlan	G	C-Sl Taper	R	Sl Irr	A	A
GH6055	VG	Sl Taper	R	Str-Sl Irr	A	A
GH6462	G-VG	Sl Taper	R	Str-Sl Irr	A	A
SVSU6942	G-VG	C-Sl Taper	R	Sl Irr	A	A
GH8199	G-VG	Sl Taper	R	Sl Irr	A	A-G
Generator	G-VG	Sl Taper	R	Str-Sl Irr	A	A
Stud Premium (W)	G-VG	Sl Taper	R	Sl Irr	A	A-G
SVSU5255	G	C-Sl Taper	R	Str-Sl Irr	A	A

*See page 4 for column descriptions
(W) = White variety

Table 4: Ear & Yield Data (su)

Cultivar	Husk Ext. (in)	Unfill. Tip (in)	Ear Length (in)	Ear Diam. (in)	Kernel Depth (mm)	Kernel Row Range	Wt. per Un-husked Ear (lbs)	Samp. Wt. per Un-husked Ear (lbs)	Samp. Husked Wt. Per Ear (lbs)	Samp. Kernel Wt. Per Ear (lbs)	Avg. Ears Per Plant	% Moist.	Plants Per Acre	Tons Per Acre	Rec. %
Suza*	1.16	0.78	7.68	1.96	10.1	16-20	0.70	0.74	0.58	0.45	0.96	70.5	13358	6.1	60.8
Azlan	0.53	0.93	8.31	1.98	10.3	16-20	0.81	0.85	0.67	0.51	0.97	71.7	17424	6.8	60.0
GH6055	0.59	0.83	8.13	2.00	10.3	14-18	0.84	0.94	0.72	0.50	0.99	72.2	17134	7.2	53.2
GH6462	1.77	0.19	8.03	2.06	12.6	18-20	0.83	0.95	0.73	0.51	0.99	71.5	17134	7.1	53.7
SVSU6942	0.25	0.33	7.80	2.18	11.9	18-22	0.94	1.03	0.81	0.59	0.97	71.5	17279	7.9	57.3
GH8199	2.36	1.15	9.63	2.06	12.0	16-20	0.98	1.09	0.83	0.60	0.94	71.5	17424	8.1	55.0
Generator	1.29	0.40	8.41	2.04	12.1	16-22	0.90	0.98	0.72	0.52	0.94	70.7	17424	7.4	53.1
Stud Premium (W)	1.45	0.32	8.27	2.10	12.7	16-20	0.89	1.03	0.75	0.52	0.95	73.7	17424	7.4	50.5
SVSU5255	1.85	1.03	9.08	2.35	14.3	16-20	1.14	1.25	1.01	0.78	0.93	76.5	16988	9.2	62.4

*Significant racoon theft/damage in all reps

** See page 5 for column descriptions

(W) = White variety

Cultivar Descriptions Provided by the Seed Source (su/se Types)

Suza – Harris Moran, 73 days to maturity. IR: Et. First early yellow SU variety.

Azlan- Harris Moran, 75 days to maturity. Ear is 8 inches in length and 2.1 inches in diameter. IR: Et, MDMV, Ps & Pg#6.

GH6055 – Syngenta. 76 days to maturity. Ear is 8.4 inches in length and 2.1 inches in diameter
R: PS (Rp1-d) / MDMV.

SVSU5255 – Seminis, 82 days to maturity.

GH6462 – Syngenta; 83 days to maturity. Main season sugary with high recovery potential. HR: Ps: (Rp1-d), Ps: (Rp1-g); IR: Bm, MDMV, Pst.

SVSU6942 – Seminis, 84 days to maturity.

GH8199 – Syngenta. 85 days to maturity. Main season sugary with high recovery potential, lodging tolerance, excellent field holding ability, and dual purpose for cut and cob. HR: Ps: (Rp1-g), Ps: (Rp1-i); IR: Et.

Generator – Harris Moran. 85 days to maturity. Ear is 8.75 inches in length and 2 inches in diameter. IR: NCLB, Et, Ps. Pg# 6.

Stud Premium - Crookham Company. 84 days to maturity. White su type with an ear length of 8.5 (in) and a diameter of 1.9 (in). HR: CR (RpGFJ), SW; IR: NCLB.

