

EXPERIMENT STATION
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FARM DEPARTMENT.

C. C. GEORGESON, M. Sc.,
Professor of Agriculture and Superintendent of Farm.
F. C. BURTIS, B. Sc., *Assistant.*
D. H. OTIS, B. Sc., *Assistant.*

EXPERIMENTS WITH CORN.

THE season of 1893 was not a favorable one for the corn crop in this section of the state. While the spring and early summer were of a nature to favor the crop, hot winds set in during the period of tasseling, which dried up many of the tassels, and consequently prevented formation of pollen to the necessary extent for fertilization of the seed, with a short crop as a result. Those of our experiments in the cultivation of corn which have been so far normal that the results warrant publication are detailed in the following pages.

FREQUENCY OF CULTIVATION.

An experiment having in view the influence which greater or less frequency of cultivation has upon the yield was carried out on 30 plats, each being one-twentieth of an acre in size and having 12 rows, with the usual distance of 3½ feet between the rows. These plats were cultivated with a "Daisy spring-tooth cultivator" the number of times indicated in the table, all plats under the same treatment being cultivated at the same time. The

results are shown in the averages, and averages are also given for two years' trials of the same experiment, while cultivation twice a week, once a week and once in two weeks has been tried for three years, the averages of which are given:

TABLE I.—FREQUENCY OF CULTIVATION.

Plat No.....	Times cultivated.	Times cultivated during season.	Yield of good ears, in lbs.	Yield of nubbins, in lbs.	Total yield, in lbs.
41	Three times a week.....	20	27.5	35.0	62.5
42	Twice a week.....	14	36.0	36.0	72.0
43	Once a week.....	7	54.0	35.5	89.5
44	Once in two weeks.....	4	38.5	36.0	74.5
45	Once in three weeks.....	3	34.0	37.5	71.5
46	Once in four weeks.....	2	20.5	35.0	55.5
47	Three times a week.....	20	42.0	43.0	85.0
48	Twice a week.....	14	38.5	47.0	85.5
49	Once a week.....	7	49.5	46.5	96.0
50	Once in two weeks.....	4	15.0	46.0	61.0
51	Once in three weeks.....	3	24.5	48.5	73.0
52	Once in four weeks.....	2	22.5	40.0	62.5
53	Three times a week.....	20	32.5	47.0	79.5
54	Twice a week.....	14	39.0	52.0	91.0
55	Once a week.....	7	41.0	52.0	93.0
56	Once in two weeks.....	4	21.5	51.5	73.0
57	Once in three weeks.....	3	23.0	51.0	74.0
58	Once in four weeks.....	2	15.5	43.5	59.0
59	Three times a week.....	20	33.0	45.5	78.5
60	Twice a week.....	14	41.0	51.0	92.0
61	Once a week.....	7	56.0	46.5	102.5
62	Once in two weeks.....	4	34.0	57.5	91.5
63	Once in three weeks.....	3	22.0	52.5	74.5
64	Once in four weeks.....	2	34.5	45.0	79.5
65	Three times a week.....	20	52.5	49.5	102.0
66	Twice a week.....	14	71.5	44.0	115.5
67	Once a week.....	7	71.0	48.5	119.5
68	Once in two weeks.....	4	36.5	53.0	89.5
69	Once in three weeks.....	3	25.5	55.0	80.5
70	Once in four weeks.....	2	19.0	40.0	59.0

AVERAGES OF PLATS AND RATE OF YIELD PER ACRE IN BUSHELS OF EAR CORN.

Times cultivated.	Times cultivated during season.	Yield of good ears, in lbs.	Yield of nubbins, in lbs.	Bushels per acre.
Three times a week.....	20	37.5	44.0	23.28
Twice a week.....	14	45.2	46.0	26.05
Once a week.....	7	54.3	45.8	28.65
Once in two weeks.....	4	29.1	48.8	22.25
Once in three weeks.....	3	25.8	48.9	21.34
Once in four weeks.....	2	22.4	40.7	18.02

AVERAGES OF TWO YEARS' TRIALS.

Times cultivated.	Times cultivated during season 1891.	Times cultivated during season 1892.	Times cultivated during season 1893.	Bushels per acre.
Three times a week.....	15	20	24.86
Twice a week.....	11	14	27.15
Once a week.....	6	7	27.86
Once in two weeks.....	3	4	25.25
Once in three weeks.....	3	3	24.09
Once in four weeks.....	2	2	16.91

AVERAGES OF THREE YEARS' TRIALS.

Twice a week.....	9	11	14	40.31
Once a week.....	6	6	7	41.29
Once in two weeks.....	4	3	4	40.56

It appears from the results that it is possible to cultivate corn too much, as well as too little. Cultivation once a week gives the best yields, in each series of averages. Care has been taken during these experiments to injure the roots as little as possible, but it would be idle to claim that the roots were not injured at all, and it is possible that the falling off in yield as a result of frequent cultivation is due to injuries which the roots have sustained in the process. In all cases of these experiments, the corn was dropped 16 inches apart, by measure, in the row, two sound kernels being planted at each place, and covered with a hoe, and after the first cultivation it was thinned to one plant in a place. Previous experiments have pretty fully settled the fact that the large varieties of corn produce best on this soil, (which is of but moderate fertility,) when the rows are 3½ feet apart and the stalks 16 inches apart in the row.

EFFECT OF REMOVING TASSELS.

Sixteen plats, in two series of eight plats each, were planted for this experiment. One of the series was, however, on somewhat higher ground than the other, and it was so much injured by the hot winds that it had to be rejected. The results of the remaining series of eight plats are given in table II. Two plats, of eight rows each, were experimented with, as follows: (1) On plats 79 and 83, alternate rows had the tassels removed; (2) on plats 80 and 84, the tassels were not removed; (3) on plats 81 and 85, all tassels which first appeared were pulled, all stalks tasseling thereafter being left entire; (4) on plats 82 and 86, alternate stalks in all the rows had the tassels removed.

The variety used was the "Piasa Queen," a medium early yellow corn. Rows were in all cases 3½ feet apart, and the stalks 16 inches apart in the row. The seed was dropped by hand, two kernels in a place, at measured distances, and where two plants appeared the weaker one was removed after the first cultivation. All plats received shallow culture with a spring-tooth cultivator. The tassels began to appear on July 12, and the first were pulled on the 15th, and every day or two thereafter as they appeared. Just at this time the drought was severe and the corn suffered much from the hot winds. Many of the tassels which were designed to remain were injured by the hot and dry weather, so that they produced little or no pollen. This, of course, was disastrous to an accurate test of this experiment.

TABLE II.—EFFECT OF REMOVING TASSELS.
ALTERNATE ROWS HAD TASSELS REMOVED.
PLAT 79.

