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Report of Work for 1907 and 1908 at Highmore Substation

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AGRICULTURAL EXPERIMENT STATION

South Dakota State College
of Agriculture and Mechanic Arts

AGRONOMY DEPARTMENT

Report of Work for 1907 and 1908 at Highmore Substation

BROOKINGS, SOUTH DAKOTA

Yankton Printing Co., Yankton, S. D.

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REPORT OF WORK FOR 1907 AND 1908 AT HIGH-MORE SUB-STATION.

(By Clifford Willis, Chief in Agronomy.)

The object of the present bulletin is to report the progress of work which has been done at this Station for the past two seasons.

During the year 1907, the Bureau of Plant Industry, United States Department of Agriculture, carried on work in co-operation with this Department. The work in the rotation plots, which was started in 1905 and extended in 1906, has been carried on during 1907 and 1908; also the work of variety tests of oats, common wheat, durum wheat, barley, foxtail millets, broom corn millets, emmer, einkorn and sugar beets.

The forage work reported in bulletin 101 has been carried on to date. However, the results of the forage work will be published in a later bulletin devoted to forage crops alone.

KAFFIR CORN—1907.

Access No.	Variety	Date of				Height in ft. and inches	Per Cent of S and	Yield in Tons and Pounds
		Sowing	Coming up	Heading	Ripening			
185	Blackhull	6-3	6-13	9-10	Did not R.	3-6	85	3-993
186	Milo	6-3	6-12	8-22	9-24	4-0	90	2-1794
216	Red Kaffir	6-3	6-13	9-14	Did not R.	3-6	70	2-1439
217	Shallu	6-3	6-13	8-23	20 per ct. R.	5-0	80	2-1217
123	Kaoliang (brown)	6-3	6-13	8-21	"	8-0	90	3-660
193	"	6-3	6-12	8-21	"	7-6	95	3-1029
171	"	6-3	6-13	8-13	9-20	6-8	90	2-1026

PRECIPITATION IN INCHES SO FAR AS IT HAS BEEN RECORDED TO DATE

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Precip.	Precip. gr'wg season Apr. to Sept.
1888	....	....	....	....	....	....	5.79	3.10	....	....	....	....	....	....
1889	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1890	....	....	0.30	0.19	0.83	6.17	0.36	0.56	0.45	0.32	0.30	....	....	8.11
1891	....	Trace	0.83	1.94	....	....	0.72	0.80	....	....	....	....	....	....
1892	....	....	....	....	....	....	1.20	1.17	1.10	0.75	0.20	0.20	....	....
1893	0.15	0.15	....	3.85	1.90	2.55	2.64	....	Trace	....	....	....	....	10.94
1894	0.45	0.05	2.20	0.98	0.33	5.91	0.42	0.01	0.10	1.63	Trace	Trace	12.08	7.65
1895	0.20	Trace	0.74	2.08	1.66	3.73	0.86	1.06	0.70	0.22	1.15	....	12.40	9.39
1896	Trace	0.30	0.85	2.50	0.95	2.28	6.67	....	....	....	....	....	....	12.40
1897	....	0.80	2.57	3.44	1.86	2.79	3.75	....	0.41	1.16	0.48	0.40	....	11.84
1898	Trace	0.01	1.40	1.51	4.17	1.67	2.33	0.62	....	....	....	....	....	10.30
1899	0.45	0.15	1.50	2.00	3.75	4.20	1.81	2.19	0.48	0.84	0.03	0.27	17.67	13.95
1900	Trace	0.06	1.75	3.20	0.47	2.53	2.69	7.56	4.39	....	....	0.32	....	16.45
1901	0.30	0.05	0.60	1.00	0.72	5.93	2.68	2.34	3.93	....	....	....	....	12.67
1902	....	....	....	....	....	....	....	3.20	0.40	0.20	....	1.10	....	....
1903	0.05	0.30	0.87	0.70	0.85	2.93	3.58	2.40	1.46	0.66	0.65	0.63	15.08	10.46
1904	0.15	0.17	0.05	1.43	0.99	2.25	2.40	1.48	0.38	0.60	Trace	0.60	10.50	8.55
1905	0.60	Trace	0.60	1.39	5.23	5.64	5.54	3.56	0.56	1.95	1.29	Trace	26.36	21.36
1906	0.30	0.40	0.80	2.40	5.00	2.50	1.19	6.35	2.80	0.30	2.47	0.40	24.91	17.44
1907	1.00	0.40	1.10	0.68	5.11	1.62	3.64	0.18	1.04	1.96	0.05	0.40	17.28	11.33
1908	0.10	0.93	0.80	1.55	2.68	5.78	2.49	3.53	0.62	2.19	1.39	0.31	22.37	16.03