Table 5: Trial Maturity & Plant Metrics (sh2) (in order of harvest)

Cultivar	Days to Harvest	GDD to Harvest (50°F)	% Moisture	Plant Height (in)	Ear Height (in)
1972XR	79	1667	77.5	71.2	22.9
GSS8937	79	1667	77.8	71.6	22.5
HMC599302	83	1742	78.3	82.9	27.0
Pronghorn	83	1742	80.6	78.0	26.7
HMX59YS718	83	1742	79.5	80.1	27.4
Braveheart	83	1742	74.8	77.1	27.2
XTH4079	85	1773	78.0	79.7	26.6
Bullmoose	85	1773	79.3	81.2	29.9
GVS7433	85	1773	77.5	83.1	31.1
Shiras	85	1773	78.5	82.8	30.8
Bighorn	86	1778	80.5	83.6	30.9
GSS3951	86	1778	76.7	81.5	31.9
CSHYP16-1029	86	1778	77.3	82.5	30.5
Sequoia XR	86	1778	78.0	88.7	38.4
Dall	87	1783	78.8	80.4	28.8
CSHYP18-1446	87	1783	76.7	71.0	25.5
Townsend	88	1800	78.0	83.1	31.4
CSHYP17-1231	88	1800	78.0	73.8	25.9
GSS2259P	90	1842	77.7	90.5	43.9
Messenger	90	1842	78.2	78.3	30.8
SVSK4540	92	1874	81.0	85.4	33.0
4182MXR	92	1874	78.8	82.5	28.4
HMX59WS831 (W)	82	1721	76.7	69.8	21.8
WSS7070 (W)	83	1742	77.2	89.4	35.8
Platinum XR (W)	83	1742	76.2	77.5	28.8
Devotion (W)	84	1756	77.0	82.8	33.9

(W) = White variety

Table 6: Ear Observations (sh2)

Cultivar	Ear Uniformity Rating	Ear Shape Rating	Round. Rating	Rowing Straightness Rating	Pericarp Rating	Flavor Rating
1972XR	G	Sl Taper	R	Sl Irr	A	G
GSS8937	G-VG	Sl Taper	R	Sl Irr	A	A-G
HMC599302	G-VG	Sl Taper	R	Sl Irr	A	A-G
Pronghorn	G	C-Sl Taper	R	Sl Irr	A	G
HMX59YS718	G	Sl Taper	R	Sl Irr	A	G
Braveheart	G-VG	Sl Taper	R	Str-Sl Irr	A	G
XTH4079	G-VG	C-Sl Taper	R	Sl Irr	A	G-S
Bullmoose	VG	C-Sl Taper	R	Sl Irr	A	A-G
GVS7433	G-VG	Sl Taper	R	Sl Irr	A	A-G
Shiras	VG	Sl Taper	R	Sl Irr	A	A-G
Bighorn	G-VG	C-Sl Taper	R	Str-Sl Irr	A	A-G
GSS3951	G-VG	Sl Taper	R	Str-Sl Irr	A	A-G
CSHYP16-1029	VG	C-Sl Taper	R	Str-Sl Irr	A	G-S
Sequoia XR	G-VG	C-Sl Taper	R	Str-Sl Irr	A	A-G
Dall	G	C-Sl Taper	R	Str-Sl Irr	A	A-G
CSHYP18-1446	G-VG	C-Sl Taper	R	Sl Irr	A	G
Townsend	VG	C-Sl Taper	R	Sl Irr	A	G-S
CSHYP17-1231	G-VG	Sl Taper	R	Sl Irr	A	A-G
GSS2259P	G-VG	Sl Taper	R	Sl Irr	A	G
Messenger	G-VG	C-Sl Taper	R	Str-Sl Irr	A	A-G
SVSK4540	G	C-Sl Taper	R	Sl Irr	A	A-G
4182MXR	G	C-Sl Taper	R	Str-Sl Irr	A	G-S
HMX59WS831 (W)	G	Sl Taper	R	Sl Irr	A	G-S
WSS7070 (W)	G-VG	Sl Taper	R	Str-Sl Irr	A	A-G
Platinum XR (W)	G-VG	Sl Taper	R	Sl Irr	A	G
Devotion (W)	VG	C-Sl Taper	R	Sl Irr	A	G