No. of row.	Tassels.	No. of stalks.	No. of barren stalks.	No. of abortive ears.	No. of good ears.	No. of short ears.	No. of partially filled ears.	Weight of good ears, pounds.	Weight of nubbins, pounds.	Total weight of row, pounds.
1.....	Off.....	73	1	12	31	13	14	23.37	10.00	33.37
2.....	On.....	67	0	7	47	9	19	44.50	8.68	53.18
3.....	Off.....	59	1	8	28	10	17	19.18	9.56	28.74
4.....	On.....	61	1	2	45	7	13	38.18	7.43	45.61
5.....	Off.....	64	0	6	28	8	17	16.93	7.50	24.43
6.....	On.....	63	1	6	40	12	13	41.87	9.18	51.05
7.....	Off.....	65	0	6	30	12	15	15.56	9.56	25.12
8.....	On.....	69	1	12	42	11	20	32.56	9.06	41.62
Total...	Off.....	261	2	32	117	43	63	75.04	26.62	111.66
Total...	On.....	200	3	27	134	39	65	157.11	34.35	191.46

TABLE II.—EFFECT OF REMOVING TASSELS—CONTINUED.
ALTERNATE ROWS HAD TASSELS REMOVED.
PLAT 83.

No. of row.	Tassels.	No. of stalks.	No. of barren stalks.	No. of abortive ears.	No. of good ears.	No. of short ears.	No. of partially filled ears.	Weight of good ears, pounds.	Weight of sub-bins, pounds.	Total weight of row, pounds.
1.....	Off.....	71	3	20	22	5	25	14.18	13.18	27.36
2.....	On.....	58	1	7	35	8	11	28.18	6.93	35.11
3.....	Off.....	72	2	20	21	0	29	15.18	8.93	24.11
4.....	On.....	67	3	4	51	11	7	42.06	6.43	48.49
5.....	Off.....	69	3	11	29	5	26	21.18	12.00	33.18
6.....	On.....	70	1	6	52	3	9	44.18	4.00	48.18
7.....	Off.....	74	0	19	35	6	23	24.68	8.12	32.80
8.....	On.....	70	1	6	46	11	9	40.68	7.56	48.24
Total....	Off.....	286	8	70	107	16	103	75.22	42.23	117.45
Total....	On.....	265	6	23	184	33	36	155.10	24.92	180.02

TASSELS NOT REMOVED.
PLAT 80.

1.....	67	2	2	49	15	11	42.06	9.50	51.56
2.....	68	1	6	47	4	16	42.06	6.68	48.74
3.....	69	0	2	54	8	11	44.68	7.37	52.05
4.....	50	0	4	31	8	14	25.81	7.18	32.99
5.....	67	0	2	53	3	15	44.18	4.56	48.74
6.....	65	1	3	48	12	10	41.68	9.25	50.93
7.....	66	0	6	48	8	14	44.43	8.00	52.43
8.....	66	0	3	56	6	12	45.93	5.37	51.30
Totals.....	518	4	28	386	64	103	330.83	57.91	388.74
Averages.....	64.75	.5	3.5	48.25	8	12.87	41.35	7.23	48.59

PLAT 84.

1.....	70	4	8	39	13	14	33.87	9.37	43.24
2.....	73	2	10	34	12	18	30.06	9.50	39.56
3.....	68	3	8	42	11	11	28.68	7.75	36.43
4.....	61	1	12	35	19	7	29.93	8.75	38.68
5.....	75	2	11	49	10	11	37.93	6.25	44.18
6.....	75	4	9	40	11	16	32.68	9.25	41.93
7.....	75	3	11	37	13	12	30.93	8.56	39.49
8.....	68	2	9	44	10	9	36.68	5.68	42.36
Totals.....	565	21	78	320	99	98	260.76	65.11	325.87
Averages.....	70.62	2.62	9.75	40	12.37	12.25	32.59	8.13	40.73

TABLE II.—EFFECT OF REMOVING TASSELS—CONTINUED.

ALL TASSELS WHICH FIRST APPEARED REMOVED.

PLAT 81.

No. of row.	No. of stalks.	No. of barren stalks.	No. of abortive ears.	No. of good ears.	No. of short ears.	No. of partially filled ears.	Weight of good ears, pounds.		Total weight of row, pounds.
1.....	76	2	9	47	7	19	37.81	8.50	46.31
2.....	73	0	8	53	4	15	40.68	7.06	47.74
3.....	73	3	4	52	16	11	42.43	9.43	51.86
4.....	74	1	8	43	8	23	35.43	11.37	46.80
5.....	65	0	4	53	7	9	44.43	5.87	50.30
6.....	69	0	7	45	8	14	37.18	8.43	45.61
7.....	76	1	6	55	9	12	41.93	7.43	49.36
8.....	68	0	6	50	8	10	40.18	6.93	47.11
Totals.....	574	7	52	398	67	113	320.07	65.02	385.09
Averages.....	71.75	.87	6.50	49.75	8.37	14.12	40.00	8.12	48.13

PLAT 85.

1.....	67	1	15	17	14	13	15.62	10.06	25.68
2.....	63	1	13	24	15	16	19.43	12.00	31.43
3.....	74	4	10	26	19	16	21.93	13.37	35.30
4.....	70	3	11	29	13	16	23.12	9.75	32.87
5.....	72	4	10	30	12	19	25.56	12.25	37.81
6.....	68	0	15	32	12	12	26.43	9.37	35.80
7.....	67	5	8	35	12	6	31.18	6.87	38.05
8.....	64	0	10	35	13	10	28.68	8.31	36.99
Totals.....	545	18	92	228	110	108	191.95	81.98	273.93
Averages.....	68.12	2.25	11.50	28.50	13.75	13.50	23.99	10.24	34.24

ALTERNATE STALKS HAD TASSELS REMOVED.

PLAT 82.

No. of row.	No. of stalks.		No. of barren stalks.		No. of abortive ears.		No. of good ears.		No. of short ears.		No. of partially filled ears.		Weight of good ears, pounds.		Weight of nubbins, pounds.		Total weight of rows, pounds.	
	Off.	On.	Off.	On.	Off.	On.	Off.	On.	Off.	On.	Off.	On.	Off.	On.	Off.	On.	Off.	On.
1.....	32	35	0	0	7	5	12	24	4	3	7	2	9.18	22.68	3.37	1.62	12.55	24.30
2.....	31	31	1	0	11	7	11	23	4	1	8	5	7.81	18.43	0.68	2.31	8.49	20.74
3.....	33	34	1	0	7	6	15	23	8	3	10	4	6.43	21.18	7.62	2.37	14.05	23.55
4.....	30	30	0	1	6	4	15	28	3	3	5	3	9.68	23.93	3.31	2.62	12.99	26.55
5.....	32	33	1	0	7	6	18	21	4	3	12	3	8.93	19.68	6.00	3.31	14.93	22.99
6.....	33	37	0	2	6	4	14	26	2	4	8	5	9.68	21.18	4.31	3.31	13.99	24.49
7.....	34	36	0	0	11	4	12	23	4	6	4	6	7.87	22.68	3.37	3.25	11.24	25.93
8.....	33	34	0	2	4	3	9	27	6	2	11	6	6.18	21.68	6.75	2.62	12.93	24.30
Totals.....	258	270	3	5	59	39	101	200	35	25	65	34	65.76	171.44	35.41	21.41	101.17	192.85
Avs.....	32.25	33.75	.375	.625	7.375	4.875	12.62	25	4.37	3.125	8.125	4.25	8.22	21.43	4.43	2.68	12.65	24.11

TABLE II.—EFFECT OF REMOVING TASSELS—CONCLUDED.

