Ft. Collins

UNIFORM NURSERY
WINTER WHEAT
1933

C.I. No.	Variety	Y	i	e	l	d	s	Total Yields	Avg.
1442	Kharkof	285	156	227	377	403		1446	28.9
6251	Blackhull	144	173	129	166	442		1054	21.1
6250	Nebraska 60	239	216	223	158	166		1002	20.0
8856	Early Blackhull	187	143	123	165	121		739	14.8
10083	Turkey Sel. Okla. #1	285	184	469	370	401		1709	34.2
10084	Sibley's No. 81	400	209	423	173	71		1276	25.5
10085	Mediterranean Sel.Texas No.5933-20	151	146	163	227	135		822	16.4
10086	Mediterranean Sel.Texas No. 3015-81	195	128	93	176	155		747	14.9
11374	Kanred x Marquis Kans. No. 2679	199	161	348	213	155		1076	21.5
10087	P 1066-1 x Burbank	146	265	398	369	158		1336	26.7
8884	Beloglina Sel. North Platte No. 11	359	217	275	313	264		1428	28.6
10012	Kanred x Minturki North Platte No. 14	477	269	265	560	204		1775	35.5
10088	Minturki x Bel.Buf. 19115 VI-14	515	258	319	258	454		1804	36.1
10089	Tenmarq Sel. Kans. No. 2670	332	192	304	389	93		1310	26.2
8257	Fulhard	302	169	264	364	154		1253	25.1
10090	Kanred x Marquis Kans. No. 2644	297	385	264	294	390		1630	32.6
11373	Kanred x H.Fed. Kans. No. 2671	207	150	203	171	322		1053	21.1
10091	Kansas x H.Fed. Kans. No. 2672	110	168	150	318	121		867	17.3
10092	Kanred x H.Fed. Kans. No. 2673	117	310	113	69	82		691	13.6
10093	Kanred x H.Fed. Kans. No. 2674	125	295	196	57	193		866	17.3
10015	Turkey Sel. Nebr. No. 1062	72	382	201	255	287		1197	23.9
10016	Turkey Sel. Nebr. No. 1069	118	288	303	212	225		1146	22.9
10094	Turkey Sel. Nebr. No. 1063	268	214	213	522	293		1510	30.2
10095	Turkey Sel. Nebr. No. 1065	138	460	367	443	255		1663	33.3
10096	Turkey Sel.Nebr.No.1066	269	383	211	236	137		1236	24.7
10097	Turkey Sel.Nebr.No.1068	370	307	196	198	250		1321	26.4
10098	Turkey Sel.Nebr.No.1070	592	338	344	203	344		1821	36.4
10099	Kanred Sel.Colo.No.0166	258	501	349	445	225		1778	35.6
10100	Turkey Sel.Colo.No. 159	382	303	154	172	626		1637	32.7
11375	Turkey Sel.Colo.No. 351	269	537	684	555	305		2350	47.0

avg. 260.20 263.57 245.70 280.93 247.70

Uniform Yield Nursery
Fort Collins, Colorado - 1933

WINTER WHEAT VARIETIES

C.I. No.	Variety	Length of Straw	STAND PER CENT. March 30 Range	March 30 Av.	June 8 Range	June 8 Av.	Yield Bu. per A.	Standard Errors	Remarks
11375	Turkey Sel.	35	5-95	43	10-95	47	47.0	±8.7	
10098	" "	31	0-60	21	20-60	34	36.4	±6.7	
10088	Minturki x Bel.Buf	36	5-80	26	10-80	38	36.1	±6.7	
10099	Kanred Sel.	34	0-50	13	10-50	25	35.6	±6.6	
10012	Kanred x Minturki	35	0-60	25	15-60	34	35.5	±6.6	
10083	Turkey Sel.	32	0-10	8	10-30	18	34.2	±6.3	
10095	" "	32	0-80	25	10-80	32	33.3	±6.2	Loose Smut Trace
10100	" "	32	0-90	30	10-90	41	32.7	±6.0	Medium Straw
10090	Kanred x Marquis	35	0-65	24	10-60	27	32.6	±6.0	
10094	Turkey Sel.	30	0-25	10	10-30	17	30.2	±5.6	
1442	Kharkof	32	0-10	4	10-30	22	28.9	±5.3	Loose Smut Trace
8884	Beloglina Sel.	32	0-10	3	10-20	17	28.6	±5.3	
10087	P1066-1x Burbank	30	0-40	18	10-40	24	26.7	±4.9	
10097	Turkey Sel.	31	0-35	16	10-50	28	26.4	±4.9	
10089	Tenmarq Sel.	31	0-35	16	5-40	21	26.2	±4.8	
10084	Sibleys No. 81	34	0-30	14	5-30	19	25.5	±4.7	
8257	Fulhard	35	0-50	19	10-50	23	25.1	±4.6	
10096	Turkey Sel.	30	5-10	8	10-15	12	24.7	±4.6	
10015	" "	31	0-10	3	10-20	15	23.9	±4.4	
10016	" "	30	0-10	4	10-30	20	22.9	±4.2	
11374	Kanred x Marquis	29	0-70	20	10-70	26	21.5	±4.0	
11373	Kanred x H.Fed.	28	0-50	13	10-50	20	21.1	±3.9	
6251	Blackhull	32	0-40	10	10-30	17	21.1	±3.9	Loose Smut Trace
6250	Nebraska 60	32	0-15	5	5-40	18	20.0	±3.7	Bunt Trace
10091	Kanred x H.Fed.	25	0-50	13	10-50	20	17.3	±3.2	
10093	" " "	26	0-10	2	5-30	17	17.3	±3.2	
10085	Mediterranean	31	0-45	13	10-40	18	16.4	±3.0	
10086	" Sel.	32	0-10	5	10-15	11	15.9	±2.9	
8856	Early Blackhull	29	0-10	6	10-20	15	14.8	±2.7	
10092	Kanred x H.Fed.	26	0-15	4	10-15	11	13.8	±2.6	

Plots planted in 3 eighteen-foot rows. Five plots of each variety. Random distribution.
Sixteen feet from the middle row is harvested for yield.
Standard error determined by Students Generalized Formula.

