

**N. Y. S. 2019 PROCESSING SWEET CORN VARIETY
REPLICATED AND OBSERVATION (su and supersweet type) TRIAL SUMMARY**

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The trial was located at the Vegetable Research Farm in Geneva, NY. The objective was to harvest su gene type at 72-75% moisture and the supersweet type at 75-78% moisture. Plot size for the replicated entries was 2 rows, 40 feet in length, and 30 inches between the rows. An early planting of su cultivars was planted on 5/12 and followed by another planting on 5/25. A single planting of the yellow supersweet type (four replications) was planted on 6/17. A single planting of white supersweets was planted on 6/22. A disease trial was planted on 7/10 and evaluated in early October. Yield data were taken from a single harvest of a 20 foot section of each of the two rows (40 row feet total). A subsample of 15 ears was used for ear data.

Observation entry plot size was also 2 rows, 40 feet in length, and 30 inches between the rows. There were two plots of each cultivar at each planting. Planting dates were the same as the replicated plots. All plantings were sowed 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 lbs. per acre. Fertilizer was banded two inches below and two inches to the side of the seeds at planting. Bicep Lite (at the labeled rate) was applied post emergence for weed control. Desired population was 19,000 plants per acre (11 inches in row spacing). One cultivation was made to enhance weed control and to sidedress N (was done roughly 30 days from planting (400 pounds of 22-0-0 per acre)). The varieties GH4927 and GH6462 from Syngenta Seeds were used as standards for the su type. Overland, from Syngenta Seeds, was used as the supersweet standard.

Spring rainfall was overly plentiful delaying planting of all but the earliest su trial. We had one dry period in July but irrigation was not needed. Both of the su and also the supersweet planting had good emergence. Heat units over the entire growing season were probably average although it was cool in May and June. See Weather Summary table. The bacterial disease Stewarts Wilt was minimal to nonexistent. Common Smut was minimal. Common Rust infection was also minimal to nonexistent. NCLB was again evident although it probably did not affect yield. This disease seems to be more common and a bit more severe the past few years. A late season disease trial was not planted due to weather constraints that delayed the evaluation trials.

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Table 1. Cultivar List

Su Type	Seed Source
SC1263	Seminis
HMX 89SU716	HM
Cash	Crites
Gh 4927std	Syngenta
Azlan (HMX 5389)	HM
Grampian	Crites
GH 6462 (std)	Syngenta
ZUY1317	Crites
CSUP14-879	Crookham
CSYYP15-988	Crookham

Supersweet (yellow)

1972 XR	IFDS
SVSK5678	Seminis
Harvest Gold	GV
Pronghorn (5854)	Seminis
SVSK6774	Seminis
HMX59YS718	HM
XTH1679	IFDS
SVSK0762	Seminis
CSAYF13-697	Crookham
GSS3071	Syngenta

Supersweet Yellow cont:	Seed Source
HMX59YS825	HM
Moonshine	GV
SVSK6143	Seminis
SVSK1859	Seminis
HMX59YS823	HM
HMX 59YS614	HM
SVSK5780	Seminis
SV1339SK	Seminis
GSS3951	Syngenta
4182 MXR	IFDS
GSS 1453	Syngenta
HardiGI5	Crookham
Overland (std)	Syngenta
ZHY 1455	Crites
Messinger	Seminis
Talladega	Crookham

White Supersweet

ZHY5055	Crites
3879 XR	IFDS
Devotion	Seminis
CSHWP14-757	Crookham

Table 2. su planting date 5/9

Cultivar	Days to Silk	Heat Units to Silk	Days to Harv.	Heat Units to Harvest	Moist. %	Source Maturity
SC1263	71	947	98	1509	69.3	73
HMX 89SU716	71	947	98	1509	70.8	75
Cash	76	1078	103	1602	71.0	74
Gh 4927std	76	1078	99	1529	71.2	75
Azlan (5389)	74	1023	99	1529	72.7	75
Grampian	76	1078	103	1529	69.8	81
GH 6462 (std)	80	1143	105	1646	71.6	83
ZUY1317	80	1143	106	1670	71.2	83
CSUP14-879	81	1165	106	1670	71.9	84
CSYYP15-988	81	1165	106	1670	71.7	na

Table 2A. Su planting date 6/8

Cultivar	Days to Silk	Heat Units to Silk	Days to Harv.	Heat Units to Harvest	Moist. %	Source Maturity
SC1263	55	1052	80	1509	74.3	73
HMX 89SU716	55	1052	80	1509	74.4	75
Cash	57	1087	87	1609	72.1	74
Gh 4927std	56	1067	83	1555	75.5	75
Aslan (5389)	56	1067	83	1555	75.9	75
Grampian	60	1142	87	1609	70.9	81
GH 6462 (std)	60	1142	90	1656	72.8	83
ZUY1317	62	1186	90	1656	73.9	83
CSUP14-879	62	1186	93	1687	71.1	84
CSYYP15-988	62	1186	93	1687	72.1	na

Days to silk - The number of days from planting until plots had 50% of plants showing silks.

Heat Units to Silk - Growing Degree Day Units Base 50 Degrees F. - The accumulation of degree day units from planting until silk.

Days to harvest - The number of days from planting until harvest.

Heat Units to Harvest - Growing Degree Day Units Base 50 Degrees F. The accumulation of degree day units from planting until harvest.

% Moisture at Harvest - Percent Moisture of the harvest sample - A slurry of cut kernels was dried to determine the percent moisture.

Seed Source Maturity - Maturity in days provided by the seed source.