ALTERNATE STALKS HAD TASSELS REMOVED.

PLAT 86.

No. of row.	No. of stalks.		No. of barren stalks.		No. of abortive ears.		No. of good ears.		No. of short ears.		No. of partially fill'd ears.		Weight of good ears, pounds.		Weight of nubbins, pounds.		Total weight of rows, pounds.	
	Off.	On.	Off.	On.	Off.	On.	Off.	On.	Off.	On.	Off.	On.	Off.	On.	Off.	On.	Off.	On.
1.....	24	30	5	1	12	12	0	7	2	4	9	7	0.00	4.18	2.62	4.81	2.62	8.99
.....	29	35	0	3	14	6	7	6	3	12	5	13	3.37	3.68	1.62	7.87	4.99	11.55
3.....	28	31	4	1	8	9	5	9	4	2	9	12	2.56	5.13	3.37	4.31	5.93	9.44
4.....	30	33	1	0	16	9	1	14	5	3	3	8	0.43	10.50	2.12	4.68	2.55	15.18
.....	28	29	3	1	10	6	8	12	5	6	3	8	4.56	9.50	2.31	4.56	6.87	14.06
6.....	30	29	1	3	10	7	8	18	6	4	5	5	4.00	13.43	2.87	1.93	6.87	15.36
7.....	26	33	1	2	12	10	6	15	4	9	4	7	3.06	12.75	1.56	5.43	4.62	18.18
.....	31	35	0	0	12	9	5	16	11	10	8	4	2.68	12.25	5.25	5.37	7.93	17.62
Totals,	226	255	15	11	94	68	40	97	40	50	46	64	20.66	71.42	21.72	38.96	42.38	110.38
Avs.....	28.5	31.87	1.88	1.375	11.75	8.5	5	12.125	5	6.25	5.75	8	2.58	8.93	2.71	4.87	5.297	13.79

AVERAGES OF TABLE II. AVERAGE OF PLATS 79 AND 83—Alternate rows had tassels removed.

	No. of stalks.	No. of barren stalks.	No. of abortive ears.	No. of good ears.	No. of short ears.	No. of partly filled ears.	Weight of good ears, pounds.	Weight of nubbins, pounds.	Total weight, pounds.
Tassels off.....	273	5.0	51	112	29	33	75.13	39.42	114.55
Tassels on.....	262	4.5	25	159	36	50	156.10	29.63	185.74

AVERAGE OF PLATS 80 AND 84—No tassels removed.

	541	12.5	53	353	81	100	295.79	61.51	357.30
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AVERAGE OF PLATS 81 AND 85—All first tassels removed.

	561	12.5	72	313	88	110	256.01	73.5	329.51
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AVERAGE OF PLATS 82 AND 86—Alternate stalks had tassels removed.

Tassels off.....	242	9	76	70.5	37.5	55	43.21	28.56	71.77
Tassels on.....	262	8	53	148.0	37.5	49	121.43	30.18	151.61

It does not require a close scrutiny of the averages from these tables to see that there has been a marked loss in the yield of grain by removing the tassels. Comparing first, the averages of plats 80 and 84, on which no tassels were removed, with plats 81 and 85, where the first appearing tassels were removed, it will be seen that the latter have the smallest proportion of good ears as well as of total weight of ears. In the same way, comparing plats 79 and 83, on which alternate rows had the tassels removed, with plats

82 and 86, where alternate stalks had the tassels removed, we see in like manner that the average results are against the practice of removing the tassels.

Had the season been a normal one, *i.e.*, had the rainfall been sufficient during the period the ears were forming and the tassels developing, these results would appear in a stronger light than they do now. But it has already been remarked that the season was unfavorable at this period, causing many of the tassels to dry up and die before the pollen was discharged, with the inevitable result that many of the ears failed to become fertilized, and proved abortive or only partly filled; and it will be seen from the tables that this evil increased when the tassels were removed.

The conclusion seems to be, that, owing to the unfavorable weather at this critical period in the growth of the crop, there was scarcely pollen enough produced to fertilize the ears, even had all the tassels remained, and that removing them made the evil worse. It was different in 1892, when a similar experiment was carried out on 48 rows, 24 of which had the tassels removed and the other 24 left entire. Table III shows the result of this experiment. It is just the reverse of last season's results, and is decidedly in favor of the removal of the tassels. The total weight of ears was in that year heaviest from stalks having the tassels off, 474.4 pounds, and from stalks with the tassels on, 338.4 pounds. But in that year the conditions were not unfavorable to the crop during the period of pollination. A removal of the tassels from every other row still left enough to fertilize the entire crop, and the results were that the stalks which did not have to expend part of their strength on the production of tassels produced heavier ears and more of them.

TABLE III.—TASSELING IN 1892.

No. of row	Tassels.	No. or barren stalks.	No. of abortive ears.	No. of good ears.	No. of short ears.	Weight of good ears.	Weight of nubbins.	Total weight of ears.	Average weight of one ear.	No. of partially filled ears.
1	Off.....	4	8	16	12	8.7	12.5	21.2	.321	38
2	On.....	8	22	10	4	5.5	7.0	12.5	.277	31
3	Off.....	3	21	9	13	4.6	15.1	19.7	.303	43
4	On.....	8	22	5	10	2.7	11.5	14.2	.267	38
5	Off.....	5	13	11	11	5.7	14.5	20.2	.297	46
6	On.....	9	31	7	7	3.5	8.5	12.0	.307	25
7	Off.....	5	4	9	13	4.5	15.1	19.6	.301	43
8	On.....	12	19	3	8	1.4	9.2	10.6	.286	26
9	Off.....	5	9	9	16	4.6	16.9	21.5	.307	45
10	On.....	8	12	4	7	1.8	11.6	13.4	.285	36
11	Off.....	3	11	4	11	1.8	14.8	16.6	.291	42
12	On.....	8	21	6	6	2.7	7.2	9.9	.235	30
13	Off.....	5	15	8	14	3.7	15.5	19.2	.325	37

TABLE III.—TASSELING IN 1892—CONCLUDED.