YIELDS OF GRAIN ON ROTATION PLOTS.—1907.

Rotation Plots	Corn 70 lbs. per bu.			Wheat 60 lbs. per bu.		Oats 32 lbs. per bu.		Barley 48 lbs. per bu.	
	Fodder lbs.	Grain per plot lbs.	Grain per Acre bu.	Grain per plot lbs.	Grain per Acre bu.	Grain per plot lbs.	Grain per Acre bu.	Grain per plot lbs.	Grain per Acre bu.
1	.....	150	21.428	129	21.5	150	46.875	...	.....
2	.....	150	21.428	174	29.0	133	41.562	...	.....
3	120	160	22.875	163	27.16	145	45.312	...	.....
4	.....	158	22.571	174	29.00	155	48.437	...	.....
5	.....	...	.....	200	33.33	176	55.000	...	.....
6	.....	140	20.000	...	.....	158	49.375	120	25.00
7	.....	200	28.571	...	.....	140	43.750	136	28.33
8	.....	...	.....	196	32.66	185	57.812	...	.....
9	.....	190	27.142	147	24.50	152	47.500	...	.....
10	Bromus	...	.....	...	.....	...	.....	...	.....
	141.5	140	20.000	120	20.00	105	32.812	Flax	.....
12	340	177	25.287	200	33.33	146	45.625	63	11.25
14	.....	170	24.285	192	32.00	198	61.875	...	.....
15	.....	150	21.428	197	32.83	156	48.750	...	.....
16	.....	190	27.142	195	32.50	193	60.312	...	.....
17	.....	200	28.571	193	32.16	164	51.250	...	.....
31	.....	110	15.714	180	30.00	201	62.812	...	.....
32	.....	160	22.857	189	31.50	154	48.125	...	.....
33	Sorghum	...	.....	...	.....	...	.....	...	.....
	494	...	.....	152	25.33	181	56.562	...	.....
34	576	...	.....	202	33.66	146	45.625	...	.....

CONTINUOUS CROPPING.

A	.....	220	31.428	173	28.83	145	45.312	145	30.20
B	158	202	28.857	178	29.66	151	47.18	178	37.08
D	135	125	17.85	180	30.00	190	59.375	193	40.20
E	73	187	26.814	135	22.50	138	43.125	126	26.75
F	90	180	25.714	130	21.66	138	43.125	118	24.58

AVERAGE YIELD PER 1-10 ACRE PLOT AND PER ACRE.

110	.....	.....	.....	.....	.....	.....	.....	.....	.....
Acre	115.2	167.95	2.399	172.68	2.87	158.33	4.947	145.14	3.073
Acre	1152.0	1679.5	23.99	1726.8	28.78	1583.3	49.47	1451.4	30.23

AVERAGE YIELD PER 1-10 ACRE PLOT AND PER ACRE.

Sorghum Fodder		Bromus inermis Hay		Flax	
				Lbs.	Bu.
1-10	535 lbs.	207.6 lbs.		63	1.125
Acre	5350	2076.0		630	11.25

YIELDS OF GRAIN ON ROTATION PLOTS.—1908.