*See page 4 for column descriptions

(W) = White variety

Table 7: Ear & Yield Data (sh2)

Cultivar	Husk Ext. (in)	Unfill Tip (in)	Ear Length (in)	Ear Diam. (in)	Kernel Depth (mm)	Kernel Row Range	Wt. per Un-husked Ear (lbs)	Samp. Wt. per Un-husked Ear (lbs)	Samp. Husked Wt. Per Ear (lbs)	Samp. Kernel Wt. Per Ear (lbs)	Avg. Ears Per Plant	% Moist	Plants Per Acre (1000)	Tons Per Acre	Rec. %
1972XR	-0.11	0.28	8.7	2.20	13.5	16-20	1.07	1.08	0.82	0.60	0.98	77.5	17424	9.0	55.6
GSS8937	-0.12	0.09	8.5	2.10	14.3	12-16	0.91	0.91	0.74	0.55	0.97	77.8	17279	8.4	60.4
HMC599302	0.16	0.47	9.3	2.20	14.1	16-20	1.12	1.10	0.84	0.68	0.96	78.3	16698	9.3	61.8
Pronghorn	-0.14	0.07	8.6	2.30	14.3	14-20	1.09	1.14	0.90	0.73	0.93	80.6	16843	8.6	64.0
HMX59YS718	0.71	0.23	8.1	2.34	14.9	16-22	1.11	1.16	0.85	0.70	0.94	79.5	17278	9.0	60.3
Braveheart	0.59	0.12	8.8	2.14	12.5	14-20	1.08	1.12	0.81	0.57	0.94	74.8	17424	8.9	50.9
XTH4079	0.75	0.70	8.4	2.30	14.0	16-22	1.09	1.13	0.91	0.68	0.93	78.0	17424	8.9	60.2
Bullmoose	2.05	0.13	8.2	2.30	13.7	18-22	1.13	1.17	0.90	0.66	0.93	79.3	17279	9.1	56.4
GVS7433	1.24	0.68	8.8	2.26	13.8	16-20	1.07	1.20	0.91	0.67	0.92	77.5	17279	8.5	55.8
Shiras	1.14	0.68	9.2	2.21	14.2	14-20	1.10	1.16	0.90	0.67	0.93	78.5	17424	8.9	57.8
Bighorn	1.68	0.21	8.0	2.28	13.9	14-20	1.09	1.10	0.85	0.62	0.95	80.5	17134	8.9	56.4
GSS3951	1.44	0.19	8.6	2.10	13.8	16-20	1.04	1.07	0.82	0.60	0.95	76.7	17424	8.6	56.1
CSHYP16-1029	1.33	0.02	8.2	2.05	13.0	14-18	0.99	1.02	0.74	0.53	0.93	77.3	17424	7.9	51.9
Sequoia XR	1.41	0.15	8.5	2.15	13.7	16-18	1.14	1.20	0.84	0.61	0.94	78.0	17157	9.3	50.8
Dall	1.23	0.92	9.0	2.25	14.3	16-22	1.17	1.21	0.90	0.65	0.93	78.8	17424	9.4	53.7
CSHYP18-1446	1.85	0.46	7.9	2.20	14.1	16-20	1.03	1.09	0.80	0.60	0.92	76.7	17134	8.1	55.0
Townsend	2.62	0.04	7.6	2.08	13.1	18-22	1.03	1.02	0.74	0.55	0.93	78.0	17424	8.4	53.9
CSHYP117-1231	0.70	0.57	8.4	2.18	15.1	14-18	1.03	1.09	0.84	0.63	0.93	78.0	17424	8.3	58.1
GSS2259P	1.16	0.26	8.5	2.17	13.7	18-22	0.98	1.07	0.89	0.58	1.02	77.7	17424	8.6	54.2
Messenger	2.68	0.29	8.7	2.19	13.5	18-20	1.21	1.26	0.88	0.65	0.97	78.2	17279	10.1	51.6
SVSK4540	0.35	0.40	8.3	2.27	14.1	14-20	1.09	1.12	0.90	0.68	0.97	81.0	16698	9.1	60.7
4182MXR	1.94	0.43	7.8	2.22	13.6	16-20	1.04	1.09	0.82	0.62	0.94	78.8	17424	8.6	56.9
HMX59WS831 (W)	0.03	0.38	8.4	2.10	12.8	14-18	1.06	1.03	0.76	0.54	0.94	76.7	17424	8.7	52.4
WSS7070 (W)	1.43	1.28	8.9	2.23	13.8	18-22	1.11	1.15	0.88	0.64	0.92	77.2	17279	8.9	55.7
Platinum XR (W)	0.73	0.23	8.5	2.20	13.3	16-20	1.07	1.08	0.81	0.60	0.93	76.2	17279	8.6	55.6
Devotion (W)	0.91	0.05	7.9	2.19	13.1	16-18	0.97	1.01	0.76	0.55	0.92	77.0	17424	7.7	54.5