Table 3. Ear and Kernel Ratings - Su planting dates 5/9 & 6/8

Cultivar	Ear Unif. Rating	Ear Shape Rating	Oval / Round Rating	Kernel Rowing Rating	Kernel size Rating	Kernel Depth Rating	Kernel Row Range	Pericarp Rating	Flavor Rating	Plt. Ht. (in)	Ear Ht. (in)
SC1263	G-VG	SL T	SL O	SL IRR	M	D	16-20	S	OK	na	na
	VG	SL T	R	SL IRR	M	M	16 to 20	S-OK	OK-G	76	14
HMX 89SU716	G-VG	SL T	R	SL IRR	M	M	16-20	OK	OK	na	na
	VG	SL T	R	SL IRR	M	M-D	16 to 20	OK-T	BL-OK	73	15
Cash	VG	CY-SL T	R	ST-SL IRR	S-M	M-D	18-20	OK-T	OK	na	na
	G	CY	R	ST-SL IRR	M	M	16 to 22	OK	OK	83	14
Gh 4927std	G-VG	CY-SL T	R	SL IRR	M	M-D	14-18	OK	OK	na	na
	VG	CY-SL T	R	ST-SL IRR	M	M-D	16 to 18	OK	OK	78	18
Azlan (5389)	G-VG	CY	R	SL IRR	M	D	16-18	OK-T	OK	na	na
	VG	CY-SL T	R	SL IRR	M	D	16 to 20	OK-T	BL-OK	76	14
Grampian	VG	CY-SL T	R	ST-SL IRR	S-M	M-D	16-20	OK-T	BL-OK	na	na
	G-VG	CY-SL T	R	ST-SL IRR	M	M	18 to 20	OK	OK	85	15
GH 6462 (std)	VG	SL T	R	ST-SL IRR	M	M-D	18-22	OK	OK	na	na
	G-VG	CY-SL T	R	ST-SL IRR	M	M-D	16 to 22	OK	OK	92	15
ZUY1317	VG	CY	R	ST-SL IRR	S-M	M	20-24	OK	OK	na	na
	VG	CY	R	ST-SL IRR	M	M	16 to 22	OK	OK	90	12
CSUP14-879	VG	CY	R	ST-SL IRR	M	M	18-22	OK	OK	na	na
	VG-EX	CY-SL T	R	ST-SL IRR	M	D	18 to 22	OK-T	OK	92	14
CSYYP15-988	VG-EX	SL T	R	ST	M	M	16-20	OK-T	BL-OK	na	na
	VG	SL T-T	R	ST	M	M	16 to 18	OK	OK	90	8

Row one is 5/9 planting and row two 6/8 planting.

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

Ear Shape Rating - CY=cylindrical; SI T=slightly tapered; T=tapered.

Oval/round (Rating) – R=round; SI O=slightly oval; O=oval.

Kernel Rowing (Rating) – (The straightness of the rows of kernels.) St=straight; SL I=slightly irregular; IRR=quite irregular.

Kernel Size Rating – S=small, M=medium, L=large

Kernel Depth (Rating) – S=shallow, M=moderate, D=deep

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

Pericarp (Rating) – S=soft, OK=acceptable, T=tough

Flavor (Rating) – Bl=Blah, OK=acceptable, Good=better than acceptable, SW=sweet

Plant Heights – The measurement of the plant in inches from the base of the stalk to the top of the tassel.

Ear Heights – The measurement from the base of the stalk to the node at the base of the primary ear.

Column Descriptions for Tables 4 and 8.

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. Exposed kernels can make the ear more susceptible to insect or bird feeding.

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 Row Range - The range of the number of rows counted on the ear sample.

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

Weight. per Unhusked Ear - The weight in pounds of an unhusked ear. (Total yield weight divided by total number of ears harvested.) Comparing (weight per unhusked ear from total harvest) to the sample unhusked weight per ear indicates how valid the sampling technique is.

Sample Wt. per Unhusked Ear - The weight in pounds of an unhusked ear based on the sample 15 ears brought in from the field.

Sample Husked ear weight - The weight in pounds of a husked ear based on the sample.

Sample Kernel Weight per ear - The weight in pounds of the kernels cut from the ear.

Plants per acre - Plant Population per acre of the harvested plot (multiply number in the column by 1000). Harvest plot was 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 was dried to determine the percent moisture.

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

Table 4. Ear and Yield Data - su planting date 5/9 &6/8

Cultivar	Husk Ext. (in)	Ear Length (in)	Ear Diam. (in)	Unfill Tip (in)	Wt. Per Ear Unhusked (lbs)	(Sample) Unhusked Wt. Per Ear (lb)	(Sample) Husked Ear Wt. Per Ear (lb)	Kernel Weight Per Ear (lb)	Plants per acre (1000)	Ears per Plt.	Moist. %	Tons Per Acre	Rec. %	Overall ear eval.
SC1263	-0.2	8.2	2.1	0.1	0.95	1.0	0.8	0.59	16.3	0.89	69.3	6.9	58.8	2.5
	0.0	8.5	2.0	0.2	0.94	0.97	0.71	0.49	18.8	0.96	74.3	8.5	50.8	3.75
HMX 89SU716	0.5	7.9	2.0	0.2	0.82	0.9	0.7	0.50	16.8	0.92	70.8	6.3	54.4	3
	1.4	8.1	1.9	0.4	0.89	0.86	0.63	0.45	19.5	0.97	74.4	8.4	52.4	4
Cash	0.5	7.7	2.0	0.3	0.94	0.9	0.7	0.51	18.1	1.00	71.0	8.5	55.1	3.75
	0.9	8.1	2.0	0.3	0.91	0.97	0.73	0.50	19.9	0.97	72.1	8.8	52.5	3.75
Gh 4927std	0.2	7.8	1.9	0.0	0.88	0.9	0.6	0.41	17.4	0.96	71.2	7.4	48	3.5
	0.4	8.1	1.8	0.0	0.88	0.92	0.65	0.43	19.9	0.96	75.5	8.4	47.2	4.25
Azlan (5389)	0.3	8.0	2.0	0.4	0.90	0.9	0.7	0.52	19.5	0.96	72.7	8.4	60	3.75
	-0.2	8.5	2.0	0.3	0.92	0.96	0.77	0.58	19.8	0.99	75.9	9.1	59.7	4.25
Grampian	0.7	7.8	2.0	0.1	0.94	0.9	0.7	0.51	15.5	0.99	69.8	7.2	56	4
	0.2	8.4	2.1	0.1	0.97	1.00	0.73	0.52	19.5	0.98	70.9	9.3	51.7	4
GH 6462 (std)	1.9	7.9	2.0	0.1	0.92	0.9	0.7	0.50	18.3	0.98	71.6	8.3	52.5	4.25
	1.0	8.1	2.0	0.1	0.98	0.95	0.73	0.52	17.6	0.96	72.8	8.3	54.6	4
ZUY1317	0.7	8.2	1.9	0.1	1.01	1.0	0.7	0.50	17.9	0.99	71.2	9.0	48.2	3.75
	0.5	8.4	1.9	0.0	0.97	0.99	0.74	0.50	19.2	0.98	73.9	9.2	50.1	4
CSUP14-879	1.1	7.9	2.1	0.1	1.10	1.0	0.8	0.54	16.7	0.99	71.9	9.0	51.5	4
	1.0	7.8	2.2	0.0	1.12	1.16	0.86	0.62	19.5	0.98	71.1	10.6	53.7	4.5
CSYYP15-988	0.5	8.2	1.9	0.1	0.95	0.9	0.7	0.46	17.9	1.00	71.7	8.5	48.4	4
	0.9	8.2	2.0	0.1	0.97	0.96	0.69	0.46	19.7	0.97	72.1	9.3	48.2	4