Rot. No	Corn 70 lbs. per bu.			Wheat 60 lbs. per bu.		Oats 32 lbs. per bu.		Barley 48 lbs. per bu.	
	Fodder lbs.	Grain per plot lbs.	Grain per acre bu.	Grain per plot lbs.	Grain per acre bu.	Grain per plot lbs.	Grain per acre bu.	Grain per plot lbs.	Grain per acre bu.
1	115	16.42	146	24.33	92	28.75	.....	.....
2	200	28.75	151	25.16	118	36.87	.....	.....
3	137	19.57	154	25.66	95	29.68	.....	.....
4	59	8.42	131	21.83	114	35.62	.....	.....
5	174	29.00	89	27.81	.....	.....
6	129	18.42	.....	.....	116	36.25	144	30.00
7	228	32.57	.....	.....	128	40.00	143.5	29.89
8	165	27.50	149	46.56	.....	.....
9	181	25.85	145	24.16	133	41.56	.....	.....
10	222	31.71	165	27.50	61	19.06	Flax	Flax
12	113	16.14	160	26.66	107	33.43	30	5.35
14	149	21.28	177	29.50	133	41.56	.....	.....
15	130	18.57	159	26.05	143	44.68	.....	.....
16	113	16.14	174	29.00	121	37.81	.....	.....
17	139	19.85	175	29.16	141	44.06	.....	.....
31	123	17.57	180	30.00	126	39.37	.....	.....
32	164	23.42	175	29.16	145	45.31	.....	.....
33	Sorghum	.....	.....	.....	.....	.....	.....	.....	.....
	815	4 T-150 lb.	.....	156	26.00	131	40.93	.....	.....
34	725	3 T-1250 lb.	.....	139	23.16	134	41.87	.....	.....

CONTINUOUS CROPPING.

A	.....	191	27.28	158	26.33	110	34.37	143	29.79
B	.....	205	29.28	118	19.60	103	32.18	124.5	25.93
C	.....	184	26.28	184	30.66	155	48.43	224	46.66
E	.....	134	19.14	94	15.66	92	28.75	115	23.95
F	.....	149	21.28	92	15.33	90	28.12	123	25.62

AVERAGE YIELD PER 1-10 ACRE PLOT AND PER ACRE.

1-10	.....	153.25	2.18	153.27	2.55	117.75	3.67	145.28	3.02
Acres	.....	1532.50	21.89	1532.70	25.54	1177.50	36.70	1452.80	30.26

SORGHUM FODDER.

1-10	.....
Acres	770 lbs.
Acres	3 tons-1,700 lbs.

ROTATIONS.

Rotation No. 1. Wheat stubbled in on disced corn ground. Oats on early fall plowing. Corn on early fall plowing.

Rotation No. 2. Wheat on spring plowing. Oats on spring plowing. Corn on spring plowing.

Rotation No. 3. Wheat on early fall plowing. Oats on early fall plowing. Corn on early fall plowing.

Rotation No. 4. Oats stubbled in on disced corn ground. Wheat on fall plowing. Corn on fall plowing.

Rotation No. 5. Wheat on fallow ground. Oats on early fall plowing. Summer fallow.

Rotation No. 6. Barley stubbled in on disced corn ground. Oats on early fall plowing. Corn on early fall plowing.

Rotation No. 7. Oats on spring plowing. Barley on spring plowing. Corn on spring plowing.

Rotation No. 8. Oats on fallow ground. Wheat on early fall plowing. Summer fallow.

Rotation No. 9. Oats on spring plowing. Wheat on spring plowing. Corn on spring plowing.

Rotation No. 10. Corn on spring plowing. Wheat stubbled in on disced corn ground and seeded to brome grass. Brome grass meadow. Brome grass meadow. Oats on back setting of sod broken in previous summer.

Rotation No. 12. Corn on spring plowing. Wheat stubbled in on disced corn ground and seeded to brome grass. Brome grass meadow. Brome grass meadow. Flax on sod broken just before seeding.

Rotation No. 14. Corn on spring plowing. Wheat stubbled in on disced corn ground. Rye turned under for green manure. Oats on land kept thoroughly dragged since rye was turned under.

Rotation No. 15. Corn on spring plowing. Oats stubbled in on disced corn ground. Peas turned under for green manure. Wheat on land kept thoroughly dragged since rye was turned under.

Rotation No. 16. Corn on spring plowing. Wheat stubbled in on disced corn ground. Peas turned under for green manure. Oats on land kept thoroughly dragged since peas were turned under.

Rotation No. 17. Corn on spring plowing. Oats stubbled in on disced corn ground. Rye turned under for green manure. Wheat on land kept thoroughly dragged since peas were turned under.