COLORADO AGRICULTURAL COLLEGE
AND
EXPERIMENT STATION

DEPARTMENT OF AGRONOMY

FORT COLLINS, COLO.,
November 22, 1933



Dr. Karl S. Quisenberry
Division of Cereal Crops and Diseases
Bureau of Plant Industry, U.S.D.A.
Washington, D. C.

Dear Dr. Quisenberry:

Enclosed you will find a copy of the yields of the uniform yield nurseries at Fort Collins. I did not include the individual plot yields, but can furnish them if you should desire them.

You will notice I have included the range on March the 30th and June 8th. This range is the lowest and the highest percentage stand on the above dates. I have also given the average stand. You will note that several of the varieties seem to have a higher average stand in June 8 than some of the others. This might indicate that there is a difference in the ability of varieties to respond to vernalization and might be a lead for Mr. Sando to work on. At least I think it would be another check on some of the varities used in uniform rust nurseries.By changing the temperature of the vernalization period, we might find some wheats which are able to withstand severer conditions than others. This is just a suggestion that the data might seem to indicate.

I am also holding 250 grams of each variety for milling. If you should desire these, kindly let me know.

Very truly yours,

D. W. Robertson, David W. Robertson
Associate Agronomist

DWR P

Yields of Wheat Varieties Grown in Replicated Nursery Plots.

Denton, Texas, 1933

Variety	C.I. No.	Yield per plot- grams Series 1	2	3	4	Bu. per A. Average
1.(Kan. x Ful.)x(Kan. x H. Fed.)R.N.1020*		410	399	371	388	39.2
2. Denton x Kanred, 4-31-28		295	366	400	398	36.5
3. Hybrid L-5-5		432	350	402	235	36.5
4. Kan. x Fulcaster, Ks. 1928 R. 93		328	411	353	318	35.2
5. Kanred x Kawvale,R.N.109-7-5		349	311	342	369	34.0
6. Fulcaster x Marquis, R.N.443*		314	396	373	267	33.8
7. Webster x Malakof,R.N. 1085*		296	349	382	333	33.8
8. Tenmarq x Kawvale, R.N.1368*		405	365	312	256	33.5
9. Kawvale	8180	273	365	386	294	33.5
10. Kanred x Kawvale,R.N.1126*		343	297	356	338	33.3
11. Denton x Kanred 4-31-1		288	366	330	301	32.6
12. Quivira Selection 31-194		365	390	290	242	3222
13. Hybrid L-5-6		415	351	263	252	32.0
14. Kanred x Kawvale,111-1-6-N4*		320	331	331	298	32.0
15. Clark 40	8858	363	346	311	253	31.8
16. White Mediterranean	10023	370	363	328	199	31.5
17. Quivira Selection 31-216		333	376	272	274	31.4
18. Red May	5336	329	215	357	333	30.9
19. Denton Selection 31-88		251	406	289	299	30.6
20. Kanred x Hard Federation	10092	305	391	283	241	30.5
21. Quivira Selection 31-218		353	242	329	293	30.2
22. Quivira Selection 31-305		316	344	185	363	30.2
23. Hybrid L-5-1		225	370	339	273	30.1
24. Denton x Kanred 4-31-6		323	252	376	248	30.0
25. Hybrid L-5-3		370	348	262	216	29.9
26. Tenmarq	6936	333	253	274	318	29.5
27. Early Blackhull	8856	351	345	247	236	29.5
28. Denton Selection 31-71		266	324	220	371	29.5
29. Kanred x Hard Federation	11373	294	354	188	337	29.3
30. Mediterranean x Kanred,R.N. 1136*		290	390	198	266	28.6
31. Kanred x Gipsy, R.N.1084 *		280	319	275	263	28.4
32. Denton (Avg. of 41 check plots)	8265	28.6	286	288	273	28.3
33. Kanred x Fulcaster, Ks. 1928 R.72		394	285	262	180	28.0
34. Denton x Kanred, 4-31-7		205	322	275	212	27.9
35. Mediterranean 5935-20	10085	208	323	298	280	27.8
35. Malek, R.N. 571 *		307	308	226	272	27.8
35. Denton Selection 31-108		219	277	323	292	27.8
38. Mediterranean 3015-63		194	324	292	297	27.7
39. P.1066-1 x Burbank	10087	201	303	283	304	27.3
40. Kenred x Marquis, Ks. 2640		320	305	225	232	27.1

* 1931 Kansas Rust Nursery Rod.

Wheat Yields Continued- Denton, Texas 1933

	C.I. No.	Yield- grams				Bu. per A.
41. Mediterranean 5933-23	11525	301	348	239	192	27.0
42. Mediterranean 3015-105-1		200	287	301	283	26.8
43. Mediterranean 5933-34	11526	318	278	249	210	26.4
44. Quivira	8886	297	287	249	119	26.3
45. Mediterranean 3015-72		249	290	336	171	26.1
45. Fulhard	8257	265	257	256-	266	26.1
48. Kanred x Hard Federation	10093	314	174	216	333	25.9
47. Hybrid L-5-2		341	192	312	190	25.9
49. Kanred x Hard Federation	10091	262	287	276	204	25.7
50. Kanred x Red Rock, R.S.1078		213	326	267	205	25.3
51. Kanred	5148	259	280	245	213	24.4
51. Sutton	10053	221	230	316	210	24.4
51. Turkey	10085	259	270	200	247	24.4
54. D nton x Kanred 4-51-29		259	271	263	178	24.3
55. Mediterranean 5933-26		262	233	261	232	24.2
56. Fults Mediterranean		230	251	253	229	24.1
57. Kanred x Marquis	11574	243	291	227	200	24.0
58. Mediterranean 3015-81		254	287	177	238	23.9
59. Harvest Queen	6199	241	218	240	250	23.7
60. Denton x Kanred 4-51-15		279	214	251	223	24.2
61. Denton Selection 51-93		227	275	234	211	23.7
62. Mediterranean 5933-35		211	265	257	208	23.5
63. Cheyenne	8885	270	230	195	223	23.0
63. Kanred x Marquis	10090	222	257	240	222	23.0
65. Kanred Selection	10099	197	254	231	219	22.8
65. Michigan Amber Selection	11579	240	162	241	257	22.8
67. Hybrid L-5-4		212	297	246	197	22.3
68. Denton Selection 51-91		268	226	204	196	22.2
69. Kanred x Minturki	10012	225	205	230	252	22.2
70. Beloglina Selection	8884	245	202	220	203	21.8
71. 64. Fulcaster	6471	287	204	227	198	22.9
72. 70. Mediterranean 5933-38		202	283	209	190	22.1
73. Nebraska 28	5147	189	241	187	225	21.1
74. Hybrid L-4		248	229	257	114	20.6
75. Sibley 81	10084	196	204	185	230	20.4
75. Fulcaster Selection 51-67		193	195	247	180	20.4
77. Ore		241	210	152	196	20.0
78. Iobred		173	203	248	165	19.8
79. Denton Selection 51-115		218	202	190	171	19.5
80. Blackhull		269	165	160	164	19.0
81. Tennarq Selection	10089	143	229	177	161	17.8
82. Turkey	10094	197	179	152	162	17.5
83. Kharkof	1442	209	187	119	169	17.1
84. Canadian Hybrid		227	167	100	175	16.7
85. Turkey	10095	172	139	177	179	16.7
86 Turkey	10100	133	183	152	182	16.3
87. Nebraska 60	6250	213	158	160	121	16.3
88. Minturki x Bel Buffum		165	107	165	194	15.8
89. Turkey	10016	139	148	196	75	14.0
90. Turkey	10098	108	188	127	127	13.8
91. Turkey	11375	113	153	150	115	13.3
92 "	10096	120	95	140	94	11.2
93 "	10097	112	112	114	93	11.0