Headings explained on page 8

Line one is from the 5/9 planting and line two from 6/8 planting

Additional Comments SU Type

The early planting went into cooler soil and emerged later than expected. Populations were decent. Although we put two fences up (wire mesh and an electric outside that), we did have raccoon damage especially with the earlier cultivars.

SC 1263 – Early, lots of bird damage (first planting) and raccoon damage in both plantings (protected by wire mesh and electric fence), a bit oval, exposed ear tips, good kernel depth, good recovery, ear uniformity and yield better in the second planting, overall ear rating 2.5 and 3.75.

HMX 89SU716 – Early, nice plant, some raccoon damage, a few ears broke when cutting kernels, ear uniformity and yield better in the second planting, good recovery both plantings, overall ear rating 3 and 4.

Cash – Early to midseason, ear uniformity a bit less in second planting, very good yield and recovery both plantings, 3.75 overall ear rating both plantings.

GH4927 – Early standard, slender ears, recovery lower than most others, excellent tip fill, good yield, moderate NCLB symptoms, overall ear rating 3.5 and 4.25.

Azlan – On the early side, solid plant, husk extension minimal to exposed, deep kernels which resulted in excellent recovery in both plantings, kernel texture a bit tough, very good yield, overall ear rating 3.75 and 4.25.

Grampian – Midseason, very good tip fill, very good yield and recovery, moderate NCLB symptoms, overall ear rating 4 and 4.

GH 6462 – Late standard, very good husk extension and tip fill, very uniform yield across both plantings, very good recovery, overall ear rating 4.25 and 4.

ZUY 1317 – Mainseason, big ears, good husk extension and very good tip fill, uniform, excellent yield; recovery a bit lower than most others, overall ear rating 3.75 and 4.

CSUP13-879 – Mainseason, big ears, good husk extension and very good tip fill, very good ear uniformity, excellent yield and good recovery, overall ear rating 4 and 4.5 (new one that shows very good potential).

CSYYP15-988 – Mainseason, good husk extension and very good tip fill, good yield but recovery lower than most, overall ear rating 4 and 4.

Cultivar Descriptions Provided by the Seed Source (SU Type)

SC 1263 – *Seminis*, yellow se, early season maturity (73 days or 1530 heat units), 74 inch plant height, 22 inch ear height, 8.0 inch ear length, 2.0 inch ear diameter, average row count is 18, HR for common rust (RpD+RpG), IR MDMV.

HMX 89SU716 – *Harris Moran*, 74 days to maturity, 7.8 inch ear length, 2.1 inch diameter, row count 16-18, IR for Northern corn leaf blight.

Cash – *Crites*, 78 day maturity (1640 heat units), su yellow processor, 7.7 inch ear, 2.2 inch cob, average row number 18, plant and ear height medium, IR for common rust, Su for NCLB, IR for SW and Southern Leaf Blight, tolerant to Accent herbicide, high quality petite kernels.

GH4927 – *Syngenta*, 75 days to maturity, stout plant, Rp1i gene for rust resistance, Poast herbicide tolerance.

HMX 5389 – *Harris Moran*, 75 days, 18 rows, 8 inch ear with 2.0 inch ear diameter, superior yield and recovery, intermediate resistance to both NCLB & MDMV, Rp1-i rust resistance.

Grampian – *Crites*.

GH6462 – *Syngenta*; 83 days to maturity; double rust genes d, g – some NCLB, SCLB, MDMV and Stewarts tolerance; great % recovery and good finished quality and color.

ZUY 1317 – *Crites*, 83 days to maturity, 8.3 inch cob length, 2.1 inch cob width, ave 20 rows, HIR for common rust AVIR (+D), HR for common rust D-VIR and G-VIR (+D), Su for NCLB, IR for Stewarts Wilt, Southern Leaf Blight and Gosses Wilt, Su for MDMV, excellent vigor, cold start ability, good yield potential, freezes as both cob and kernel, small core, late harvest will improve recovery and yield without significant quality loss, can be planted throughout the season.

CSUP14-879 – *Crookham*, Goal – Replace GH6462; 85-88 days to maturity, a little later than GH6462 based on silking dates, Very good yield and recovery; Ears taken back to the facility to test theoretical recovery numbers; High consistent productivity, perfect tip fill, and consistent shape are the hallmark features of this variety; Similar ear style as Daytona and CSAYF13-697 (this is a sh2, but the ear style is similar); HR-Rust / IR-NCLB & MDMV; Cob diameter – 2", Plant height – 7', Ear Height – 30", Ear length – 8", Full husk protection, 18-22 row count; Its very consistent tip fill will work well for natural cobs/cobettes and the consistent ear shape will help run smoothly through the plant.

CSYYP15-988 – *Crookham*.