*See page 5 for column descriptions

Descriptions Provided by the Seed Source (sh2 & Aug.)

Yellow Varieties:

1972XR – IFSI, 72 days or 1640 GDD to maturity. 1040 GDD to silk. RpG for rust resistance and MS for NCLB. Early processor with strong yield and recovery data.

GSS8937 – Syngenta, 72 days to maturity. Average ear length 8.1 inches and 1.8 inches in diameter. HR: Ps: (Rp1-g), MDMV: A; IR: Et.

HMC599302 – Harris Moran, 74 days to maturity. HR: Ps (Rp1-E) and IR: ET. Early season yellow sh2 variety with 9.2-inch ear length. Strong disease resistance and deep kernels.

Pronghorn – Seminis, 74 days to maturity. HR: RpG and IR: Pst.

HMX59YS718 – Harris Moran, 75 days to maturity. IR: Ps. Early season yellow sh2 variety with IR to Rust. Deep kernels with a darker yellow color.

SVSK4540 – Seminis, 76 days to maturity. IR: MDMV / SCMV / Pst/ Et.

Bighorn – Seminis, 77 days to maturity. HR: RpG and IR: Et.

XTH4079 – IFSI, 79 days or 1729 GDD to maturity. 1129 GDD to silk. Moderate resistance to NCLB and MDM. High percent recovery and case production.

Bull Moose – Seminis, 79 days to maturity. HR: RpG and IR: Et.

GVS7433 – Gallatin Valley Seed, 1450 GDD to silk and 1750 GDD to maturity. Resistant to RpGI and tolerant of NCLB. Good emergence, 8-inch ear, and taller plant type.

BraveHeart – Crookham Company. 80 days to maturity. Ear length is 8.5-9.0 inches and 1.9 inches in diameter. HR: CR, SW, & MDM; IR: NCLB.

GSS3951 – Syngenta. 81 days to maturity. Main season super-sweet with high recovery potential, lodging tolerance and field holding ability. HR: Ps: (Rp1-d), Ps: (Rp1-i); IR: Et.

Townsend (91253) – Crookham Company.

Shiras – Seminis, 82 days to maturity. HR: RpGI and IR: Et / Pst.

4182MXR – IFSI, 82 days or 1782 GDD to maturity. 1182 GDD to silk. Good disease package with, RpGI for rust resistance, MR for NCLB, and resistant to MDMV.

Dall – Seminis, 83 days to maturity. HR: RpGI and IR: Et / Pst.

Descriptions provided by the Seed Source (sh2 & Aug.) Cont.

GSS2259p – Syngenta. 84 days to maturity. Main season super-sweet with excellent seedling vigor, lodging tolerance and field holding capacity. HR: Ps: (Rp1-g), MDMV; IR: Et.

CSHYP16-1029 – Crookham Company. 84 days to maturity.

CSHYP17-1231 – Crookham Company.

Sequoia XR– IFSI, 86 days or 1862 GGD to maturity. 1262 GDD to silk. Late maturity with good disease package. RpGD for common rust and MR for NCLB.

CSHYP18-1446 – Crookham company.

Messenger – Seminis. 87 days to maturity. HR: RpG59 and IR: MDMV / SCMV / Et.

White sh2 Types:

HMX59WS831 – Harris Moran, 77 days to maturity. Mid-season white sh2 variety with intermediate rust resistance (Rp1-G).

Platinum XR – IFSI, 80 days or 1805 GDD to maturity. 1205 GDD to silk. Good disease package, RpGDJ for common rust and moderate resistance to NCLB. Excellent bright white kernel color.

Devotion – Seminis, 82 days to maturity. IR: Pst.