Average agronomic data recorded on the Uniform Yield Nursery varieties triplicated on fallowed dryland in 3-row plots one rod long at the North Platte Substation, in 1933.

Date Sown 9/15/32 | Conversion factor = .1 | Date emerged 9/21/32

Number. Plat.	Number. C. I.	VARIETY.	Date Headed	Date Ripe	Per Cent Survival	Height ins.	Grams per plot (1 row) rep.1	rep2	rep.3	Av.	Bu. per Acre
	5146	Kanred (Check)	6-1	7-1	100	34	261	362	340	321	32.1
	1442	Kharkof	6-1	7-2	100	34	290	370	376	345	34.5
	6251	Blackhull	5-31	6-30	85	35	190	354	346	297	29.7
	6250	Nebraska 60	6-1	7-2	95	35	320	358	384	354	35.4
	8856	Early Blackhull	5-22	6-30	85	34	234	242	246	241	24.1
	10083	Oklahoma No. 1	6-1	7-1	100	35	280	286	276	281	28.1
	10084	Sibley's ~~it~~ 81	6-1	7-1	90	34	248	310	276	278	27.8
	10085	Mediterranean Sel.	5-31	6-30	85	31	192	218	230	213	21.3
	10086	Mediterranean Sel.	6-1	7-3	95	32	230	262	216	236	23.6
	11374	Kanred x Marquis	5-30	7-1	75	32	218	186	224	209	20.9
	10087	P1066-1 x Burbank	6-1	6-30	100	35	298	352	346	332	33.2
	5146	Kanred (Check)	5-31	6-30	100	35	294	320	344	319	31.9
	8884	North Platte 11	6-1	6-30	100	36	324	380	362	355	35.5
	10012	North Platte 14	6-1	6-30	100	37	290	288	322	300	30.0
	10088	Mintruki x Bel.-Buffum	6-1	6-30	95	36	344	294	342	327	32.7
	10089	Tenmarq Selection	5-27	6-30	80	35	260	292	310	287	28.7
	8257	Fulhard	5-27	6-30	85	36	350	300	344	331	33.1
	10090	Kanred x Marquis	6-1	7-1	80	35	244	270	270	261	26.1
11373	11373	Kanred x Hard Feder.	5-26	6-30	80	33	300	264	302	289	28.9
	10091	Kanred x Hard Feder.	5-23	6-30	95	32	286	346	362	331	33.1
	10092	Kanred x Hard Feder.	5-24	6-30	90	34	324	334	308	322	32.2
	10093	Kanred x Hard Feder.	5-23	6-30	95	33	304	282	372	319	31.9
	5146	Kanred (Check)	6-1	7-1	100	36	348	310	292	317	31.7
	10015	Turkey Selection	5-30	6-30	100	35	300	330	274	301	30.1
	10016	Turkey Selection	5-27	6-30	100	34	270	270	290	277	27.7
	10094	Turkey Selection	5-31	6-30	100	32	268	326	280	291	29.1
	10095	Turkey Selection	6-1	6-30	95	33	286	320	284	297	29.7
	10096	Turkey Selection	5-30	7-1	95	32	326	256	306	296	29.6
	10097	Turkey Selection	6-1	6-30	90	33	254	272	252	259	25.9
	10098	Turkey Selection	5-28	6-30	100	34	300	266	270	279	27.9

Cont'd.--Average agronomic data recorded on the Uniform Yield Nursery varieties triplicated on fallowed dryland in 3-row plots one rod long at the North Platte Substation, in 1933.

Number.		VARIETY.	Headed	Ripe	Survival	Height	rep.1	rep.2	rep.3	Av.	Bu. per acre
Plat.	C. I.										
	10099	Kanred Selection	6-1	6-30	100	36	322	326	294	314	31.4
	10100	Colorado Turk. Sel.	5-31	6-30	100	37	332	374	348	351	35.1
	11375	Colorado Turk. Sel.	6-1	7-1	100	35	332	342	322	332	33.2
			Average of Kanred checks								31.9

C. I. Form No. 66.

8—5013 GOVERNMENT PRINTING OFFICE

Uniform yield Nursery 1932-1933
Plots each have 3 rows 16 feet long, the center row of which was harvested for yield. Seeded September 22, 1932 Aman.