Table 5. Maturity (Supersweet gene type planting date 6/19)

Cultivar	Days To Silk	Heat units to silk	Days to Harv.	Heat units to harv.	% Moist	Seed Company Maturity
Yellow						
1972 XR	54	1114	85	1591	76.1	72
SVSK5678	54	1114	85	1591	79.6	73
Harvest Gold	54	1114	85	1591	76.3	74
Pronghorn (5854)	56	1155	89	1640	79.6	74
SVSK6774	57	1174	90	1655	81.1	74
HMX59YS718	57	1174	90	1655	77.8	75
XTH1679	58	1190	92	1669	77.7	77
SVSK0762	56	1155	89	1640	78.5	77
CSAYF13-697	59	1208	93	1677	77.8	early to mid
GSS3071	60	1229	96	1714	77.5	78
HMX59YS825	57	1174	90	1655	78.0	78
Moonshine	58	1190	92	1669	79.5	78
SVSK6143	56	1155	89	1640	78.9	79
SVSK1859	60	1229	96	1714	79.0	79
HMX59YS823	58	1190	92	1669	79.1	80
HMX 59YS614	58	1190	92	1669	77.9	81
SVSK5780	59	1209	93	1677	79.2	81
SV1339SK	59	1209	93	1677	76.5	83
GSS3951	59	1209	93	1677	76.9	82
4182 MXR	60	1229	96	1714	77.4	82
GSS 1453	61	1248	97	1740	76.5	83
HardiGI5	61	1248	97	1740	74.6	83
Overland (std)	60	1229	96	1714	77.8	84
ZHY 1455	59	1209	93	1677	77.0	86
Messinger	60	1209	97	1740	78.5	87
Talladega	58	1190	92	1669	76.0	late season
White ss						
ZHY5055	57	1174	90	1655	75.7	81
3879 XR	57	1174	90	1655	77.9	81
Devotion	58	1190	92	1669	77.2	82
CSHWP14-757	58	1190	93	1677	75.2	86

See Table 2 for heading descriptions.

Table 6. Ear and Kernel Ratings

Cultivar	Ear Unif. Rating	Ear Shape Rating	Oval / Round Rating	Kernel Rowing Rating	Kernel Size Rating	Kernel Depth Rating	Kernel Row Range	Pericarp Rating	Flavor Rating	Plt Ht (in)	Ear ht. (in)
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Yellow

1972 XR	G	CY-SL T	R-SL O	ST-SL IRR	M	M	14 to 18	OK	OK	73	17
SVSK5678	VG-EX	CY	R	ST	M	M	14 to 18	OK	OK-G	78	17
Harvest Gold	G	SL T	R	ST-SL IRR	M	SH-M	16 to 20	OK	OK-G	77	22
Pronghorn	VG	SL T	R	ST-SL IRR	M	D	16 to 18	OK-T	OK-G	78	19
SVSK6774	VG	SL T	R	ST-SL IRR	M	M	16 to 20	OK	OK	81	22
HMX59YS718	VG	SL T	R	ST-SL IRR	M	M	16 to 18	OK-T	OK	79	20
XTH1679	VG	CY-SL T	R	ST-SL IRR	M	M-D	16 to 18	OK-T	OK	77	17
SVSK0762	VG	CY	R	ST-SL IRR	M	M-D	16 to 20	OK-T	OK-G	78	19
CSAYF13-697	G-VG	CY	R	ST-SL IRR	M	M-D	14 to 18	OK	OK	76	20
GSS3071	VG-EX	CY	R	ST-SL IRR	M	M-D	16 to 18	OK	G	84	21
HMX59YS825	G-VG	SL T	R	SL IRR	M	M-D	16 to 18	OK-T	OK	83	19
Moonshine	VG	CY	R	ST	M	M-D	14to 18	OK	OK-G	81	21
SVSK6143	VG	CY-SL T	R	ST-SL IRR	M	M	18 to 20	OK-T	OK	80	20
SVSK1859	VG	CY	R	ST-SL IRR	M	D	16 to 20	OK-T	OK-G	77	21
HMX59YS823	G-VG	CY-SL T	R	ST-SL IRR	M	M	16 to 18	OK	OK	79	20
HMX 59YS614	VG	CY	R	SL IRR	M	D	16 to 18	OK-T	OK-G	76	18
SVSK5780	G	CY-SL T	R	ST-SL IRR	M	M	16 to 20	OK	OK	73	20
SV1339SK	VG	CY-SL T	R	ST-SL IRR	M	M	18 to 20	OK	OK-G	86	21
GSS3951	G-VG	CY-SL T	R	ST-SL IRR	S-M	M	18 to 20	OK	OK-G	84	24
4182 MXR	VG	CY	R	SL IRR	M	M-D	16 to 18	OK	OK-G	87	20
GSS 1453	VG	CY-SL T	R	ST-SL IRR	M	M-D	16 to 20	OK	G	84	20
HardiGI5	VG-EX	CY	R	ST-SL IRR	M	M	16 to 18	OK-T	G	86	21
Overland (std)	G-VG	CY-SL T	R	ST-SL IRR	M	M	18 to 20	OK-T	OK-G	81	22
ZHY 1455	G-VG	CY-SL T	R	ST-SL IRR	M	M	16 to 20	OK	OK-G	87	23
Messinger	VG	CY-SL T	R	ST	M	M-D	18 to 20	OK	OK-G	84	22
Talladega	VG	SL T	R	ST	S-M	SH-M	14 to 18	OK	OK-G	86	20

Whites

ZHY5055	G	SL T	R	ST-SL IRR	M	SH-M	16 to 20	OK	OK-G	78	17
3879 XR	VG-EX	SL T	R	ST-SL IRR	M	M	16 to 20	OK	OK-G	78	16
Devotion	VG	SL T	R	ST-SL IRR	M	M	16 to 18	OK	G	86	20
CSHWP14-757	G-VG	CY	R	ST-SL IRR	M	M	16 to 18	O	G	79	19

See Table 3 for heading explanations.