Rotation No. 31. Corn on spring plowing. Wheat

stubbled in on disced corn ground. Sweet clover turned under for green manure. Oats on land kept thoroughly dragged since clover was turned under.

Rotation No. 32. Corn on spring plowing. Oats stubbled in on disced corn ground. Sweet clover turned under for green manure. Wheat on land kept thoroughly dragged since clover was turned under.

Rotation No. 33. Sorghum on spring plowing. Wheat stubbled in on disced sorghum ground. Sweet clover turned under for green manure. Oats on land kept thoroughly dragged since clover was turned under.

Rotation No. 34. Sorghum on spring plowing. Oats stubbled in on disced sorghum ground. Sweet clover turned under for green manure. Wheat on land kept thoroughly dragged since clover was turned under.

Plot A. Corn on spring plowing. Ordinary methods. Wheat on spring plowing. Ordinary methods. Oats on spring plowing. Ordinary methods. Barley on spring plowing. Ordinary methods.

Plot B. Corn on fall plowing. Moisture conservation methods. Wheat on fall plowing. Moisture conservation methods. Oats on fall plowing. Moisture conservation methods. Barley on fall plowing. Moisture conservation methods.

Plot C. Corn on summer fallowed land. Wheat on summer fallowed land. Oats on summer fallowed land. Barley on summer fallowed land.

Plot E. Corn subsoiled in the fall. Wheat subsoiled in the fall. Oats subsoiled in the fall. Barley subsoiled in the fall.

Plot F. Corn fall listed after harvest. Wheat fall listed after harvest. Oats fall listed after harvest. Barley fall listed after harvest.

DURUM WHEATS.—1907

Variety	Access. Number	Date of					Height in feet and inches	Yield	
		Seeding	Coming Up	Heading	Ripening	Harvest		Lbs. of Straw	Bu. per acre
Wild Goose.....	1493	4-26	5-17	7-5	8-14	8-15	3-10	1730	22.50
Arnautka	1537	4-26	5-18	7-7	8-14	8-15	3-10	1940	22.66
Arnautka .....	.....	4-29	5-18	7-9	8-15	8-16	3-2	1970	23.80
Arnautka	1547	4-29	5-18	7-9	8-15	8-16	3-4	2280	27.00
Kubanka	1350	4-26	5-17	7-7	8-15	8-16	3-4	2320	27.33
Kubanka	1354	4-26	5-17	7-7	8-15	8-16	3-4	2140	29.66
Kubanka	5639	4-26	5-17	7-7	8-14	8-16	3-4	2360	28.66
Kubanka	1516	4-29	5-17	7-8	8-14	8-16	3-2	2100	26.83
Kutanka	1541	4-30	5-18	7-10	8-13	8-16	3-0	1820	21.66
Beloturka	1513	4-30	5-17	7-9	8-14	8-16	3-6	1870	24.16
Arnautka	28.8c	4-30	5-18	7-9	8-14	8-16	3-2	1950	23.50
Iumillo	1736	4-30	5-18	7-8	8-13	8-15	3-0	2370	22.16

DURUM WHEAT.—1908.

Variety	Acces. Number	Date of			Uniform Head- ing in per cent	Height in feet and Inches	Uniform Height in per cent	Yield	
		Seeding	Coming Up	Heading				Tons and lbs. of Straw	Bu. per acre
Wild Goose	1493	4-22	5-9	7-7	90	4-3	90	1-940	25.00
Wild Goose	1547	4-22	5-9	7-9	90	4-3	90	1-1100	25.33
Arnautka	1537	4-22	5-8	7-7	90	4-3	90	1-1400	25.00
Arnautka .....	.....	4-22	5-9	7-9	90	4-3	90	1-1660	26.00
Arnautka	28.8c	4-23	5-10	7-10	90	4-2	90	1-1920	28.66
Pererodka	1350	4-23	5-10	7-8	95	3-6	90	1-1380	22.00
Beloturka	1513	4-28	5-10	7-9	90	3-5	90	1-103	27.83
Iumillo	1736	4-28	5-10	7-9	90	3-3	90	1-710	25.83
Kubanka	1354	4-23	5-10	7-8	95	3-10	90	1-1010	23.83
Kubanka	5639	4-23	5-10	7-7	95	4-0	90	1-700	22.66
Kubanka	1516	4-25	5-10	7-8	90	3-7	90	1-250	27.50
Kubanka	1541	4-25	5-10	7-9	90	3-10	90	1-350	22.50

BROOM-CORN MILLETS.—1907.