Variety	C.I. No.	Uniform Yield Numbers		Height of Plant, inches	Dates			% winter survival	Yield in Grams per plot			Average Bushels Per acre
					appeared	first headed	fully ripe		Rep. 1	Rep. 2	Rep. 3	
Kharkof	1442	1 ✓	31	61	22	9-30	6-16	7-20	70	120	35	88	8.1
Blackhull	6251	2 ✓	32	62	23	9-30	6-13	7-22	48	140	90	108	11.3
Nebraska No. 60	6250	3 ✓	33	63	23	9-30	6-17	7-21	73	116	51	96	8.8
Early Blackhull	8856	4 ✓	34	64	21	9-30	6-11	7-22	33	96	88	47	7.7
Turkey Sel	10083	5 ✓	35	65	22	9-30	6-17	7-20	38	70	67	63	6.7
Sibley's No. 81	10084	6 ✓	36	66	24	9-30	6-16	7-21	30	57	104	54	7.2
Mediterranean Sel. 5933-3a	10085	7 ✓	37	67	22	9-30	6-16	7-22	38	78	121	61	8.7
Mediterranean Sel. 3015-81	10086 ✓	8	38	68	22	9-30	6-16	7-21	38	44	117	77	7.9
Kanred x Marquis	11374 ✓	9	39	69	22	9-30	6-13	7-20	47	32	68	67	5.6
P1066-1 x Burbank	10087	10 ✓	40	70	22	9-30	6-15	7-21	52	105	43	96	8.1
Beloglina Sel.	8884	11 ✓	41	71	21	9-30	6-16	7-21	37	38	103	35	5.9
Kanred x Minturki	10012	12 ✓	42	72	21	9-30	6-17	7-21	57	51	89	36	5.9
Minturki x Beloglina-Buffum	10088	13 ✓	43	73	23	9-30	6-17	7-22	50	74	68	62	6.8
Tenmarq Sel.	10089	14 ✓	44	74	24	9-30	6-14	7-22	45	31	41	79	5.0
Fulhard	8257	15 ✓	45	75	22	9-30	6-15	7-22	47	70	97	91	8.6
Kanred x Marquis	10090	16 ✓	46	76	24	9-30	6-16	7-21	47	63	85	72	7.3
Kanred x Hard Federation	11373	17 ✓	47	77	23	9-30	6-11	7-21	52	48	85	84	7.2
Kanred x Hard Federation	10091 ✓	18	48	78	23	9-30	6-12	7-20	50	83	81	103	8.9
Kanred x Hard Federation	10092 ✓	19	49	79	22	9-30	6-12	7-19	45	68	72	97	7.9

uniform yield Nursery 1932-1933

Seeded September 22, 1932

Variety	C.I.No.	Uniform yield Nursery numbers			Height Of Plant inches	Dates emerged	Dates first headed	Dates fully ripe	winter survival	Yield in lbs. per plot Rep. 1	Rep.2	Rep.3	Average bushels per acre
Kanred x Red Federation	10093	20	50	80	22	9-30	6-12	7-19	62	92	84	136	10.4
Turkey Sel.	10015	21	51	81	22	9-30	6-16	7-22	55	71	92	76	8.0
Turkey Sel.	10016	22	52	82	23	9-30	6-14	7-21	43	65	78	74	7.2
Turkey Sel	10094	23	53	83	22	9-30	6-13	7-20	53	110	112	85	10.2
Turkey Sel.	10095	24	54	84	23	9-30	6-15	7-20	55	101	76	117	9.8
Turkey Sel.	10096	25	55	85	23	9-30	6-14	7-19	55	96	73	56	7.5
Turkey Sel	10097	26	56	86	23	9-30	6-15	7-20	62	120	96	104	10.7
Turkey Sel.	10098	27	57	87	21	9-30	6-13	7-19	70	84	120	120	10.8
Kanred Sel. 0166	10099	28	58	88	22	9-30	6-15	7-21	70	107	98	106	10.4
Turkey Sel. 159	10100	29	59	89	25	9-30	6-15	7-21	60	151	121	136	13.6
Turkey Sel. 351	11375	30	60	90	24	9-30	6-17	7-23	50	99	96	94	9.6

Table . Yield and other agronomic data for the Uniform Yield Nursery grown in triplicate three-row plats 16 feet long and spaced 12 inches between rows at Alliance, Nebraska, 1932-33.

VARIETY, HYBRID, OR SELECTION	C.I. Nursery No.	Spring survival	Date Headed	Date Ripe	Ht.	Grain yield by repl. 1	2	3	Av.	gms
		%	June	July	In.	Gms.	Gms.	Gms.	Bu.	
Kharkof	1442	37	17	13	25	142	70	121	11,1	111.0
Blackhull	6251	23	13	13	26	75	27	115	7,2	72.3
Nebr. 60	6250	38	17	14	24	120	95	55	9,0	90.0
Early Blackhull	8856	20	9	10	25	43	14	90	4,9	49.0
Turkey sel.	10083	33	15	14	24	104	100	75	9,3	93.0
Sibley's #61	10084	10	16	16	26	60	41	0	3,4	33.7
Mediter. sel.	10085	3	16	—	—	18	21	35	2,5	24.7
Mediter. sel.	10086	8	16	17	—	26	78	60	5,5	54.7
Kanred x Marq.	11374	18	15	12	26	115	42	25	6,1	60.7
P1066-1 x Burbank	10087	32	14	11	22	154	75	50	9,3	93.0
Beleglima sel.	8884	40	15	11	23	70	85	160	10,5	105.0
Kan. x Mint.	10012	45	17	12	23	170	145	95	13,7	136.7
Mint. x (Bel.-Buf.)	10088	50	17	13	23	151	115	100	12,2	122.0
Tenmarq sel.	10089	33	14	13	23	75	35	50	5,3	53.3
Fulhard	8257	25	14	14	24	64	125	10	6,6	66.3
Kan. x Marq.	10090	25	15	12	26	80	95	165	11,3	113.3
Kan. x Hd. Fed.	11373	13	14	14	25	52	165	140	11,9	119.0
Kan. x Hd. Fed.	10091	15	14	14	25	115	100	0	7,2	71.7
Kan. x Hd. Fed.	10092	13	15	15	—	45	50	70	5,5	55.0
Kan. x Hd. Fed.	10093	23	14	14	25	125	80	40	8,1	81.7
Turkey sel.	10015	33	17	13	26	110	105	130	11,5	115.0
Turkey sel.	10016	35	14	11	26	110	96	70	9,2	92.0
Turkey sel.	10094	33	16	12	26	136	80	100	10,5	105.3
Turkey sel.	10095	32	16	12	26	125	70	105	10,0	100.0
Turkey sel.	10096	35	16	14	26	140	70	30	8,0	80.0
Turkey sel.	10097	25	16	14	28	135	60	66	8.7	87.0
Turkey sel.	10098	30	16	12	25	110	70	95	9,2	91.7
Kanred sel.	10099	25	17	15	25	108	76	90	9,1	91.3
Turkey sel.	10100	28	17	21	25	178	138	45	12.0	120.3
Turkey sel.	11375	32	17	17	28	110	98	65	9.1	91.0

Note: Seeded Sept. 13, 1932.