Table 7 Ear and Yield Data supersweets

Cultivar	Husk Ext. (in)	Ear Length (in)	Ear Diam. (in)	Unfill. Tip (in)	Wt. Per Ear Unhusked (lbs)	Sample unhusked wt per ear (lb.)	Sample husked wt per ear (lb.)	Sample kernel wt per ear (lb.)	Yield Per Acre (1000)	Ears per plant	% Moist	Tons per acre	Recov. %	Overall Ear Eval.
1972 XR	1.3	8.0	2.1	0.5	0.91	0.85	0.71	0.50	17.6	0.93	76.1	7.9	59.2	3.0
SVSK5678	3.3	7.3	2.0	0.0	0.79	0.90	0.66	0.46	17.4	0.95	79.6	6.9	50.7	4.0
Harvest Gold	0.5	8.8	2.1	0.5	0.94	0.97	0.76	0.53	19.2	0.94	76.3	8.5	55.0	2.8
Pronghorn	1.1	8.0	2.1	0.1	0.96	0.98	0.78	0.57	19.5	0.99	79.6	9.3	58.5	4.0
SVSK6774	0.9	8.1	2.0	0.1	0.91	0.92	0.54	0.52	19.3	0.96	81.1	8.4	56.8	4.0
HMX59YS718	1.5	7.6	2.1	0.2	0.92	0.89	0.71	0.51	18.7	1.00	77.8	6.6	58.1	4.0
XTH1679	1.5	8.0	2.1	0.1	0.96	0.97	0.73	0.54	19.0	0.95	77.7	8.7	55.2	4.0
SVSK0762	1.3	8.3	2.0	0.0	0.88	0.87	0.66	0.47	18.3	1.00	78.5	7.9	53.8	4.0
CSAYF13-697	0.8	8.0	2.1	0.0	0.91	0.91	0.74	0.54	18.0	0.97	77.8	7.9	59.6	3.5
GSS3071	0.7	8.1	2.1	0.1	0.91	0.90	0.74	0.56	18.3	1.00	77.5	8.3	62.3	4.3
HMX59YS825	1.1	8.2	2.1	0.1	0.94	1.01	0.74	0.53	19.5	0.99	78.0	9.1	52.3	3.8
Moonshine	1.0	7.9	2.0	0.0	0.89	0.86	0.52	0.49	19.7	0.99	79.5	8.7	57.2	4.3
SVSK6143	1.4	8.0	2.1	0.1	0.94	1.01	0.77	0.54	19.9	0.98	78.9	9.2	53.6	4
SVSK1859	0.1	8.0	2.2	0.1	1.03	1.07	0.86	0.63	14.1	1.06	79.0	7.9	59.1	4.3
HMX59YS823	0.2	8.8	2.1	0.4	1.03	0.99	0.74	0.53	19.0	0.99	79.1	9.6	53.5	4
HMX 59YS614	1.4	8.6	2.2	0.2	1.05	1.08	0.86	0.59	18.1	1.00	77.9	9.5	54.3	4.0
SVSK5780	0.9	8.4	2.1	0.3	1.01	0.99	0.76	0.55	18.7	0.99	79.2	9.3	55.0	3.5
SV1339SK	0.6	8.7	2.2	0.6	1.05	1.09	0.88	0.62	17.3	0.97	76.5	8.7	57.1	4.0
GSS3951	0.5	8.5	2.1	0.2	0.95	0.95	0.76	0.56	19.6	0.99	76.9	9.2	58.6	3.8
4182 MXR	1.3	7.7	2.1	0.2	0.91	0.89	0.69	0.57	18.7	0.98	77.4	8.3	64.5	4.0
GSS 1453	-0.9	8.5	2.1	0.3	0.88	0.90	0.76	0.57	20.0	1.00	76.5	8.8	63.2	4.3
HardiGI5	0.9	8.7	2.0	0.2	0.96	0.94	0.76	0.55	17.3	1.03	74.6	8.5	59.1	4.0
Overland (std)	-0.4	8.3	2.1	0.4	0.92	0.96	0.77	0.57	19.3	0.99	77.8	8.8	60.0	3.8
ZHY 1455	0.2	8.7	2.0	0.6	0.94	0.95	0.76	0.55	18.6	0.95	77.0	8.3	57.2	2.8
Messinger	1.3	8.8	2.1	0.2	1.02	1.04	0.75	0.55	19.0	1.03	78.5	9.9	52.8	4.3
Talladega	0.3	8.7	2.0	0.7	0.89	0.91	0.70	0.50	19.5	0.95	76.0	8.2	54.1	3.8
ZHY5055	1.9	7.9	2.0	0.0	0.89	0.89	0.66	0.45	19.8	0.93	75.7	8.2	50.8	3.5
3879 XR	1.6	7.7	2.0	0.1	0.84	0.84	0.63	0.43	19.5	0.98	77.9	8.0	51.3	4
Devotion	1.3	7.8	2.0	0.2	0.94	0.93	0.69	0.49	19.1	1.01	77.2	9.0	52.3	3.8
CSHWP14-757	1.1	8.6	2.1	0.2	0.94	0.96	0.78	0.57	18.6	0.92	75.2	8.1	59.3	3.8

Additional Comments Supersweets

This trial was planted later than normal and matured in September when heat units were lower per day. It was more difficult to judge proper maturity and many were harvested on the young side based on moisture percentage.

Yellow

1972XR – Early, short plants but decent ear height, very good husk extension, raccoons liked it, a few ears with a bit of oval, minimally acceptable overall ear rating of 3.

SVSK5678 – Short ears, very good husk extension, very good to excellent ear uniformity, excellent tip fill, straight rowing, harvested on the young side based on moisture %, overall ear rating of 4.

Harvest Gold – Very good yield, overall ear rating was unacceptable at 2.5 due to curved ears and lower ear uniformity rating.

Pronghorn (SVSK5854) – Very good husk extension, very good tip fill, deep kernels, excellent yield, harvested on the young side based on moisture %, overall ear rating of 4.

SVSK6774 – Very good husk extension, very good tip fill, harvested on the young side based on moisture %, overall ear rating of 4.

HMX59YS718 – Shorter ears, very good husk extension, very good tip fill, overall ear rating of 4.

XTH1679 – Very good husk extension, very good tip fill, medium to deep kernels, very good yield, overall ear rating of 4.

SVSK0762 – Very good husk extension, excellent tip fill, medium to deep kernels, harvested on the young side based on moisture %, overall ear rating of 4.

CSAYF13-697 – Excellent tip fill, medium to deep kernels, overall ear rating of 3.5.

GSS3071 – Very good to excellent ear uniformity, very good tip fill, medium to deep kernels, very good yield, excellent recovery, overall ear rating of 4.3.

HMX59YS825 – Very good husk extension, very good tip fill, medium to deep kernels, excellent yield, overall ear rating of 3.8.

Moonshine – Very good husk extension, excellent tip fill, straight rowing, medium to deep kernels, harvested on the young side based on moisture %, very good yield, overall ear rating of 4.3.

SVSK6143 – Very good husk extension, very good tip fill, harvested on the young side based on moisture %, excellent yield, overall ear rating of 4.

SVSK1859 – Big ear diameter, minimal husk extension or exposed ears, very good tip fill, deep kernels, harvested on the young side based on moisture %, overall ear rating of 4.25.