No. of ears.	Tassels.	No. of barren stalks.	No. of abor- tive ears.	No. of good ears.	No. of short ears.	Weight of good ears.	Weight of nubbins.	Total weight of ears.	Average weight of one ear.	No. of par- tially filled ears.
14	On	7	26	4	10	2.0	10.0	12.0	.250	34
15	Off	9	18	6	9	2.9	14.0	16.9	.260	50
16	On	8	17	4	15	2.1	13.8	15.9	.283	37
17	Off	6	14	8	21	3.6	15.0	18.6	.304	32
18	On	6	27	5	12	2.5	11.2	13.7	.279	32
19	Off	4	21	9	13	4.6	14.9	19.5	.300	48
20	On	7	25	9	10	4.5	10.3	14.8	.321	27
21	Off	4	15	11	20	5.5	14.8	20.3	.312	34
22	On	10	22	6	11	3.1	12.2	15.3	.294	35
23	Off	7	24	9	11	4.8	11.1	15.9	.300	33
24	On	7	23	6	9	3.0	10.5	13.5	.287	32
25	Off	5	16	9	20	4.7	15.4	20.1	.346	29
26	On	8	19	10	17	5.2	12.1	17.3	.308	30
27	Off	6	11	9	22	4.8	18.3	23.1	.391	28
28	On	12	19	6	18	3.0	12.7	15.7	.301	28
29	Off	6	24	18	18	9.3	12.6	21.9	.377	22
30	On	8	22	6	4	3.1	13.0	16.1	.374	33
31	Off	9	8	16	14	7.8	13.4	21.2	.326	35
32	On	9	21	8	13	4.2	11.3	15.5	.336	25
33	Off	5	17	16	18	7.6	12.5	20.1	.251	46
34	On	12	13	7	14	3.9	12.1	16.0	.326	28
35	Off	4	19	16	22	8.0	12.8	20.8	.352	21
36	On	10	24	4	13	2.1	10.4	12.5	.284	27
37	Off	6	15	20	20	10.5	10.0	20.5	.372	15
38	On	10	20	6	14	3.0	15.9	18.9	.368	32
39	Off	4	11	12	22	6.2	15.1	21.3	.317	33
40	On	11	13	11	12	5.4	9.5	14.9	.331	22
41	Off	5	16	13	18	6.2	12.3	18.5	.293	32
42	On	13	18	6	13	3.3	9.2	12.5	.277	21
43	Off	6	15	14	14	6.7	10.0	16.7	.309	26
44	On	11	23	10	16	4.7	8.4	13.1	.304	17
45	Off	3	11	16	25	7.7	15.8	23.5	.356	25
46	On	7	12	8	14	3.7	11.0	14.7	.300	27
47	Off	7	11	8	23	3.6	13.9	17.5	.291	29
48	On	13	20	14	10	6.3	7.1	13.4	.297	21
	Total off.....	126	347	276	400	138.1	336.3	474.4	827
	Total on.....	222	491	165	272	82.7	255.7	338.4	694

These experiments were carried out with the greatest care both seasons, and they therefore show the futility of drawing conclusions from a single season's experiments. At other experiment stations, contradictory results have in like manner been reached on this point. Our own results seem to warrant the conclusion that, in seasons favorable to the production of much pollen, when the pollination can take place under normal conditions (as to rainfall and temperature), it is advantageous to remove a portion of the tassels; but that, in seasons like the last, where the contrary conditions prevail, the practice results in diminishing the crop.

PLANTING CORN AT DIFFERENT DISTANCES FOR GRAIN AND FODDER.

A somewhat elaborate experiment, which required the use of 70 plats, was undertaken, in order to ascertain, if possible, at what distances between the rows and stalks the best yields would be obtained. Each plat contained four rows, the plats being separated from each other by a guard row. The variety used for this experiment was "Hartman's Early White," a large-eared white corn, which had done well on the farm in 1891 and 1892. The seed was planted by hand, and exactly at the points the stalks were desired to grow. Two kernels were dropped in a place, and, after the first cultivation, all hills were thinned to one plant in a place. The details of this experiment are given in table IV.

TABLE IV.—PLANTING CORN AT DIFFERENT DISTANCES FOR GRAIN AND FODDER.

PLAT NUMBER.	DISTANCE.		PERCENTAGE IN FIFTY POUNDS OF FODDER.				No. of ears.	Average weight of one ear, lbs.	Weight of small ears, lbs.	Weight of good ears, lbs.	Total weight of ears, lbs.	Weight of fodder, lbs.	Area of plat, sq. ft.	Small ears per acre, bus.	Good ears per acre, bus.	Total yield of ears per acre, bus.	Fodder per acre, tons.
	Rows, feet.	Stalks, inches.	Leaves.	Stalks.	Small ears.	Good ears.											
1	2	4	44.0	48.0	8	0.0	120	.075	9.0	0.0	9.0	105.0	960	5.83	0.00	5.83	2.38
2	2	8	37.0	53.0	10	0.0	101	.128	12.5	0.5	13.0	102.0	960	8.10	0.32	11.34	2.31
3	2	12	34.0	43.0	22	1.0	163	.173	26.0	2.5	28.5	96.5	960	16.84	1.62	18.46	2.18
4	2	16	33.5	56.5	10	0.0	200	.145	29.0	0.0	29.0	101.5	960	18.79	0.00	18.79	2.30
5	2	20	32.5	27.0	33	7.5	190	.242	37.5	8.5	46.0	79.0	960	24.30	5.51	29.81	1.79
6	2½	4	35.0	46.0	19	0.0	289	.114	33.0	0.0	33.0	161.0	1200	17.11	0.00	17.11	2.92
7	2½	8	28.0	33.0	33	6.0	313	.178	51.5	4.5	56.0	139.0	1200	26.67	2.33	29.00	2.52
8	2½	12	29.0	30.0	34	7.0	322	.259	69.0	14.5	83.5	129.5	1200	35.74	7.52	43.26	2.35
9	2½	16	30.0	30.0	33	7.0	247	.269	53.0	13.5	66.5	97.5	1200	27.45	7.00	34.45	1.77
10	2½	20	26.0	30.0	34	10.0	228	.291	50.0	16.5	66.5	93.5	1200	25.93	8.55	34.48	1.70
11	3	4	44.0	41.0	15	0.0	226	.123	28.0	0.0	28.0	164.5	1440	12.10	0.00	12.10	2.49
12	3	8	34.0	31.0	32	3.0	257	.210	49.5	4.5	54.0	142.0	1440	21.38	1.94	23.32	2.14
13	3	12	25.0	29.0	33	13.0	267	.238	48.5	28.5	77.0	135.0	1440	20.95	12.30	33.25	2.04
14	3	16	36.0	43.0	16	5.0	204	.267	33.5	21.0	54.5	110.5	1440	14.47	9.07	23.54	1.67
15	3	20	33.0	38.0	29	0.0	178	.238	34.5	8.0	42.5	89.5	1440	14.90	3.45	18.35	1.35
16	3½	4	44.0	40.0	14	2.0	199	.123	24.5	1.0	25.5	155.0	1680	9.06	0.37	9.43	2.01
17	3½	8	35.0	30.0	31	4.0	272	.165	41.5	2.0	43.5	131.0	1680	15.35	0.74	16.09	1.69
18	3½	12	37.0	37.0	20	6.0	214	.177	31.5	6.5	38.0	121.0	1680	11.65	2.40	14.05	1.57
19	3½	16	30.0	31.0	31	3.0	262	.272	58.5	13.0	71.5	102.5	1680	21.64	4.80	26.44	1.63
20	3½	20	31.0	35.0	28	6.0	192	.226	34.0	9.5	43.5	88.0	1680	12.59	3.52	16.11	1.14
21	L 3½	4	49.0	35.0	16	0.0	242	.109	24.5	2.0	26.5	126.0	1610	9.44	0.77	10.21	1.70