30 varieties
S diff. = 3.0114 bu./A.
P.E. diff. = 2.0312 " "
G.P.E. = 1.4363 " "
= 16.7 %
X = 8.60 bu./A.

U. S. GOVERNMENT PRINTING OFFICE: 1930 8—7077

Table . Yield and other agronomic data for the Uniform Yield Nursery grown in triplicate three-row plots (16 ft. x 10 in.) at Lincoln, Nebr., 1932-33.

VARIETY, HYBRID, OR SELECTION	C.I. Nursery No.	Date Seeded	Date Emerged	Date Headed	Spr. survival	Ht.	Chinch bug tol.	Grain yield Replication 1	Grain yield Replication 2	Grain yield Replication 3	Av. x 1.2	
				10%	%	In.		Gms.	Gms.	Gms.	Bu.	
Kharkof	1442	10/4	10/13	6/4	90	27	83	75	89	68	9.2	77.3
Blackhull	6251			6/2	80	28	62	70	56	62	7.6	62.7
Nebr. 60	6250			6/4	97	28	75	108	72	64	9.7	81.3
Early Blackhull	8856			5/26	80	28	60	81	48	69	7.9	66.0
Turkey sel.	10083			6/3	95	28	83	114	72	99	11.4	95.0
Sibley's No. 81	10084			6/1	97	30	75	113	121	153	15.5	129.0
Mediterranean sel.	10085			6/1	83	29	57	65	81	91	9.5	79.0
Mediterranean sel.	10086			6/2	87	28	70	49	86	95	9.2	76.7
Kanred x Marquis	11374			6/2	67	26	50	47	40	44	5.3	43.7
P1066-1 x Burbank	10087			6/2	90	26	81	73	61	82	8.6	72.0
Beloglina sel.	8884			6/4	97	26	75	30	72	73	7.0	58.3
Kanred x Minturki	10012			6/4	98	28	75	42	100	59	8.0	67.0
Minturki x Bel.-Buf.	10088			6/5	99	28	66	31	80	88	7.9	66.3
Tenmarq sel.	10089			5/31	90	28	63	61	65	82	8.3	69.3
Fulhard	8257			6/1	96	29	73	77	115	124	12.6	105.3
Kanred x Marquis	10090			6/2	85	29	67	72	59	75	8.3	68.7
Kanred x Hd. Fed.	11373			5/29	80	26	60	40	74	71	7.4	61.7
Kanred x Hd. Fed.	10091			5/29	77	26	77	71	103	94	10.7	89.3
Kanred x Hd. Fed.	10092			5/28	80	26	68	51	80	76	8.3	69.0
Kanred x Hd. Fed.	10093			5/28	83	26	67	42	110	132	11.4	94.7
Turkey sel.	10015			6/2	97	27	62	60	80	103	9.7	81.0
Turkey sel.	10016			6/1	96	27	60	52	82	88	8.9	74.0
Turkey sel.	10094			6/2	94	26	65	72	81	94	9.8	82.3
Turkey sel.	10095			6/2	90	26	62	62	100	105	10.7	89.0
Turkey sel.	10096			6/2	88	26	62	43	43	65	6.0	50.3
Turkey sel.	10097			6/2	87	26	60	24	96	53	7.0	57.7
Turkey sel.	10098			6/1	95	27	60	63	76	54	7.7	64.3
Kanred sel.	10099			6/4	90	28	86	73	40	93	8.3	68.7
Turkey sel.	10100			6/3	93	28	78	60	58	98	8.6	72.0
Turkey sel.	11375			6/3	94	27	77	71	83	87	9.6	80.3

30 varieties
r diff. = 1.80 82 Bu./A.
P.E. diff. = 1.2196 " "
G.P.E. = 0.8624 " "
= 9.57% of grand X
X = 9.01 Bu./A.

U. S. GOVERNMENT PRINTING OFFICE: 1930 8—7077

Table . Agronomic data on strains of winter wheat grown in U.S.D.A. Uniform Yield nursery (three distributed three-rod row plots), Agronomy Nursery, Manhattan, Kansas, 1933.

1933 row no.	C. I. no.	State no.	Variety	Spring condition May	Plant height in.	Date first head May	Bu. per acre P. E.	Test wgt. lbs.	Kernel plumpness %	Protein %	Remarks
71	10095	Neb. 1065	Turkey Sel.	98	33	20	28.5±1.66	53.1	62		(a)
44	8257	Kan. 2594	Pulhard	95	35	18	27.5±1.79	55.1	77	18.65	
50	11373	Kan. 2671	Kanred x Hard Federation	93	34	15	26.7±2.22	54.5	75	16.70	
14	10083	Okla. 1	Turkey Sel.	95	36	20	26.1±0.64	50.3	63		
80	10098	Neb. 1070	do	98	34	18	26.0±0.44	52.9	63		(b)
11	8856	Kan. 483	Early Blackhull	90	37	11	25.9±0.45	57.1	77	17.25	
68	10094	Neb. 1063	Turkey Sel.	98	33	20	25.7±1.62	52.3	65		(a)
62	10015	Neb. 1062	do	95	35	19	25.6±1.21	55.6	67		(b)
56	10092	Kan. 2673	Kanred x Hard Federation	93	34	15	25.3±2.37	53.4	72	16.60	(c)
77	10097	Neb. 1068	Turkey Sel.	98	34	19	25.1±0.83	55.1	62		(a)
65	10016	Neb. 1069	do	95	34	18	25.0±0.98	53.2	63		(b)
29	10087	Kan. 2654	P 1066-1 x Burbank	95	34	18	24.7±1.74	51.5	57	19.35	(d)
86	10100	Colo. 159	Turkey sel.	93	35	20	24.6±2.22	51.1	58		
74	10096	Neb. 1066	do	98	32	18	24.1±1.30	53.0	63		(a)
5	6251	Kan. 343	Blackhull	95	35	18	23.7±0.92	53.4	68	18.15	
59	10093	Kan. 2674	Kanred x Hard Federation	90	34	14	22.5±0.47	53.3	68	18.55	(e)
47	10090	Kan. 2644	Kanred x Marquis	93	37	20	22.1±1.43	48.9	47	18.65	
53	10091	Kan. 2672	Kanred x Hard Federation	88	33	14	22.0±2.52	53.2	63	17.15	(f)
8	6250	Kan. 322	Neb. No. 60	98	36	22	21.9±0.72	50.2	62	18.75	