WSS7070 – Syngenta. 83 days to maturity. Main season white super-sweet with high recovery potential and field yield potential. Great field holding potential. HR: Ps: (Rp1-i); IR: Et, MDMV).

*Abbreviations of Common Sweet Corn Pathogens:

Northern Corn Leaf Blight – Et or NCLB, (Exserohilum turcicum)

Maize dwarf mosaic –MDMV (Maize dwarf mosaic virus)

Common Rust – Ps (Puccinia sorghi)

Stewarts wilt – Pst (Pantoea stewartii (ex. Erwinia stewartii)

Southern corn leaf blight – Bm (Bipolaris maydis(=Helminthosporium maydis)

Table 8: SU Trial Weather Data

Date	Avg. Air Temp. (°F)	Max Air Temp. (°F)	Min Air Temp. (°F)	Daily Precipitation (in)	Accumulated Precipitation (in)	GDD Base 50 (°F)	Acc. GDD Base 50 (°F)
5/20/22	65.8	80.8	50.9	0.04	0.04	16	16
5/21/22	77.5	90.5	64.4	0.19	0.23	27	43
5/22/22	65.8	79.3	52.3	0.03	0.26	15	59
5/23/22	54.3	61.9	46.8	0.00	0.26	4	62
5/24/22	56.9	72.3	41.5	0.00	0.26	7	69
5/25/22	61.1	74.8	47.5	0.00	0.26	11	80
5/26/22	71.8	81.9	61.7	0.00	0.26	22	102
5/27/22	66.0	70.5	61.5	0.90	1.16	15	117
5/28/22	60.7	67.8	53.6	0.16	1.32	11	128
5/29/22	65.6	77.4	53.8	0.00	1.32	16	143
5/30/22	72.3	87.8	56.7	0.00	1.32	22	166
5/31/22	76.8	88.9	64.6	0.00	1.32	27	192
6/1/22	72.8	78.3	67.3	0.56	1.88	23	215
6/2/22	66.8	74.7	58.8	0.08	1.96	17	232
6/3/22	65.0	75.7	54.3	0.00	1.96	15	247
6/4/22	59.5	68.0	51.1	0.00	1.96	10	257
6/5/22	61.5	75.7	47.3	0.00	1.96	12	268
6/6/22	69.0	79.3	58.8	0.00	1.96	19	287
6/7/22	66.1	71.2	61.0	0.32	2.28	15	302
6/8/22	64.2	72.9	55.4	0.02	2.30	14	316
6/9/22	60.8	66.2	55.4	0.65	2.95	11	327
6/10/22	63.6	72.0	55.2	0.10	3.05	14	341
6/11/22	62.7	73.6	51.8	0.00	3.05	13	354
6/12/22	66.0	72.9	59.0	0.33	3.38	16	369
6/13/22	64.5	73.0	56.1	0.13	3.51	14	384
6/14/22	65.9	76.6	55.2	0.00	3.51	16	400
6/15/22	69.9	84.4	55.4	0.00	3.51	20	419
6/16/22	77.9	85.6	70.2	0.61	4.12	28	447
6/17/22	70.1	77.9	62.2	0.15	4.27	20	467
6/18/22	57.5	64.4	50.5	0.08	4.35	7	475
6/19/22	58.2	66.7	49.6	0.00	4.35	8	483
6/20/22	64.8	76.5	53.2	0.00	4.35	15	498
6/21/22	72.8	89.6	56.1	0.00	4.35	23	521
6/22/22	78.0	88.9	67.1	0.70	5.05	28	549
6/23/22	69.3	78.4	60.3	0.01	5.06	19	568
6/24/22	70.3	82.0	58.6	0.00	5.06	20	588
6/25/22	71.9	87.1	56.7	0.00	5.06	22	610
6/26/22	77.5	87.6	67.5	0.79	5.85	28	638