TABLE IV.—PLANTING CORN AT DIFFERENT DISTANCES FOR GRAIN AND FODDER—CONCLUDED.

PLAT NUMBER.	DISTANCE.		PERCENTAGE IN FIFTY POUNDS OF FODDER.				No. of ears.	Average weight of one ear, lbs.	Weight of small ears, lbs.	Weight of good ears, lbs.	Total weight of ears, lbs.	Weight of fodder, lbs.	Area of plat, sq. ft.	Small ears per acre, bus.	Good ears per acre, bus.	Total yield of ears per acre, bus.	Fodder per acre, tons.
	Rows, feet.	Stalks, inches.	Leaves.	Stalks.	Small ears.	Good ears.											
22.....	L 3½	8	35.0	34.0	31	0.0	243	.193	47.0	0.0	47.0	109.5	1428	20.47	0.00	20.47	1.67
23.....	L 3½	12	34.0	35.0	24	7.0	213	.218	40.0	6.5	46.5	93.5	1358	18.33	2.87	21.20	1.49
24.....	L 3½	16	38.0	17.0	32	13.0	203	.371	49.5	26.0	75.5	84.5	1400	22.00	11.55	33.55	1.81
25.....	L 3½	20	29.0	27.0	34	10.0	164	.344	39.0	17.5	56.5	71.5	1442	16.83	7.55	24.38	1.04
26.....	4	4	42.0	40.0	18	0.0	285	.224	59.0	5.0	64.0	187.0	1920	19.11	1.62	20.73	2.12
27.....	4	8	38.0	43.0	19	0.0	239	.215	48.5	3.0	51.5	157.0	1920	15.71	0.67	16.68	1.78
28.....	4	12	28.0	32.0	37	3.0	260	.250	59.0	6.0	65.0	117.5	1920	19.11	1.94	21.05	1.83
29.....	4	16	28.0	30.0	36	6.0	259	.671	58.5	15.5	74.0	119.0	1920	18.95	5.95	24.90	1.35
30.....	4	20	29.0	36.0	28	7.0	227	.234	49.0	11.0	60.0	93.0	1920	15.87	3.56	19.43	1.05
31.....	L 4	4	39.0	41.0	20	0.0	328	.137	45.0	0.0	45.0	182.0	1920	14.58	0.00	14.58	2.06
32.....	L 4	8	34.0	42.0	24	0.0	259	.191	48.5	1.0	49.5	149.5	1920	15.71	0.32	16.03	1.69
33.....	L 4	12	29.0	36.0	35	0.0	357	.136	65.0	1.5	66.5	117.0	1920	21.06	0.48	21.54	1.32
34.....	L 4	16	28.0	33.0	35	4.0	208	.271	48.5	8.0	56.5	81.5	1920	15.71	2.56	18.27	0.92
35.....	L 4	20	25.0	29.0	36	10.0	183	.336	50.0	11.5	61.5	75.5	1920	16.20	3.73	19.93	0.85
36.....	2	4	40.0	36.0	24	0.0	300	.078	23.5	0.0	23.5	103.5	960	15.22	0.00	15.22	2.35
37.....	2	8	36.0	40.0	24	0.0	189	.121	23.0	0.0	23.0	82.5	960	14.90	0.00	14.90	1.87
38.....	2	12	39.0	29.0	30	2.0	187	.187	34.0	1.0	35.0	74.0	960	22.03	0.64	22.67	1.68
39.....	2	16	35.0	37.0	28	0.0	156	.198	29.5	1.5	31.0	67.0	960	19.11	0.96	20.07	1.52
40.....	2	20	27.0	41.0	32	0.0	162	.169	27.5	0.0	27.5	62.5	960	17.82	0.00	17.82	1.44
41.....	2½	4	35.0	44.0	21	0.0	369	.096	35.5	0.0	35.5	127.5	1200	18.34	0.00	18.34	2.31
42.....	2½	8	43.0	31.0	26	0.0	264	.142	37.5	0.0	37.5	103.5	1200	19.42	0.00	19.42	1.88