Access. Number	Variety	Date of				Height in feet and inches	Bu. per acre
		Seeding	Coming Up	Heading	Ripening		
333	Red Orenburg	6-12	6-18	7-25	8-15	3-0	14.50
334	Red Russian	6-12	6-18	7-25	8-15	3-2	19.58
331	Black Voronezh	6-12	6-18	7-25	8-15	3-10	22.50
10625	Red 74-10625	6-12	6-18	7-25	8-15	3-6	20.83
366	Tainbov	6-12	6-18	7-24	8-15	2-8	27.08
72	Early Fortune	6-12	6-18	7-25	8-15	3-0	20.41
73	White Ural	6-12	6-18	7-25	8-14	2-10	24.16

OATS.—1907.

Variety	Access. Number	Date of					Height in feet and inches	Yield	
		Seeding	Coming Up	Heading	Ripening	Harvest		Lbs. of straw	Bu. per acre
Kherston	Nebr.	5-1	5-20	7-7	7-30	7-31	2-4	710	18.43
Kherston	Brook's	5-1	5-19	7-7	7-30	7-31	2-3	940	25.00
Kherston	Hf'more	5-1	5-19	7-6	7-30	8-1	2-6	1120	28.75
Sixty Day		5-1	5-19	7-20	7-30	8-1	2-5	1170	31.56
North Finnish Black.		5-1	5-19	7-10	8-5	8-8	3-2	1720	25.00
Swedish Select		5-3	5-19	7-15	8-9	8-9	3-0	2030	30.31
Red Algerian	10269	5-1	5-20	7-7	8-8	8-9	2-8	1600	21.87
Belyak	10264	5-1	5-19	7-16	8-8	8-9	2-2	2350	26.55
Danish	441	5-1	5-18	7-16	8-8	8-9	2-8	2400	26.57
Sparrowbill	443	5-1	5-20	7-20	8-8	8-9	2-8	2980	21.87
Canadian	444	5-1	5-20	7-15	8-5	8-8	3-0	1970	23.43
White Tartar	445	5-1	5-20	7-20	8-17	8-17	3-8	1960	26.25
Lincoln	151	5-1	5-18	7-15	8-8	8-9	3-2	1840	30.62
Wide Awake	154	5-2	5-18	7-16	8-9	8-9	2-8	1550	24.68
Abyssinian	155	5-2	5-18	7-16	8-8	8-9	2-8	1490	25.31
Columbus	156	5-2	5-19	7-16	8-8	8-9	2-6	1500	25.00
Holstein Prolific.....	158	5-2	5-19	7-16	8-8	8-9	2-6	1660	26.25
Golden Beauty	159	5-2	5-19	7-16	8-8	8-10	3-8	2010	26.56
Banner	160	5-2	5-19	7-17	8-8	8-10	2-6	1990	31.56
American Triumph....	162	5-2	5-19	7-16	8-8	8-10	2-11	2070	35.31
American Beauty .. .	163	5-2	5-19	7-16	8-9	8-10	2-9	2270	35.31
Minnesota No. 6.....		5-3	5-19	7-16	8-8	8-10	2-11	1400	33.75
Minnesota No. 26....		5-3	5-19	7-16	8-9	8-10	2-11	2410	34.68

Twenty-three varieties were tested. The varieties which made the largest yield were Banner No. 160 and American Triumph No. 162. But during the year 1908 Sixty-day oats made the largest yield, except the Kherston which was brought from the Brookings Station. In a seven year average this variety has made a yield of 62.5 bushels at the Brookings Station. While Banner No. 160 for a period of six years under the same conditions has made a yield of 28.64 bushels. The Sixty-day variety is least affected by rust, only ten per cent was affected by leaf rust and the same percent by stem rust.

OATS.—1908.