(continued)

(a) 6/7 Appears inferior.
(b) 6/7 Looks good.
(c) 5/24 Appears best of Kanred x Hard Federation Sel.
(d) 6/7 Erect, good vigor.
(e) 6/7 Appears driest of Kanred x Hard Federation Sel.
(f) 5/24 Looks poorest of Kanred x Hard Federation Sel.

Table continued.

1933 row no.	C. I. no.	State no.	Variety	Spring cond- ition May	Plant height: in.	Date first head May	Bu per acre P.E.	Test wgt. lbs.	Kernel plump- ness %	Protein %	Remarks
83	10099	Colo. 0166	Kanred Sel.	95	35	21	21.9±1.15	48.8	57		
89	11375	Colo. 351	Turkey Sel.	98	35	21	21.9±1.63	51.4	50		
92	11523	Kan. 545	Sibley No.62	93	36	21	21.7±1.80	49.4	57		
20	10085	Tex. 5933-20	Mediterranean Sel.	93	34	18	21.6±1.21	54.0	65		
41	10089	Kan. 2670	Tenmarq Sel.	93	35	18	21.0±2.43	48.3	47		(a)
17	10084	Kan. 511	Sibley No. 81	90	35	20	20.0±0.71	52.9	62		
32	8884	M.Pl. 11	Beloglina Sel.	95	35	21	19.1±0.56	48.8	53		
2	1442	Kan. 2591	Kharkov	98	34	21	18.6±0.99	49.6	62	19.65	
35	10012	M.Pl. 14	Kanred x Minturki	95	36	23	15.8±1.23	45.0	42		
26	11374	Kan. 2679	Kanred x Marquis (H.C.318)	90	32	17	15.8±0.87	51.4	68		
38	10088	M.Pl.19115-VI-14	Minturki x (Beloglina x Buffum)	95	36	23	13.8±0.85	45.5	43	19.00	
23	10086	Tex. 3015-81	Mediterranean Sel.	90	31	21	10.5±0.74	49.8	60		(b)
			Averages (31)	94	34	19	22.4	51.5	61		
							Av. P.E. = 1.22 Bu. or 5.45%				

(a) 6/12 Looks good.
(b) 6/3 Poor variety.

10092

U. S. D. A. Uniform Winter Hardiness (3 5-rod row plots)

Manhattan 1933

1933 Row No.	C I No.	Variety	Yield bu. per a	Test wt.	Gms of seed
312	10087	P1066 X Burbank	27.7	51.7	4154
303	8885	Cheyenne	24.3	53.1	3641
304	10015	Turkey Sel	24.2	53.1	3634
310	11373	Kanred X Hd. Fed.	22.8	54.0	3428
309	8886	Quivira	22.2	51.6	3137
305	10016	Turkey Sel	21.9	52.9	3287
94	11540	Turkey X Galgalos	21.7	50.2	3253
330	6471	Fulcaster	20.7	50.7	3098
301	1442	Kharkov	19.8	49.3	2966
311	10091	Kan. X Hd. Fed	19.5	52.3	2930
306	5146	Kanred	19.5	49.3	2919
321	8215	Minhardi X Minturki	19.5	49.9	2919
326	11503	Wheat X Rye	19.3	46.9	2902
307	6251	Blackhull	19.0	51.7	2835
313	10017	Iowin	18.9	52.1	2825
302	6250	Nebraska #60	18.5	49.2	2781
323	8889	Minard X Minhardi	18.5	49.5	2772
322	8218	Minard X Minhardi	17.9	47.6	2690
328	5149	Minhardi	17.8	46.3	2674
325	11502	Minturki X Marquis	17.6	53.1	2643
308	10089	Tenmarq Sel.	16.3	46.4	2440
315	11500	Minturki X Turkey	15.9	48.5	2382
318	8045	Kanred X Minessa	15.8	47.8	2375
327	11504	Wheat X Rye	14.6	45.4	2187
314	10018	Wisconsin Sel.	14.5	48.8	2174
319	6152	Turkey (Minn. Sel.)	14.4	46.5	2153
320	6155	Minturki	14.0	47.2	2103
324	11501	Minturki X Marquis	13.0	48.9	1966
317	8887	Turkey X Minessa	11.3	41.0	1700
316	11505	do.	9.3	38.6	1399
95	8896	Lutescens ~~do.~~	7.4	37.8	1113
329	8896	do. ~~do.~~	7.1	38.0	1068

Agronomic data for the uniform yield nursery at the Woodward Field Station, 1933.

Rate seeded: 4 pecks per A. Size of plot: 3 18-foot rows seeded, center row harvested after trimming to 16 feet.