43.....	2½	12	30.0	40.0	28	2.0	235	.172	39.5	1.0	40.5	84.5	1200	20.46	0.51	20.97	1.53
44.....	2½	16	33.0	35.0	31	1.0	184	.206	37.5	0.5	38.0	74.0	1200	19.42	0.26	19.68	1.34
45.....	2½	20	25.0	29.0	42	4.0	216	.247	46.0	7.5	53.5	68.5	1200	23.82	3.82	27.64	1.24
46.....	3	4	40.0	40.0	20	0.0	248	.106	26.5	0.0	26.5	108.5	1440	11.44	0.00	11.44	1.64
47.....	3	8	35.0	41.0	24	0.0	188	.148	28.0	0.0	28.0	101.0	1440	12.09	0.00	12.09	1.53
48.....	3	12	31.0	41.0	28	0.0	255	.196	48.0	2.0	50.0	105.0	1440	20.73	0.86	20.59	1.58
49.....	3	16	28.0	37.0	35	0.0	203	.233	42.5	5.0	47.5	100.5	1440	18.26	2.16	20.42	1.52
50.....	3	20	29.0	39.0	26	6.0	223	.280	45.0	17.5	62.5	89.0	1440	19.44	7.56	27.00	1.34
51.....	3½	4	33.0	35.0	32	0.0	302	.132	40.0	0.0	40.0	146.5	1680	14.81	0.00	14.81	1.89
52.....	3½	8	32.0	45.0	23	0.0	277	.158	44.0	0.0	44.0	132.5	1680	16.28	0.00	16.28	1.71
53.....	3½	12	26.0	32.0	38	4.0	326	.259	75.0	9.5	84.5	116.0	1680	27.75	3.51	31.26	1.50
54.....	3½	16	28.0	40.0	32	0.0	255	.270	59.0	10.0	69.0	111.0	1680	21.83	3.70	25.53	1.43
55.....	3½	20	21.0	28.0	25	26.0	247	.223	60.0	20.0	80.0	92.5	1680	22.20	7.40	29.60	1.20
56.....	L 3½	4	40.0	40.0	20	0.0	222	.130	27.5	1.5	29.0	136.5	1680	10.17	0.55	10.72	1.76
57.....	L 3½	8	28.0	42.0	27	3.0	189	.187	34.0	1.5	35.5	115.0	1680	12.53	0.55	13.13	1.41
58.....	L 3½	12	27.0	47.0	24	2.0	273	.262	58.0	15.0	73.0	130.5	1680	21.46	5.55	27.01	1.69
59.....	L 3½	16	32.0	16.0	16	36.0	191	.319	37.0	24.0	61.0	97.0	1680	13.69	8.80	22.57	1.25
60.....	L 3½	20	24.0	33.0	35	8.0	230	.363	54.5	29.0	83.5	91.5	1680	19.98	10.73	30.76	1.19
61.....	4	4	28.0	36.0	36	0.0	252	.178	43.0	2.0	45.0	140.0	1920	13.93	0.65	14.57	1.58
62.....	4	8	32.0	45.0	23	0.0	307	.224	64.0	5.0	69.0	130.5	1920	20.73	1.62	22.35	1.48
63.....	4	12	26.0	34.0	34	6.0	326	.300	71.0	27.0	98.0	134.5	1920	23.00	8.74	31.74	1.52
64.....	4	16	25.0	32.0	30	13.0	294	.367	66.5	41.5	108.0	129.5	1920	21.54	13.44	34.98	1.47
65.....	4	20	24.0	26.0	20	30.0	245	.404	53.0	46.0	99.0	130.0	1920	17.17	14.90	32.07	1.48
66.....	L 4	4	32.0	40.0	24	4.0	339	.261	86.0	2.5	88.5	237.0	1920	27.86	0.80	28.66	2.69
67.....	L 4	8	32.0	44.0	22	2.0	394	.285	88.5	24.0	112.5	87.5	1920	28.67	7.77	36.44	0.99
68.....	L 4	12	21.0	30.0	23	26.0	308	.370	55.5	58.5	114.0	139.0	1920	17.98	18.95	36.93	1.57
69.....	L 4	16	26.0	29.0	31	14.0	268	.405	41.0	68.0	109.0	117.0	1920	13.23	22.03	35.31	1.32
70.....	L 4	20	20.0	25.0	12	43.0	235	.419	43.0	55.5	98.5	94.0	1920	13.92	17.98	31.90	1.06

DISTANCES AT WHICH THE HIGHEST AVERAGE YIELDS PER ACRE HAVE BEEN OBTAINED.

DISTANCES.	Highest average yield, in bushels.	Highest average yield of good corn, in bushels.	Highest average yield of fodder, in tons.
Rows 2 feet, stalks 4 inches.....			2.36
Rows 2 feet, stalks 20 inches.....	23.81	2.75	
Rows 2½ feet, stalks 4 inches.....			2.61
Rows 2½ feet, stalks 12 inches.....	32.11		
Rows 2½ feet, stalks 20 inches.....		6.18	
Rows 3 feet, stalks 4 inches.....			2.06
Rows 3 feet, stalks 12 inches.....	27.42	6.58	
Rows 3½ feet, stalks 4 inches.....			1.95
Rows 3½ feet, stalks 16 inches.....	25.98		
Rows 3½ feet, stalks 20 inches.....		5.46	
Rows 4 feet, stalks 4 inches.....			1.85
Rows 4 feet, stalks 16 inches.....	29.94	9.74	

LISTED.

Rows 3½ feet, stalks 4 inches.....			1.73
Rows 3½ feet, stalks 16 inches.....	28.06	10.17	
Rows 4 feet, stalks 4 inches.....			2.37
Rows 4 feet, stalks 12 inches.....	29.23		
Rows 4 feet, stalks 16 inches.....		12.29	

It will be seen that the rows were not closer than two feet, and that this distance was increased to four feet by six-inch additions. The stalks varied from 4 to 20 inches apart in the row, the distance being increased by four inches at each step. Distances 3½ and four feet between the rows were tested both with surface-planted and listed corn, but rows closer than 3½ feet were all surface planted. The whole set of experiments was duplicated, and the results given in the averages at the end of the table are based upon the averages of the duplicate plats. The table explains itself in all other respects. The letter "L," in the second column, in front of the figures "3½" and "4," indicate the listed rows.

In 1891, a similar experiment was carried out, the results of which show that, as a rule, the best yields of good corn were obtained when the rows were 3½ feet apart and the stalks 16 inches in the row. This year the surface-planted corn gave the best yield of marketable ears when the rows were four feet and the stalks 16 inches apart; the same being true, also, for the listed rows. It is evident, however, that the fertility of the soil and the size of the variety of corn must determine the distances between rows and stalks, respectively.

BUTT, MIDDLE AND TIP KERNELS OF CORN FOR SEED.

Five plats were planted with each of these grades of seed corn, as shown in table V. The rows were 3½ feet apart, and the stalks 16 inches apart in the row. The variety used was "Dole's 90-day corn." It was surface planted, with rows located by rather deep drill marks. The seeds from butts and tips were carefully selected, and only the deformed seeds from the very ends used, whereas the seeds from the middle of the ear were of normal size and shape. It was planted May 6, and was ripe and cut on September 16; and on October 24 all plats were husked and weighed, the ears being then perfectly dry. The corn was all of poor quality. No difference could, in this respect, be detected between the different plats. The results are shown in table V, where it will be seen that the tip kernels gave, in this instance, the best yield. This is the reverse of previous results. The averages of three years' trials are slightly in favor of the butt kernels, as shown in the table.

TABLE V.—BUTT, MIDDLE AND TIP KERNELS OF CORN FOR SEED.

Plat No.	NATURE OF SEED.	Yield of good ears, in pounds.	Yield of nubbins, in pounds.	Total yield of plat, in pounds.
71	Butt kernels.....	20.5	32.0	52.5
72	Middle ".....	10.0	27.0	37.0
73	Tip ".....	17.5	23.0	40.5
74	Butt ".....	47.5	43.5	91.0
75	Middle ".....	28.5	48.5	77.0
76	Tip ".....	41.0	48.0	89.0
77	Butt ".....	48.0	51.5	99.5
78	Middle ".....	19.5	44.5	64.0
79	Tip ".....	55.0	47.0	102.0
80	Butt ".....	45.0	35.5	80.5
81	Middle ".....	52.0	44.0	96.0
82	Tip ".....	171.5	41.0	212.5
83	Butt ".....	133.5	35.0	218.5
84	Middle ".....	179.5	40.0	219.5
85	Tip ".....	133.0	31.0	164.0

AVERAGE RATE OF YIELD PER ACRE OF EAR CORN.