Variety	Access. Number	Date of					Uniform Height in per cent	Yield	
		Seeding	Coming Up	Heading	Uniform Height in c. and inches	Uniform Height in per cent		Tons and lbs of straw	Bu. per acre
Kherson ..	Nebr.	5-2	5-13	7-1	90	2-6	90	0-1510	46.56
Kherson ..	Brook's	5-2	5-13	7-1	90	3-9	90	0-1765	51.72
Kherson ..	Hi'more	5-2	5-13	7-2	90	2-8	90	0-1390	39.00
Sixty Day ..	*	5-2	5-12	7-3	90	2-10	90	0-1620	47.50
North Finnish Blk.		5-2	5-13	7-14	90	3-1	90	0-1500	26.25
Swedish Select....		5-2	5-13	7-16	90	3-2	90	0-1970	30.31
Red Algerian	10269	5-2	5-13	7-17	90	3-0	90	0-1810	32.81
Belyak ..	10264	5-2	5-13	7-17	90	3-2	90	1-440	21.25
Danish ..	441	5-2	5-13	7-14	85	3-2	90	0-1730	30.31
Sparrowbill ..	443	5-4	5-14	7-20	80	3-4	90	0-1210	23.43
Canadian ..	444	5-4	5-13	7-16	90		90	1-030	30.31
White Tartar ..	445	5-4	5-14	7-1	85	3-7	90	1-000	25.00
Lincoln ..	151	5-5	5-14	7-16	90	3-4	85	0-1870	29.70
Wide Awake ..	154	5-5	5-14	7-16	90	3-0	85	0-1795	28.90
Abyssinian ..	155	5-5	5-14	7-16	90	3-0	90	0-1700	25.00
Columbus ..	156	5-5	5-14	7-14	85	2-8	90	0-1260	28.12
Holstein Prolific ..	158	5-5	5-14	7-15	85	2-6	90	0-1200	22.50
Golden Beauty ..	159	5-5	5-14	7-14	90	2-5	90	0-1020	27.50
Banner ..	160	5-4	5-14	7-17	90	2-6	90		
American Triumph.	162	5-4	5-14	7-17	90	3-1	90	0-1400	26.25
American Beauty..	163	5-4	5-14	7-17	90	2-10	90	0-1610	25.31
Garton ..		5-4	5-13	7-11	90	3-0	90	0-1620	27.50
Minnesota ..	6	5-4	5-14	7-16	90	2-10	90	0-1400	25.00
Minnesota ..	26	5-4	5-14	7-17	90	2-8	85	0-1500	26.87

EINKORN

Only a small area was seeded to Einkorn this year. The seeding was at the rate of two bushels per acre. It was seeded April 22nd. The height was eighteen inches. Yield of straw 1700 pounds per acre, grain 500 pounds per acre.

EMMER.

Only a small area was seeded to Emmer. The variety sown was No. 1254. The rate of seeding was the same as for the Einkorn. Yield of straw was 1430 pounds per acre, grain 31.77 bushels per acre.

COMMON WHEATS.—1907.

Variety	Date of					Height in feet and inches	Yield	
	Seedling	Coming Up	Heading	Ripening	Harvest		Lbs. of Straw	Bu. per acre
Blue Stem ...	4-20	5-15	7-16	8-16	8-16	3-3	1600	16.66
Velvet Chaff ..	4-20	5-14	7-16	8-14	8-14	3-2	1790	18.50
Minn. No. 51..	4-20	5-14	7-16	8-14	8-14	3-10	1520	16.00
Minn. No. 66 ..	4-20	5-14	7-15	8-10	8-12	3-8	1250	12.50
Minn. No. 171..	4-22	5-14	7-15	8-10	8-12	3-10	1010	13.16
Minn. No. 185..	4-22	5-14	7-13	8-10	8-12	3-5	920	9.33
Minn. No. 188..	5-3	5-20	7-12	8-9	8-12	3-6	1180	11.00
Ghirka No. 1517	5-3	5-20	7-9	8-10	8-10	3-6	680	11.33
Red Fife	4-19	5-13	7-10	8-9	8-10	3-8	1780	18.66
No. 2492	4-19	5-15	7-5	8-7	8-9	3-11	1330	19.16
No. 61.3c1c	4-19	5-16	7-11	8-9	8-12	3-2	1980	24.00
S. D. Climax..	4-20	5-14	7-10	8-9	8-12	3-10	1750	18.50

COMMON WHEAT.—1908.