Date seeded: Oct. 17, 1932 Date emerged: Oct. 27, 1932

VARIETY, HYBRID, OR SELECTION	Wd. Nursery No.	C. I. No.	DATE FIRST HEADED	DATE RIPE	Fruiting period	HEIGHT	Grain yield per 16-foot center row 1	2	3	4	Average bu. per acre	Average in % of check	Test Wt. per bu.
			1933		days	in.	gram	gram	gram	gram			lbs.
Turkey Sel.	1016	10096	5/5	6/8	34	24	173	181	215	201	19.3	125	59.5
Turkey Sel.	1015	10095	5/7	6/9	33	24	156	165	180	232	18.3	119	59.0
P-1066-1 x Burbank	1010	10087	5/5	6/8	34	26	182	181	179	197	18.5	120	59.0
Turkey Sel.	1019	10100	5/7	6/8	32	27	175	186	205	164	18.3	119	58.0
Turkey Sel.	1013	10016	5/3	6/8	36	26	153	165	216	192	18.2	118	60.0
Turkey Sel.	1018	10098	5/4	6/8	35	25	128	159	222	211	18.0	117	59.5
Turkey Sel.	1014	10094	5/6	6/8	33	25	165	138	181	228	17.8	116	59.5
Kanred Sel.	1021	10099	5/7	6/9	33	26	197	162	205	147	17.8	116	58.5
Turkey Sel.	1017	10097	5/5	6/8	34	25	170	167	180	190	17.7	115	59.0
Turkey Sel.	1012	10015	5/5	6/8	34	26	156	165	173	202	17.4	113	60.0
Turkey Sel.	1020	11375	5/9	6/9	31	25	159	161	195	157	16.8	109	59.0
Beloglina Sel.	1011	8884	5/8	6/9	32	27	148	173	150	187	16.5	107	58.0
Turkey Sel.	1027	10083	5/7	6/9	33	26	169	155	208	119	16.3	106	58.0
Kharkof	26	1442	5/8	6/9	32	27	149	172	151	173	16.1	105	57.5
Nebraska No. 60	1009	6250	5/8	6/10	33	27	156	156	160	172	16.1	105	58.0
Tenmarq Sel.	1002	10089	5/4	6/8	35	27	173	148	143	162	15.7	102	58.0
Kanred x Hard Fed.	1055	10092	5/2	6/7	36	22	193	147	165	123	15.7	102	60.0
Minturki x Bel.-Buf.	1023	10088	5/9	6/12	34	27	174	158	166	120	15.5	101	56.5
Kanred x Minturki	1022	10012	5/9	6/12	34	26	160	139	171	124	14.9	97	55.5
Kanred x Hard Fed.	1053	11373	5/1	6/8	38	25	212	123	150	109	14.9	97	60.5
Fulhard	13	8257	5/4	6/10	37	27	152	139	152	145	14.7	96	60.0
Blackhull	14	6251	5/6	6/11	36	27	134	125	124	182	14.1	92	61.0
Early Blackhull	11	8856	4/22	6/3	42	24	159	127	122	134	13.6	88	61.5
*Kanred x Hard Fed.	1054	10091	4/27	6/7	41	23	111	150	152	128	13.5	88	61.0
Kanred x Marquis	1077	10090	5/5	6/8	34	27	178	120	128	95	13.0	84	--
Kanred x Marquis	1072	11374	5/3	6/8	36	24	158	118	142	95	12.8	83	60.5
*Kanred x Hard Fed.	1056	10093	4/26	6/7	42	22	144	118	140	100	12.6	82	60.5
Sibley, Okla No. 81	1040	10084	5/7	6/8	32	27	166	170	106	114	13.9	90	59.0
Mediterranean Sel.	1044	10085	5/4	6/8	35	26	175	130	108	104	12.9	84	58.5
Mediterranean Sel.	1045	10086	5/8	6/12	35	27	140	138	89	107	11.9	77	57.5

*Damaged by rodents before cutting. Amount of loss not estimated.

The average yield of the center rows from the 46 Kanred check plots in the nursery was 15.4 bushels per acre.

U. S. GOVERNMENT PRINTING OFFICE: 1930 8—7077

Table — Advanced Nursery - Agronomic Data For Winter Wheat Varieties Grown in 3-Row Plots Replicated Four Times, at Texas Substation No6, Denton, Texas. 1933

Date Seeded Oct. 6 Emerged Oct. 14

Variety	T. S. No.	C.I No.	Date First Head	Date Fully Ripe	Plant Height	Lodging (P. ct.)	Est. Freeze Damage 3/-16 (P. ct.)	Est. Stand At Harvest (P. ct.)	Rust Leaf (P. ct.)	Rust Stem (P. ct.)	Grain Yield Per Plot-Grams I	II	III	IV	Average Bu. per Acre	Rank
Denton (All Check Plots)	9236	8265	5-9	6-8	37	4	5	88	12	23	287	287	290	273	28.4	34
Mediterranean Sel.	3015-63	—	5-8	6-5	36	3	3	83	3	30	195	324	293	299	27.8	40
"	3015-72	—	5-7	6-7	34	9	18	78	19	34	251	291	340	173	26.4	47
"	3015-81	10086	5-9	6-8	34	4	15	74	13	26	256	289	188	237	24.3	57
"	3015-105-1	-	5-8	6-7	36	1	6	86	8	49	200	289	301	284	26.9	43
"	5933-20	10085	5-5	6-3	36	13	3	88	13	13	211	325	303	282	28.0	37
"	5933-23	11525	5-7	6-6	36	3	10	86	1	24	305	350	241	194	27.3	42
"	5933-34	11526	5-5	6-3	36	5	T	97	14	1	320	279	249	211	26.5	46
"	5933-35	-	5-5	6-3	39	9	4	90	18	23	211	266	258	208	23.6	62
"	5933-36	-	5-5	6-3	39	15	4	91	16	16	263	223	252	233	24.3	57
"	5933-38	-	5-4	6-3	38	11	4	88	14	11	203	283	209	170	22.1	72
Red May	7250-1	-	5-3	6-4	33	4	9	78	35	19	330	216	359	335	31.0	20
Kawvale	12577	8180	5-8	6-6	36	T	T	94	7	11	275	387	389	295	33.7	9
Kanred X Fulcaster, Ks 1928 Row 92	—	—	5-8	6-7	37	4	2	87	31	5	395	287	265	181	28.2	36
" " 93	—	—	5-8	6-6	36	T	1	92	14	3	328	413	353	320	35.4	4
White Mediterranean	15834	10023	5-1	6-4	37	3	9	80	85	11	372	368	329	199	31.7	17
Clark 40		8858	5-8	6-6	38	1	4	90	45	18	366	349	315	255	32.1	15
Sutton	15832	10053	5-8	6-6	36	3	7	88	44	18	223	231	317	210	24.5	54
Fulcaster	7082	6471	5-8	6-6	35	3	5	83	60	25	289	205	227	198	23.0	65
Harvest Queen	15831	6199	5-8	6-7	38	0	2	86	78	15	242	219	241	251	23.8	61
Nebraska 28	15836	5147	4-18	5-23	29	0	15	84	83	E	190	240	185	226	21.0	73
Fultz-Mediterranean, Col. 358	-	-	5-9	6-9	35	3	10	78	56	10	232	253	254	230	24.2	59
Kanred x Kawvale, Ks 111-1-6-N4	-	-	5-10	6-9	35	3	4	92	5	4	322	334	334	299	32.2	14
Kanred x Kawvale, KN. 109-7-5		-	5-9	6-7	38	T	T	99	4	T	349	312	342	360	34.1	5
Fulcaster X Marquis Ks. 1931 K.N. 443		-	5-6	6-5	37	3	11	80	30	18	315	397	374	268	33.9	9

30 varieties
Odiff. = 2.5792 bu./A.
P.E. diff. = 1.1397 " "
C.P.E. = 1.2302 % of X
= 5.67 %
X = 20.97 bu./A.