Table 8 Continued: SU Trial Weather Data

Date	Avg. Air Temp. (°F)	Max Air Temp. (°F)	Min Air Temp. (°F)	Daily Precipitation (in)	Accumulated Precipitation (in)	GDD Base 50 (°F)	Acc. GDD Base 50 (°F)
6/27/22	66.7	74.1	59.2	0.06	5.91	15	653
6/28/22	63.4	73.2	53.6	0.00	5.91	13	666
6/29/22	64.6	75.2	54.0	0.00	5.91	15	681
6/30/22	69.0	83.1	55.0	0.00	5.91	19	700
7/1/22	78.2	88.3	68.0	0.00	5.91	28	728
7/2/22	73.8	81.9	65.8	0.06	5.97	24	752
7/3/22	67.7	75.9	59.4	0.00	5.97	18	770
7/4/22	66.9	81.1	52.7	0.00	5.97	17	787
7/5/22	71.6	75.7	67.5	0.00	5.97	22	808
7/6/22	66.8	73.0	60.6	0.00	5.97	15	823
7/7/22	68.0	81.1	54.9	0.00	5.97	18	841
7/8/22	69.5	79.7	59.2	0.00	5.97	19	861
7/9/22	64.3	72.7	55.9	0.00	5.97	14	875
7/10/22	64.0	79.3	48.6	0.00	5.97	14	889
7/11/22	72.2	89.1	55.2	0.00	5.97	22	911
7/12/22	75.7	85.3	66.0	0.01	5.98	25	936
7/13/22	70.0	78.8	61.3	0.02	6.00	20	956
7/14/22	66.9	76.8	57.0	0.00	6.00	16	972
7/15/22	67.9	82.4	53.4	0.00	6.00	18	990
7/16/22	71.5	84.7	58.3	0.00	6.00	22	1012
7/17/22	72.9	87.3	58.5	0.03	6.03	23	1035
7/18/22	74.5	82.0	66.9	0.14	6.17	24	1059
7/19/22	78.5	88.0	68.9	0.06	6.23	28	1087
7/20/22	82.8	91.2	74.5	0.05	6.28	33	1120
7/21/22	79.4	84.7	74.1	0.00	6.28	29	1149
7/22/22	77.1	88.5	65.7	0.00	6.28	27	1176
7/23/22	77.9	91.0	64.8	0.00	6.28	28	1204
7/24/22	75.8	85.8	65.7	0.22	6.50	26	1230
7/25/22	70.3	76.8	63.9	0.05	6.55	20	1250
7/26/22	66.5	76.5	56.5	0.05	6.60	17	1266
7/27/22	70.8	82.9	58.8	0.03	6.63	21	1287
7/28/22	74.6	82.2	66.9	0.02	6.65	25	1312
7/29/22	73.4	81.0	65.8	0.00	6.65	23	1335
7/30/22	69.0	76.8	61.3	0.00	6.65	19	1354
7/31/22	68.0	79.0	57.0	0.00	6.65	18	1372
8/1/22	73.3	85.6	61.0	0.00	6.65	23	1396
8/2/22	71.3	79.7	62.8	0.00	6.65	21	1416

Table 8 Continued: SU Trial Weather Data

Date	Avg. Air Temp. (°F)	Max Air Temp. (°F)	Min Air Temp. (°F)	Daily Precipitation (in)	Accumulated Precipitation (in)	GDD Base 50 (°F)	Acc. GDD Base 50 (°F)
8/3/22	73.0	88.0	58.1	0.00	6.65	23	1439
8/4/22	78.2	84.0	72.3	0.00	6.65	28	1467
8/5/22	77.3	86.2	68.5	0.00	6.65	27	1495
8/6/22	77.0	86.9	67.1	0.01	6.66	27	1522
8/7/22	81.6	90.7	72.5	0.00	6.66	32	1553
8/8/22	82.2	91.4	73.0	0.11	6.77	32	1586
8/9/22	70.3	77.5	63.0	0.06	6.83	20	1606
8/10/22	70.2	79.5	60.8	0.00	6.83	20	1626
8/11/22	70.2	79.0	61.3	0.00	6.83	20	1646
8/12/22	66.2	75.2	57.2	0.00	6.83	16	1662
8/13/22	65.1	77.9	52.2	0.00	6.83	15	1677
8/14/22	65.8	81.7	49.8	0.00	6.83	16	1693
8/15/22	68.9	81.3	56.5	0.01	6.84	19	1712
8/16/22	70.6	81.5	59.7	0.45	7.29	21	1733
8/17/22	69.0	78.6	59.4	0.00	7.29	19	1752
8/18/22	69.8	79.0	60.6	0.00	7.29	20	1771
8/19/22	71.5	85.1	57.9	0.00	7.29	22	1793
8/20/22	74.7	87.8	61.5	0.02	7.31	25	1817
8/21/22	74.4	82.8	66.0	0.15	7.46	24	1842
8/22/22	71.8	77.9	65.8	0.04	7.50	22	1863
8/23/22	71.5	77.7	65.3	0.03	7.53	22	1885
8/24/22	72.8	81.7	63.9	0.02	7.55	23	1908
8/25/22	71.3	80.8	61.9	0.02	7.57	21	1929
8/26/22	72.0	79.3	64.8	0.01	7.58	22	1951