NATURE OF SEED.	Bushels good ears per acre.	Bushels small ears per acre.	Total bushels per acre.
Butt kernels.....	19.68	11.28	30.96
Middle ".....	16.54	11.65	28.19
Tip ".....	23.88	10.85	34.73

AVERAGES OF THREE YEARS' TRIALS (EAR CORN).

NATURE OF SEED.	Bushels good ears per acre.	Bushels nubbins per acre.	Total bushels per acre.
Butt kernels.....	28.04	13.44	41.48
Middle ".....	26.36	12.31	38.67
Tip ".....	27.19	13.04	40.23

LISTED AND SURFACE-PLANTED CORN.

This experiment was tried on 30 plats, disposed as shown in table VI. It involves two series of trials: First, listed vs. surface planted, and, second, deep, shallow and surface culture, for each of the two methods of planting. The rows were, as usual, 3½ feet apart and the stalks 16 inches apart in the row, two kernels having been planted in a place and the plants thinned to this stand. The variety used was the corn known as "Farmer's Favorite." The methods of culture may be defined as follows: Deep culture means the use of the old-fashioned, two-horse cultivator, with four shovels. It was put deeply into the ground. Shallow culture means, in this case, that a "Daisy spring-tooth cultivator," with eight small shovels, was used instead of the implement just described. "Deep and shallow" culture means that the first time the corn was plowed the spring-tooth cultivator was used, but that the large cultivator was used the two succeeding plowings, and the last time the spring-tooth cultivator was used again; and, lastly, surface culture means that the surface was scraped with a "Tower's cultivator," which merely scrapes the weeds off the very surface of the ground. Each of these methods of culture was given to both the listed and surface-planted corn.

TABLE VI.—LISTED AND SURFACE-PLANTED CORN, WITH DEEP AND SHALLOW CULTURE.

Plat No.	Treatment of plat.	Yield of good ears, in lbs.	Yield of nubbins, in lbs.	Total yield, in lbs.
86	Listed, deep culture.....	37.0	42.0	79.0
87	Listed, shallow culture.....	35.5	36.0	71.5
88	Surface planted, deep culture.....	31.5	31.0	62.5
89	Surface planted, shallow culture.....	26.5	30.0	56.5
90	Surface planted, deep and shallow culture.....	20.0	33.0	53.0
91	Surface planted, surface culture.....	12.5	30.5	43.0
92	Listed, deep culture.....	69.5	29.0	98.5
93	Listed, shallow culture.....	43.5	30.5	74.0
94	Surface planted, deep culture.....	34.0	31.0	65.0
95	Surface planted, shallow culture.....	49.5	29.5	79.0
96	Surface planted, deep and shallow culture.....	60.0	44.0	104.0

TABLE VI.—LISTED AND SURFACE-PLANTED CORN, WITH DEEP AND SHALLOW CULTURE—CONTINUED.

Plat No	Treatment of plat.	Yield of good ears, in lbs.	Yield of nubbins, in lbs.	Total yield, in lbs.
97	Surface planted, surface culture.....	60.5	29.0	89.5
98	Listed, deep culture.....	78.0	31.5	109.5
99	Listed, shallow culture.....	49.0	31.5	80.5
100	Surface planted, deep culture.....	53.0	26.0	79.0
101	Surface planted, shallow culture.....	71.5	30.5	102.0
102	Surface planted, deep and shallow culture.....	61.0	28.0	89.0
103	Surface planted, surface culture.....	64.5	39.0	103.5
104	Listed, deep culture.....	69.5	38.5	108.0
105	Listed, shallow culture.....	82.0	31.0	113.0
106	Surface planted, deep culture.....	79.5	33.0	112.5
107	Surface planted, shallow culture.....	77.0	35.0	112.0
108	Surface planted, deep and shallow culture.....	71.5	39.0	110.5
109	Surface planted, surface culture.....	81.5	31.0	112.5
110	Listed, deep culture.....	104.5	31.5	136.0
111	Listed, shallow culture.....	85.5	33.0	118.5
112	Surface planted, deep culture.....	110.0	30.5	140.5
113	Surface planted, shallow culture.....	135.0	26.0	161.0
114	Surface planted, deep and shallow culture.....	128.0	21.0	149.0
115	Surface planted, surface culture.....	127.5	24.5	152.0

AVERAGE RATE OF YIELD PER ACRE OF EAR CORN.

Treatment of plat.	Bushels good ears per acre.	Bushels nubbins per acre.	Total yield per acre, bushels.
Listed, deep culture.....	20.48	9.85	30.33
Listed, shallow culture.....	16.88	9.25	26.13
Surface planted, deep culture.....	17.60	8.65	26.25
Surface planted, shallow culture.....	20.54	8.62	29.16
Surface planted, deep and shallow culture.....	19.45	9.42	28.87
Surface planted, surface culture.....	19.80	8.80	28.60

AVERAGES OF TWO YEARS' TRIALS.

Treatment of plat.	Bushels per acre.
Listed, deep culture.....	26.78
Listed, shallow culture.....	26.68
Surface planted, deep culture.....	27.13
Surface planted, shallow culture.....	29.61
Surface planted, deep and shallow culture.....	28.78
Surface planted, surface culture.....	28.10

Table VI gives details of weights per plat as well as averages in bushels per acre, and it also gives averages of two years' trials. Last year, listed and deep culture gave the best results, followed by surface-planted and shallow culture, and the latter method of planting and culture gives the best results during the two years' trials.

VARIETIES TESTED IN 1893.

A short list of only 48 varieties was tested the past season, with the results as set forth in table VII. The yields are all unusually small, owing to the unfavorable season, as has already been mentioned.

TABLE VII.—VARIETIES OF CORN, 1898.