Variety	Access. Number	Date of					Height in feet and inches	Yield	
		Seedling	Coming Up	Heading	Uniform Heading	Uniform Height		Tons and lbs of straw	Bu. per acre
Red Fife		4-29	5-11	7-10	90	90	3-3	1-320	11.00
S. D. Climax.....		4-30	5-11	7-10	90	90	3-3	1-460	10.90
Blue Stem		4-30	5-11	7-16	90	92	3-5	0-1405	13.58
Velvet Chaff		4-30	5-11	7-16	90	95	3-6	1-730	16.16
Minnesota	51	4-30	5-12	7-16	90	90	3-4	1-780	16.33
Minnesota	66	4-30	5-12	7-16	90	90	3-6	1-595	16.08
Minnesota	163	4-30	5-11	7-14	85	90	3-6	1-1220	13.88
Minnesota	169	4-30	5-11	7-14	85	95	3-4	1-980	14.66
Minnesota	171	4-30	5-11	7-13	90	95	3-2	1-720	11.00
Minnesota	185	4-30	5-11	7-12	90	90	3-2	1-340	10.33
Minnesota	188	4-30	5-11	7-10	85	95	3-2	1-295	9.08
No. 2492		4-30	5-12	7-6	85	92	3-8	1-1115	13.08
Ghirka ..	1517	4-30	5-11	7-11	85	95	3-0	0-1975	4.75
Bearded Blue Stem...		4-30	5-12	7-14	85	95	3-8	1-730	9.83
No. 61.3c1c.....		4-30	5-12	7-10	90	96	3-10	1-930	17.50

YIELD PER ACRE FOR EACH YEAR GROWN.—(Barley)

Varieties	Acres. Number	No. of years grown	1903		1904		1905		1906		1907		1908		Average	
			Highmore	Brookings	Highmore	Brookings	Highmore	Brookings	Highmore	Brookings	Highmore	Brookings	Highmore	Brookings	Highmore	Brookings
Striegum	47	6	15.6	Hail	13.1	42.5	47.9	30.0	25.4	43.1	18.59	20.8	32.08	16.35	25.43	29.17
Gold Melon	48	6-5	10.6	Hail	10.4	45.8	51.0	46.3	28.5	37.0	20.83	25.6	26.35	17.77	24.61	34.98
Minnesota	6	6	27.0	.....	16.8	49.3	37.7	49.0	42.3	41.0	22.70	34.6	24.37	28.84	28.47	40.54
Princess	10583	4	.....	.....	.....	.....	40.8	50.8	47.9	41.1	22.70	12.3	18.75	19.75	32.53	30.98
Chevallier	10584	4	.....	.....	.....	.....	48.5	60.0	50.6	48.8	25.20	20.8	22.91	26.47	36.80	39.01
Hannchen	10585	4	.....	.....	.....	.....	41.8	57.7	56.8	49.4	26.04	22.7	29.00	17.95	38.44	36.93
Primus	10586	4	.....	.....	.....	.....	40.0	45.8	36.4	37.3	27.29	14.2	22.00	22.94	33.92	30.06
Hanna	24	3	.....	.....	.....	.....	.....	.....	36.8	46.4	22.91	19.2	34.58	30.12	31.43	30.90
Hanna	203	3	.....	.....	.....	.....	.....	.....	30.4	49.0	21.45	23.3	35.20	17.29	29.01	29.86
Hanna	34	3	.....	.....	.....	.....	.....	.....	32.5	.....	21.45	.....	35.20	.....	29.71	.....
Rainfall in Inches			15.08	24.65	10.50	15.48	26.36	26.77	24.41	26.26	17.28	20.21	22.37	31.61	.....	.....

VARIETIES OF CORN TESTED.—1908.