Additional comments continued:

HMX59YS823 – Long ears, minimal husk extension or exposed ears, harvested on the young side based on moisture %, excellent yield, overall ear rating of 4.

HMX59YS614 – Long ears, big ear diameter, very good husk extension, very good tip fill, deep kernels, excellent yield, overall ear rating of 4.

SVSK5780 – Very good husk extension, harvested on the young side based on moisture %, excellent yield, overall ear rating of 3.5.

SV1339SK – Long ears, big ear diameter, very good yield, overall ear rating of 4.

GSS3951 – Long ears, very good tip fill, excellent yield, overall ear rating of 3.8.

4182MXR – Shorter ears, very good husk extension, very good tip fill, medium to deep kernels, very good yield, excellent recovery, overall ear rating of 4.

GSS1453 – Long ears, minimal husk extension or exposed ears, medium to deep kernels, very good yield, excellent recovery, overall ear rating of 4.3.

Hardi – Very good to excellent ear uniformity, very good husk extension, very good tip fill, long ears, very good yield, overall ear rating of 4.

Overland – Bushy plants, minimal husk extension or exposed ears, very good yield, excellent recovery, overall ear rating of 3.75

ZHY1455 – Long ears, minimal husk extension or exposed ears, very good yield, overall ear rating of 2.8.

Messinger (SVSK1899) – Long ears, very good husk extension, very good tip fill, harvested on the young side based on moisture %, straight rowing, medium to deep kernels, excellent yield, overall ear rating of 4.25.

Talladega – Long ears, minimal husk extension or exposed ears, straight rowing, very good yield, overall ear rating of 3.8.

White

ZHW5055 – Very good husk extension, excellent tip fill, very good yield, overall ear rating of 3.5.

3879XR – Very good to excellent ear uniformity, very good husk extension, very good tip fill, shorter ears, very good yield, overall ear rating of 4.

Devotion – Very good husk extension, very good tip fill, excellent yield, overall ear rating of 3.75.

CSHWP14-757 – Long ears, very good husk extension, very good tip fill, very good yield, overall ear rating of 3.75

Descriptions Provided by the Seed Source (Supersweets)

Yellow

1972XR – IFSI; 72 days to maturity; G for rust resistance, MS for NCLB, early processor with very strong yield and recovery data.

SVSK5678 – Seminis, not commercial, 73 Day (1530 h.u.), Plant Ht. 71 inches, Ear Ht. 13 inches, ear length 7.9 inches, ear diameter 2.0, kernel row number = 16, Disease Resistance: HR: Rust – RpG. Intermediate Resistance: MDMV, SCMV.

Harvest Gold – GV.

Pronghorn (SVSK5854) – Seminis, advanced to commercial with limited seed in 2019, early hybrid, 74 days, good seed vigor, 85 inch plant height, 26 inch ear height; nice flavor and tenderness, uniform ears, 8.5 inch ear length and 2.05 inch ear diameter; deep kernels; 18 row count; HR for RpG.

SVSK6774 – Seminis, 74 day maturity, 1554 heat units, 83 inch plant height, 28 inch ear height, 8.4 inch ear length, 2.1 inch ear diameter, 18 row count, disease resistance pending.

HMX59YS718 – Harris Moran, 75 days to maturity, early to main season variety with excellent yield and recovery; girthy ear, HR for Ps and IR for Et.

XTH1679 – IFSI, 77 days to maturity (midseason to full season), 85 inch plant height, 29 inch ear height, 8-8.5 inch ear length, 2.0 inch ear diameter, 16-20 average kernel rows, medium to bright yellow kernel color, good tip fill, productive and strong hybrid with excellent resistance to MDMV and new rust (Gl alleles) MR for NCLB.

SVSK0762 – Seminis, 77 day maturity, 1620 heat units, 89 inch plant height, 24 inch ear height, 8.5 inch ear length, 2.0 inch ear diameter, 18 row count, disease resistance pending.

CSAYF13-697 – Crookham.

GSS3071 – Syngenta; 78 – 79 days to maturity; d and l rust genes; good tolerance to NCLB and expected tolerance to Pst.

HMX59YS825 – Harris Moran, 78 days to maturity, 8.25 inch ear length, 2.1 inch ear diameter, row count 18, IR for Northern corn leaf blight, HR for maize dwarf mosaic, IR for common rust.

Moonshine – Gallatin Valley, 78 day maturity, Rp1D.

SVSK6143 – Seminis, 80 days to maturity, 1680 heat units, 8.3 inch ear length, 2.1 inch ear diameter, 18-20 rows, HR for RpG5, IR for NCLB.

SVSK1859 – Seminis, 79 day maturity, 1660 heat units, 85 inch plant height, 34 inch ear height, 8.3 inch ear length, 2.1 inch ear diameter, 18 row count, disease resistance pending.

Descriptions provided by the Seed Source continued:

HMX59YS823 – Harris Moran, 80 days to maturity, 8-9 inch ear length, 2.1 inch ear diameter, row count 16-18, HR for maize dwarf mosaic, HR for common rust.

HMX59YS614 – Harris Moran, 81 days to maturity, late season variety bringing yield, ear size and recovery; HR for Ps (Rp1-e) and MDMV; IR for Et.

SVSK5780 – Seminis, 81 day maturity, 1700 heat units, 75 inch plant height, 25 inch ear height, 8.8 inch ear length, 2.1 inch ear diameter, 18 row count, disease resistance pending.

SV1339SK – Seminis, yellow sh2, 83 days (1740hu), 80 inch plant height, 28 inch ear height, 9-10 inch ear length, 2.1 inch ear diameter, 18-20 average row count, HR for Rust Rp11 and Rp1D; IR for MDMV, SCMV and NCLB.

GSS3951 – Syngenta; 82 days to maturity; 8.3 inch ear with 18-20 rows, bright color when cooked, sturdy plant that has shown to take stress and high populations better than most, d and l rust genes; good tolerance to NCLB and expected tol. to Pst.

4182MXR – – IFSI, 82 days to maturity, excellent resistance to MDMV and new rust (Gl alleles) MR for NCLB.

GSS1453 – Syngenta, 84 days to maturity, strong yielding variety with long, quality supersweet ears, 8.5 inch ear length, 2 inch ear diameter, 18 row count, HR for Et/Ps (Rp1-dgi genes) and Pst; IR for Bm/Ps.