Table 9: SH2 Trial Weather Data

Date	Avg. Air Temp. (°F)	Max Air Temp. (°F)	Min Air Temp. (°F)	Daily Precipitation (in)	Accumulated Precipitation (in)	GDD Base 50 (°F)	Acc. GDD Base 50 (°F)
6/22/22	78.0	88.9	67.1	0.70	0.70	28	28
6/23/22	69.3	78.4	60.3	0.01	0.71	19	47
6/24/22	70.3	82.0	58.6	0.00	0.71	20	68
6/25/22	71.9	87.1	56.7	0.00	0.71	22	89
6/26/22	77.5	87.6	67.5	0.79	1.50	28	117
6/27/22	66.7	74.1	59.2	0.06	1.56	15	132
6/28/22	63.4	73.2	53.6	0.00	1.56	13	146
6/29/22	64.6	75.2	54.0	0.00	1.56	15	160
6/30/22	69.0	83.1	55.0	0.00	1.56	19	179
7/1/22	78.2	88.3	68.0	0.00	1.56	28	208
7/2/22	73.8	81.9	65.8	0.06	1.62	24	231
7/3/22	67.7	75.9	59.4	0.00	1.62	18	249
7/4/22	66.9	81.1	52.7	0.00	1.62	17	266
7/5/22	71.6	75.7	67.5	0.00	1.62	22	288
7/6/22	66.8	73.0	60.6	0.00	1.62	15	303
7/7/22	68.0	81.1	54.9	0.00	1.62	18	321
7/8/22	69.5	79.7	59.2	0.00	1.62	19	340
7/9/22	64.3	72.7	55.9	0.00	1.62	14	354
7/10/22	64.0	79.3	48.6	0.00	1.62	14	368
7/11/22	72.2	89.1	55.2	0.00	1.62	22	390
7/12/22	75.7	85.3	66.0	0.01	1.63	25	415
7/13/22	70.0	78.8	61.3	0.02	1.65	20	435
7/14/22	66.9	76.8	57.0	0.00	1.65	16	452
7/15/22	67.9	82.4	53.4	0.00	1.65	18	469
7/16/22	71.5	84.7	58.3	0.00	1.65	22	491
7/17/22	72.9	87.3	58.5	0.03	1.68	23	514
7/18/22	74.5	82.0	66.9	0.14	1.82	24	538
7/19/22	78.5	88.0	68.9	0.06	1.88	28	567
7/20/22	82.8	91.2	74.5	0.05	1.93	33	600
7/21/22	79.4	84.7	74.1	0.00	1.93	29	628
7/22/22	77.1	88.5	65.7	0.00	1.93	27	655
7/23/22	77.9	91.0	64.8	0.00	1.93	28	683
7/24/22	75.8	85.8	65.7	0.22	2.15	26	709
7/25/22	70.3	76.8	63.9	0.05	2.20	20	729
7/26/22	66.5	76.5	56.5	0.05	2.25	17	746
7/27/22	70.8	82.9	58.8	0.03	2.28	21	767
7/28/22	74.6	82.2	66.9	0.02	2.30	25	791