Variety	Source of Seed	Notes on Seed Planted				Date of planting	Date of Ripening	No. of Stalks Grown			No. of Ears Harvested			Total Lbs. Ears Harvested			Market Condition, scored in per cent. 0 to 100	Bu. dry ears per acre, 70 lbs. per bu.
		Ears in 100 pounds	Per cent of grain	Pounds per bu. of grain	per cent of Germination			Plat 1	Plat 2	Plat 3	Plat 1	Plat 2	Plat 3	Plat 1	Plat 2	Plat 3		
Early Tuscarora	S. D.	400	82.7	52.5	86.5	5-19	9-16	393	399	315	353	395	342	74	87.5	77	85	27.67
Gehu Yellow Flint	N. D.	543	81	55.5	97	5-19	9-12	423	426	393	404	388	374	67	68	63	80	22.85
N. D. White Flint.....	N. D.	453	81.3	56	83	5-19	9-12	417	400	320	405	360	318	75	76	68	80	25.59
Northwestern Dent ...	N. D.	313	80.7	54	47	5-19	9-14	417	428	370	315	287	277	81	83.5	85	95	28.98
Dakota Sunshine	N. D.	297	81	55	86.5	5-20	9-14	418	397	336	274	302	278	62	76.5	74	85	24.76
Triumph Yellow Flint.	Minn.	237	79	59	96	5-20	9-16	422	394	337	353	352	307	81	88	87	80	29.73
Square Deal	N. D.	370	84.3	58.5	98.5	5-20	9-20	429	402	367	289	311	308	60	69	70	85	22.97
Minnesota 13.....	Minn.	210	83	55.5	97	5-20	9-18	381	338	...	307	290	...	83	83	...	85	28.82
Selection 133.....	Minn.	213	83.3	55	94.5	5-20	9-18	381	356	...	289	318	...	85	93	...	85	30.89
Rustler White Dent...	Minn.	183	80	54	97.5	5-20	9-24	323	315	...	238	267	...	81	97	...	85	30.53
90-Day Yellow Flint...	Conn.	220	83.3	60.5	98	5-20	9-16	369	305	...	280	306	...	75	80.5	...	90	27.41
Moore's Premium.....	Mass.	290	84.7	60	99.5	5-20	9-16	393	335	...	334	346	...	75	84	...	90	27.85
R. I. White Flint.....	R. I.	353	85.3	57	91.5	5-20	9-16	339	320	...	350	363	...	71	76	...	80	25.53
Golden Ideal	Mich.	143	83.3	57	93.5	5-20	...	373	311	...	270	262	...	84	84.5	...	55	27.85
Minnesota No. 13.....	S. D.	...	81.1	54	91	5-20	9-18	444	384	...	377	325	...	101	86	...	85	32.32

LIST OF AVAILABLE BULLETINS.

89. Preliminary Experiments with Vapor Treatments for the Prevention of the Stinking Smut in Wheat.
90. Tankage and Other By-Products for Pigs; Shrunk Wheat for Swine.
91. Co-operative Vegetable Tests in 1904. Peas, Beans, Sweet Corn, Cabbage.
92. The Milling Qualities of Macaroni Wheat.
93. Plums in South Dakota.
94. Alfalfa and Red Clover.
95. The Treatment of Nail Pricks of the Horse's Foot
96. Forage Plants and Cereals. At Highmore Sub-Station.
97. Speltz and Millet for Production of Baby Beef.
98. Crop Rotation.
99. Macaroni or Durum Wheats. A Continuation of Bulletin 92.
101. The Value of Speltz for the Production of Beef and Pork.
101. Forage Plants at the Highmore Sub-Station, 1906
102. Evergreens for South Dakota.
103. Breeding Hardy Strawberries.
104. Breeding Hardy Raspberries.
105. Stock Food for Pigs.
106. Sugar Beets in South Dakota.
107. Sheep Scab.
108. New Hybrid Fruits.
109. Rusts of Cereals and Other Plants.
110. Progress in Variety Test of Oats.
111. A Study of South Dakota Butter with Suggestions for Improvements.
112. The Killing of Mustard and Other Noxious Weeds in Grain Fields by the Use of Iron Sulphate.
113. Progress in Variety Tests of Barley.
114. Digestion Coefficients of Grains and Grasses with Sheep.

115. Report of Work for 1907 and 1908 at Highmore Sub-Station.