Hardi – Crookham; 82 days to maturity; old rust resistance; moderate MDMV resistance; good kernel.

Overland – Syngenta; 84 days to maturity (1768 heat units), 7 ft plant height, 28 inch ear height, 9-10 inch ear length, 1.85 inch ear diameter, 18-20 rows, 12 mm kernel depth, Rp1i gene for rust resistance, resistance to NCLB, tolerance to MDMV and SW.

ZHY1455 – Crites, 86 days to maturity, medium plant height, 8.5 inch cob length, 2.2 inch cob width, ave 18 rows, HR for common rust AVIR (+D), common rust D-VIR and G-VIR (+D); IR for NCLB, HR for MDMV, very good tip fill and harvest window, very good yield and recovery potential, suits freezing and canning, excellent agronomic package, can be planted throughout the season.

Messinger (SVSK1899) – Seminis, commercial with limited seed in 2019, 87 days, excellent husk cover, late maturing with notable standability for easy harvesting; 92 inch plant height; ear height 34 inches, 8.9 inch length and 2 inch diameter ear with excellent kernel depth, suitable for cut kernel and/or corn on the cob packs; uniform ears with consistent taper, great tip fill; deep yellow kernel color, HR for RpG5; IR for MDMV/SCMV/Et.

Talladega – Crookham.

Descriptions provided by the Seed Source continued:

White

ZHW5055 – Crites, 81 days, medium plant height, 7.7 inch cob length, 2.0 inch cob width, ave 18 rows, IR for common rust AVIR (+D), common rust D-VIR, G-VIR (+D) and NCLB, Su for MDMV, clean, bright color, suits freezing and canning, lovely cooked color, avoid planting if MDMV is and issue, plant early to mid season.

3879XR – IFSI, 81 days to maturity, genes G, D and J for rust resistance, M for NCLB.

Devotion – Seminis; white; 82 days to maturity; 1720 heat units, 8” ear length; 1.9” ear diameter; 18 row count; high quality white sh2 with superb eating quality; IR for Stewarts wilt. SV1580SK

CSHWP14-757 – Crookham, GOAL: Replace Devotion and any other commercial main season white sh2; Silk/pollen 62/59 days in Hancock, WI; Ear diameter – 2”, Row count – 18, Ear length 9-9.5”, plant height – 7’; CSHWP14-757 is better than the competitive varieties in yield and recovery; Productive and high yielding; Strong emergence. Excellent disease package. Excellent husk coverage with flag leaves for husking.

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*))

A cutting was held on 11/7 for industry.

Epilogue – I began with processing sweet corn trials 1986 with Bob Becker. I have worked with a number of crops over the years but sweet corn remained one of my favorites. Genes for rust resistance started in the early 80s. We saw Stewarts wilt knock Jubilee off, but breeders responded very quickly with disease tolerance. I want to thank Dr. Helene Dilliard for teaching me a great deal in that time period. The supersweets made huge strides in agronomic traits. For all of you that I worked with along the way, its been a great career!

*Respectfully,
Jim*

Table 8. Weather Summary 2019

Day	Max. Temp.	Min. Temp.	Mean Temp.	Precip.	Acc Precip.	Degree Days Base 50	acc dd units base 50
5/8/19	54	40	47	0.21	0.21	0	0
5/9/19	53	40	46.5	0	0.21	0	0
5/10/19	66	44	55	0.44	0.65	5	5
5/11/19	71	40	55.5	0.24	0.89	5.5	10.5
5/12/19	55	42	48.5	0.09	0.98	0	10.5
5/13/19	43	40	41.5	0.62	1.6	0	10.5
5/14/19	44	40	42	0.52	2.12	0	10.5
5/15/19	46	39	42.5	0.1	2.22	0	10.5
5/16/19	67	43	55	0.08	2.3	5	15.5
5/17/19	63	47	55	0.02	2.32	5	20.5
5/18/19	69	43	56	0	2.32	6	26.5
5/19/19	65	50	57.5	0.28	2.6	7.5	34
5/20/19	85	61	73	0.17	2.77	23	57
5/21/19	71	42	56.5	0.04	2.81	6.5	63.5
5/22/19	61	44	52.5	0	2.81	2.5	66
5/23/19	65	50	57.5	0.01	2.82	7.5	73.5
5/24/19	78	53	65.5	0	2.82	15.5	89
5/25/19	65	46	55.5	0	2.82	5.5	94.5
5/26/19	76	52	64	0.79	3.61	14	108.5
5/27/19	78	53	65.5	0	3.61	15.5	124
5/28/19	73	54	63.5	0.04	3.65	13.5	137.5
5/29/19	68	49	58.5	0.22	3.87	8.5	146
5/30/19	59	50	54.5	0.02	3.89	4.5	150.5
5/31/19	68	53	60.5	0.54	4.43	10.5	161
6/1/19	69	52	60.5	0	4.43	10.5	171.5
6/2/19	78	56	67	0.14	4.57	17	188.5
6/3/19	64	45	54.5	0.04	4.61	4.5	193
6/4/19	61	45	53	0	4.61	3	196
6/5/19	67	53	60	0	4.61	10	206
6/6/19	77	55	66	0.36	4.97	16	222
6/7/19	70	48	59	0	4.97	9	231
6/8/19	75	49	62	0	4.97	12	243
6/9/19	76	52	64	0	4.97	14	257
6/10/19	80	52	66	0	4.97	16	273
6/11/19	69	54	61.5	0.61	5.58	11.5	284.5
6/12/19	69	45	57	0	5.58	7	291.5
6/13/19	73	58	65.5	0	5.58	15.5	307
6/14/19	62	52	57	0.47	6.05	7	314
6/15/19	68	53	60.5	0	6.05	10.5	324.5
6/16/19	73	56	64.5	0.33	6.38	14.5	339
6/17/19	59	48	53.5	0.34	6.72	3.5	342.5
6/18/19	71	53	62	0	6.72	12	354.5
6/19/19	77	57	67	0	6.72	17	371.5
6/20/19	80	63	71.5	0.58	7.3	21.5	393