Table 9 Continued: SH2 Trial Weather Data

Date	Avg. Air Temp. (°F)	Max Air Temp. (°F)	Min Air Temp. (°F)	Daily Precipitation (in)	Accumulated Precipitation (in)	GDD Base 50 (°F)	Acc. GDD Base 50 (°F)
7/29/22	73.4	81.0	65.8	0.00	2.30	23	815
7/30/22	69.0	76.8	61.3	0.00	2.30	19	834
7/31/22	68.0	79.0	57.0	0.00	2.30	18	852
8/1/22	73.3	85.6	61.0	0.00	2.30	23	875
8/2/22	71.3	79.7	62.8	0.00	2.30	21	896
8/3/22	73.0	88.0	58.1	0.00	2.30	23	919
8/4/22	78.2	84.0	72.3	0.00	2.30	28	947
8/5/22	77.3	86.2	68.5	0.00	2.30	27	974
8/6/22	77.0	86.9	67.1	0.01	2.31	27	1001
8/7/22	81.6	90.7	72.5	0.00	2.31	32	1033
8/8/22	82.2	91.4	73.0	0.11	2.42	32	1065
8/9/22	70.3	77.5	63.0	0.06	2.48	20	1085
8/10/22	70.2	79.5	60.8	0.00	2.48	20	1105
8/11/22	70.2	79.0	61.3	0.00	2.48	20	1125
8/12/22	66.2	75.2	57.2	0.00	2.48	16	1142
8/13/22	65.1	77.9	52.2	0.00	2.48	15	1157
8/14/22	65.8	81.7	49.8	0.00	2.48	16	1172
8/15/22	68.9	81.3	56.5	0.01	2.49	19	1191
8/16/22	70.6	81.5	59.7	0.45	2.94	21	1212
8/17/22	69.0	78.6	59.4	0.00	2.94	19	1231
8/18/22	69.8	79.0	60.6	0.00	2.94	20	1251
8/19/22	71.5	85.1	57.9	0.00	2.94	22	1272
8/20/22	74.7	87.8	61.5	0.02	2.96	25	1297
8/21/22	74.4	82.8	66.0	0.15	3.11	24	1321
8/22/22	71.8	77.9	65.8	0.04	3.15	22	1343
8/23/22	71.5	77.7	65.3	0.03	3.18	22	1364
8/24/22	72.8	81.7	63.9	0.02	3.20	23	1387
8/25/22	71.3	80.8	61.9	0.02	3.22	21	1408
8/26/22	72.0	79.3	64.8	0.01	3.23	22	1431
8/27/22	66.8	75.6	58.1	0.01	3.24	16	1447
8/28/22	70.5	85.5	55.6	0.01	3.25	21	1467
8/29/22	80.3	90.7	69.8	0.01	3.26	30	1498
8/30/22	69.9	75.0	64.8	0.01	3.27	20	1518
8/31/22	70.0	77.9	62.1	0.00	3.27	20	1538
9/1/22	62.0	70.5	53.6	0.01	3.28	12	1550
9/2/22	65.5	78.8	52.3	0.00	3.28	16	1565
9/3/22	71.9	82.6	61.3	0.00	3.28	22	1587

Table 9 Continued: SH2 Trial Weather Data

Date	Avg. Air Temp. (°F)	Max Air Temp. (°F)	Min Air Temp. (°F)	Daily Precipitation (in)	Accumulated Precipitation (in)	GDD Base 50 (°F)	Acc. GDD Base 50 (°F)
9/4/22	67.1	71.6	62.6	0.00	3.28	17	1604
9/5/22	64.6	67.1	62.1	0.14	3.42	15	1619
9/6/22	64.2	65.3	63.0	0.02	3.44	14	1633
9/7/22	66.0	69.3	62.8	0.02	3.46	16	1649
9/8/22	68.3	76.1	60.4	0.04	3.50	18	1667
9/9/22	68.3	79.7	56.8	0.01	3.51	18	1685
9/10/22	69.9	80.1	59.7	0.01	3.52	20	1705
9/11/22	65.4	67.8	63.0	0.00	3.52	15	1721
9/12/22	71.0	76.8	65.3	0.02	3.54	21	1742
9/13/22	64.3	73.0	55.6	0.13	3.67	14	1756
9/14/22	67.2	75.7	58.6	0.05	3.72	17	1773
9/15/22	55.2	63.5	46.9	0.00	3.72	5	1778
9/16/22	54.8	65.5	44.1	0.00	3.72	5	1783
9/17/22	67.0	79.2	54.9	0.00	3.72	17	1800
9/18/22	72.2	80.8	63.5	0.00	3.72	22	1822
9/19/22	69.8	75.9	63.7	0.35	4.07	20	1842
9/20/22	64.1	70.5	57.7	0.00	4.07	14	1856
9/21/22	68.1	79.5	56.7	0.00	4.07	18	1874