No. of plat.	VARIETIES.	When tasseled.	When ripe.	Height of stalk, in feet.	Height of ear from ground, in feet.	Sound ears, yield in pounds per plat.	Nubbins, yield in pounds per plat.	Sound ears, yield in bushels per acre.	Nubbins, yield in bushels per acre.	Total yield, in bushels per acre.	
	<i>White.</i>										
1.....	Beard's Pearl White	July 12.....	Aug. 29.. ..	7.1	2 9	13.0	39.0	3.71	11.14	14.85	
2.....	Blount's Prolific	" 24.....	Sept. 9.....	7.9	3.8	64.0	49.0	18.28	14.00	32.28	
3.....	Boone County White	" 17. .	" 1. .	7.1	3.2	54.5	48.0	15.57	13.71	29.28	
4.....	Brazilian Flour.....	" 31.....	" 13.. ..	7.9	3.7	73.0	72.0	20.85	20.57	41.42	
5.....	Buist's Snowflake.....	" 11.....	" 5.....	7.2	3.6	44.0	62.0	12.57	17.71	30.28	
6.....	Champion White Pearl.....	" 12.....	Aug. 31.. ..	7.1	2 8	50 5	62.0	14.42	17.71	32.13	
7.....	Dungan's White Prolific.....	" 17.....	Sept. 5. ...	7.8	3.9	63.0	55.5	18 00	15.85	33.85	
8.....	Early Missouri.....	" 12.....	" 1.....	7.0	3 8	63.0	64.0	18.00	18 28	36.28	
9.....	Early White Dawn	" 11.....	Aug. 29. ...	7.2	3.7	34.0	49.0	9.71	14.00	23.71	
10.....	Forsyth's Favorite White Dent	" 21. .	Sept. 12.	6.9	3.8	34.5	57.5	9.85	16.42	26.27	
11.....	Hartman's Early White	" 14.....	Aug. 31.....	7.1	3.6	40.0	51.5	11.42	14 71	26.13	
12.....	Kansas White King.....	" 18.....	Sept. 11.....	7.8	4.1	58.0	40.5	16.57	11.57	28.14	
13.....	Mammoth Ivory Dent.....	" 17.....	" 5 .. .	6.4	3.3	17.5	58 5	5.00	16.71	21.71	
14.....	Mammoth White Dent.....	" 14 .. .	" 1.....	7 0	3.2	38.0	49.0	10.85	14.00	24.85	
15.....	Mammoth White Surprise.....	" 29.....	" 14.....	8.3	4.1	30.0	35.0	8.57	10.00	18.57	
16.....	Mosby's Prolific.....	" 29.....	" 15.....	8.0	4.0	20 0	53.0	5 71	15.14	20.85	
17.....	Naylor's Improved.....	" 17.....	" 9.....	6.5	3.1	46.5	50.0	13.28	14.28	27.56	
18.....	Stooling Flour Corn.....	" 29.....	" 14.....	7.5	3.5	24.0	43.5	6.85	12.42	19.27	
19.....	Thorougbred White Flint.....	" 14.....	" 8. .	5.7	2.2	47.0	40 0	13.42	11.42	24.84	

TABLE VII.—VARIETIES OF CORN, 1893—CONCLUDED.

No. of plat.	VARIETIES.	When tasseled.	When ripe.	Height of stalk, in feet.	Height of ear from ground, in feet.	Sound ears, yield in pounds per plat.	Nubbins, yield in pounds per plat.	Sound ears, yield in bushels per acre.	Nubbins, yield in bushels per acre.	Total yield, in bushels per acre.	
	<i>Yellow.</i>										
20.....	Big Buckeye.....	July 15.....	Sept. 9.....	7.1	3.0	33 0	41.0	9.42	11.71	21.13	
21.....	Capital.....	" 14.....	" 5.....	7.6	3.6	63.0	41.5	13.00	11.85	29.85	
22.....	Chester County Mammoth.....	" 15.....	" 7.....	7.1	3.4	50.5	39.5	14.42	11.28	25.70	
23.....	Dakota Yellow Dent.....	" 17.....	" 5.....	7.2	3.7	48.0	53.0	13.71	15.14	28.88	
24.....	Early Mastodon.....	" 12.....	" 1.....	6.7	3.2	54.0	31.0	15.42	8.85	24.27	
25.....	Early Prairie King.....	" 14.....	" 5.....	6.6	3.2	37.0	69.0	10.57	19.71	30.28	
26.....	Leaming.....	" 12.....	Aug. 29.....	6.3	2.8	49.0	51.0	14.00	14.57	28.57	
27.....	Everitt's Mortgage Lifter.....	" 14.....	Sept. 1.....	6.9	3.7	35.0	58.5	10.00	16.71	26.71	
28.....	Extra Early Huron Dent.....	" 10.....	Aug. 23.....	5.8	2.0	22.0	46.0	6.28	13.14	19.42	
29.....	Feeders' Favorite.....	" 19.....	Sept. 11.....	7.4	3.5	48.0	39.5	13.71	11.28	24.99	
30.....	Fisk's.....	" 30.....	" 12.....	6.9	3.5	66.0	34.0	13.85	9.71	28.56	
31.....	Hogus's.....	" 14.....	" 5.....	6.5	2.9	72.5	51.0	20.71	14.57	35.28	
32.....	Large Golden Dent.....	" 24.....	" 12.....	7.7	3.5	72.0	27.0	20.57	7.71	28.28	
33.....	Legal Tender.....	" 12.....	" 11.....	6.9	2.8	64.5	34.0	13.42	9.71	28.13	
34.....	North Star.....	" 15.....	" 5.....	7.3	3.5	82.5	44.0	23.57	12.57	36.14	
35.....	Improved Leaming.....	" 14.....	" 1.....	7.7	3.5	10.0	32.5	2.85	9.28	12.13	
36.....	Orange Pride.....	" 15.....	" 9.....	8.2	4.2	62.5	44.5	17.85	12.71	30.56	
37.....	100-Day Bristol.....	" 17.....	" 1.....	6.0	3.0	26.0	47.0	7.42	13.42	20.84	
38.....	Patrick Dent.....	" 21.....	" 9.....	7.0	3.4	35.0	47.5	10.00	13.57	23.57	
39.....	Piasa Queen.....	" 20.....	" 11.....	7.1	3.3	40.0	37.0	11.42	10.57	21.99	
40.....	Prairie King.....	" 10.....	Aug. 23.....	6.0	2.4	25.0	47.0	7.14	13.42	20.56	

41.	Pride of the North..	" 17.....	Sept. 7.....	6.0	2 4	49.0	41.0	14 00	11.71	25.71	
42.	Pride of Kansas.	" 17	" 8 ..	6 8	2.9	43.0	40.5	12.28	11.57	23 85	
43.....	Riley's Improved Favorite . .	" 17..	" 5.	7.2	2.5	56.5	36.5	16.14	10.42	26.56	
44.	Seek-no-Further	" 10	Aug. 29..	7.0	3.0	51.0	29.0	14.57	8.28	22.85	
45	Solomon Valley Mammoth	" 22.....	" 23.....	7 3	2 9	61.0	34.5	17.42	9.85	27.27	
46.....	Stewart's Improved..	" 18..	Sept. 5.....	8.3	3.4	85.0	42.5	24.28	12.14	36.42	
	<i>Mixed Colors.</i>										
47.....	Peach-blossom Mammoth..	July 19..	Sept. 5 ...	6.8	4.2	72.0	30.5	20.57	8.71	29.28	
48.....	Climax Early.....	" 10	Aug. 29.....	7.0	3.0	50.0	49 5	14.28	14.14	28.42	