Day	Max. Temp.	Min. Temp.	Mean Temp.	Precip.	Acc Precip.	Degree Days Base 50	acc dd units base 50
6/21/19	68	57	62.5	0.91	8.21	12.5	405.5
6/22/19	72	55	63.5	0.01	8.22	13.5	419
6/23/19	73	58	65.5	0	8.22	15.5	434.5
6/24/19	78	55	66.5	0	8.22	16.5	451
6/25/19	76	62	69	0.67	8.89	19	470
6/26/19	79	58	68.5	0	8.89	18.5	488.5
6/27/19	83	62	72.5	0	8.89	22.5	511
6/28/19	82	60	71	0	8.89	21	532
6/29/19	85	66	75.5	0	8.89	25.5	557.5
6/30/19	81	63	72	0	8.89	22	579.5
7/1/19	70	54	62	0	8.89	12	591.5
7/2/19	79	61	70	0	8.89	20	611.5
7/3/19	77	62	69.5	0	8.89	19.5	631
7/4/19	83	62	72.5	0	8.89	22.5	653.5
7/5/19	88	70	79	0	8.89	29	682.5
7/6/19	88	68	78	0.75	9.64	28	710.5
7/7/19	82	63	72.5	0.5	10.14	22.5	733
7/8/19	74	55	64.5	0.06	10.2	14.5	747.5
7/9/19	77	53	65	0	10.2	15	762.5
7/10/19	80	60	70	0	10.2	20	782.5
7/11/19	87	69	78	0	10.2	28	810.5
7/12/19	83	62	72.5	0	10.2	22.5	833
7/13/19	83	60	71.5	0	10.2	21.5	854.5
7/14/19	84	66	75	0	10.2	25	879.5
7/15/19	77	61	69	0	10.2	19	898.5
7/16/19	80	63	71.5	0	10.2	21.5	920
7/17/19	89	64	76.5	0.1	10.3	26.5	946.5
7/18/19	76	66	71	0.27	10.57	21	967.5
7/19/19	83	66	74.5	0	10.57	24.5	992
7/20/19	88	73	80.5	0	10.57	30.5	1022.5
7/21/19	91	74	82.5	0	10.57	32.5	1055
7/22/19	82	64	73	0	10.57	23	1078
7/23/19	66	61	63.5	0.9	11.47	13.5	1091.5
7/24/19	75	59	67	0.02	11.49	17	1108.5
7/25/19	74	58	66	0.03	11.52	16	1124.5
7/26/19	79	58	68.5	0	11.52	18.5	1143
7/27/19	82	61	71.5	0	11.52	21.5	1164.5
7/28/19	85	66	75.5	0	11.52	25.5	1190
7/29/19	81	63	72	0	11.52	22	1212
7/30/19	88	64	76	0	11.52	26	1238
7/31/19	84	64	74	0.24	11.76	24	1262
8/1/19	80	61	70.5	0	11.76	20.5	1282.5
8/2/19	78	53	65.5	0	11.76	15.5	1298
8/3/19	80	60	70	0	11.76	20	1318
8/4/19	82	62	72	0	11.76	22	1340
8/5/19	75	51	63	0	11.76	13	1353

Day	Max. Temp.	Min. Temp.	Mean Temp.	Precip.	Acc Precip.	Degree Days Base 50	acc dd units base 50
8/6/19	80	59	69.5	0	11.76	19.5	1372.5
8/7/19	87	65	76	0.4	12.16	26	1398.5
8/8/19	73	63	68	0.52	12.68	18	1416.5
8/9/19	80	60	70	0.36	13.04	20	1436.5
8/10/19	75	59	67	0	13.04	17	1453.5
8/11/19	73	56	64.5	0	13.04	14.5	1468
8/12/19	77	58	67.5	0	13.04	17.5	1485.5
8/13/19	81	66	73.5	0.18	13.22	23.5	1509
8/14/19	79	60	69.5	0.22	13.44	19.5	1528.5
8/15/19	76	56	66	0.03	13.47	16	1544.5
8/16/19	76	61	68.5	0.02	13.49	18.5	1563
8/17/19	80	61	70.5	0.5	13.99	20.5	1583.5
8/18/19	76	61	68.5	1.23	15.22	18.5	1602
8/19/19	82	65	73.5	1.76	16.98	23.5	1625.5
8/20/19	81	61	71	0	16.98	21	1646.5
8/21/19	81	66	73.5	0.2	17.18	23.5	1670
8/22/19	82	66	74	0.05	17.23	24	1694
8/23/19	72	56	64	0	17.23	14	1708
8/24/19	70	52	61	0	17.23	11	1719
8/25/19	64	51	57.5	0.01	17.24	7.5	1726.5
8/26/19	73	54	63.5	0.01	17.25	13.5	1740
8/27/19	72	58	65	0	17.25	15	1755
8/28/19	73	61	67	0.22	17.47	17	1772
8/29/19	73	55	64	0.11	17.58	14	1786
8/30/19	73	56	64.5	0	17.58	14.5	1800.5
8/31/19	75	52	63.5	0	17.58	13.5	1814
9/1/19	69	51	60	0	17.58	10	1824
9/2/19	74	58	66	0.7	18.28	16	1840
9/3/19	71	59	65	0.13	18.41	15	1855
9/4/19	75	61	68	0.25	18.66	18	1873
9/5/19	75	52	63.5	0.01	18.67	13.5	1886.5
9/6/19	70	49	59.5	0.01	18.68	9.5	1896
9/7/19	71	51	61	0.03	18.71	11	1907
9/8/19	67	54	60.5	0.11	18.82	10.5	1917.5
9/9/19	66	46	56	0.02	18.84	6	1923.5
9/10/19	65	47	56	0.02	18.86	6	1929.5
9/11/19	81	50	65.5	0.21	19.07	15.5	1945
9/12/19	82	58	70	0.05	19.12	20	1965
9/13/19	63	50	56.5	0	19.12	6.5	1971.5
9/14/19	66	51	58.5	0.15	19.27	8.5	1980
9/15/19	75	53	64	0.01	19.28	14	1994
9/16/19	73	57	65	0.17	19.45	15	2009
9/17/19	68	47	57.5	0	19.45	7.5	2016.5
9/18/19	69	45	57	0	19.45	7	2023.5
9/19/19	69	46	57.5	0	19.45	7.5	2031
9/20/19	69	48	58.5	0	19.45	8.5	2039.5