Table ——— Continued

Variety	T. S. No.	C.I No.	Date First Head	Date Fully Ripe	Plant Height	Lodging	Est Freeze Damage 3-16	Est Stand at Harvest	Rust Leaf	Rust Stem	Grain Yield Per Plot - Grams I	II	III	IV	Average Bu per Acre	Rank
Tenmarq X Kawvale, Ks. 1931 KN. 1365			5-6	6-6	35	3	1	94	14	19	407	367	319	257	33.8	8
(Kanred X Fulcaster) X (Kanred X Hard Federation), Ks. 1931 K.N. 1020			5-2	6-6	35	19	3	90	11	4	413	402	374	390	39.5	1
Malok, Ks. 1931 K N. 591			5-9	6-8	36	3	9	86	24	10	309	308	228	274	28.0	37
Mediterranean x Kanred, Ks. 1224-11-1			5-10	6-8	39	4	3	84	21	8	292	390	199	268	28.7	32
Kanred x Kawvale, Ks. 111-1-6-2			5-10	6-8	36	6	T	96	8	4	344	299	358	340	33.5	10
Webster x Malakof, 2211D1-68-W1-W1			5-10	6-8	37	14	2	93	25	6	298	342	384	334	34.0	6
Kanred x Gipsy, KL 2036A2-89-53			5-10	6-8	35	6	T	89	18	14	286	324	279	267	28.9	31
Kanred X Red Rock, KL 2010A7-93-1-3			5-10	6-8	37	5	4	91	19	3	217	332	272	209	25.8	50
Fulcaster, S-31-67			5-7	6-6	38	3	19	66	66	36	197	199	251	184	20.8	76
Denton, S-31-71			5-10	6-8	36	4	2	88	39	9	270	328	223	377	30.0	27
Denton, S-31-83			5-7	6-6	37	10	3	83	36	13	230	279	238	214	24.0	60
Denton, S-31-88			5-7	6-5	36	5	2	88	45	36	236	413	295	304	31.2	18
Denton, S-31-91			5-8	6-7	34	5	3	89	51	44	266	230	208	199	22.6	70
Denton, S-31-108			5-3	6-3	32	8	6	85	63	39	213	282	328	297	28.0	37
Denton, S-31-113			5-9	6-7	36	10	7	81	54	35	222	205	193	174	19.9	79
Denton X Kanred, 4-31-1			5-7	6-5	37	10	2	91	28	11	293	393	337	306	33.2	11
Do. , 4-31-6			5-8	6-8	38	5	3	91	18	3	328	257	383	254	30.6	24
Do. , 4-31-7			5-8	6-7	38	15	14	89	19	4	209	327	380	215	28.3	35
Do. , 4-31-15			4-26	5-30	34	8	3	89	75	E	283	217	254	226	24.5	54
Do. , 4-31-28			5-8	6-5	39	18	0	95	15	16	300	372	407	404	37.1	2
Do. , 4-31-29			4-27	5-30	35	1	4	91	70	E	262	277	268	180	24.7	53
Ledigh, L-5-1			5-10	6-8	35	6	10	86	15	1	227	376	344	279	30.7	23
Do , L-5-2			5-10	6-8	33	T	12	84	14	6	346	194	316	191	26.2	49
Do , L-5-3			5-9	6-8	36	3	4	87	12	6	376	357	266	219	30.5	25
Do , L-5-4			5-9	6-8	35	3	7	83	21	2	215	302	251	139	22.7	67

Table ___ continued

Variety	T.S. No	C.I. No.	Date First Head	Date First Ripe	Plant Height	Lodging	Est Freeze Damage 5-16	Est Stand at Harvest	Rust Leaf	Rust Stem	Grain Yield Per Plot - Grams I	II	III	IV	Average Bu. Per Acre	Rank
Leidigh, L-4			5-10	6-8	35	1	9	86	73	6	248	232	240	116	20.9	74
Do , L-5-5			5-9	6-9	35	10	8	87	6	4	437	355	407	235	35.9	3
Do L-5-6			5-9	6-8	35	8	3	88	4	3	421	354	266	255	32.4	13
Michigan Amber Sel.		11379	5-8	6-6	38	1	2	89	64	24	243	163	243	260	22.7	67
Fulhard	✓	8257	5-6	6-5	35	2	5	89	51	24	265	260	259	270	26.4	47
Kanred X Marquis, Ks. 2640			5-7	6-8	35	11	12	85	18	4	325	310	228	234	27.4	41
Do , Ks 2644	✓	10090	5-9	6-7	35	5	5	85	14	T	225	241	244	226	23.4	64
Do , Ks 2679	✓	11374	5-5	6-8	33	1	38	66	53	1	247	296	231	202	24.4	56
Tenmarq	12578	6936	5-7	6-6	34	3	5	89	40	1	338	257	279	328	30.1	26
Tenmarq Selection	✓	10089	5-8	6-8	33	3	23	68	48	5	145	232	179	163	18.0	81
Blackhull	7172 ✓	6251	5-8	6-6	35	6	3	85	85	1	273	168	163	166	19.3	80
Early Blackhull	15838 ✓	8856	4-27	5-30	36	4	11	89	75	1	357	351	247	240	29.9	28
Kanred	11763	5146	5-10	6-7	33	4	1	96	80	T	243	283	249	216	24.8	52
Kanred Selection	✓	10099	5-10	6-8	32	T	2	96	78	T	202	259	235	223	23.0	65
Quivira	15833	8886	5-1	6-4	35	4	21	79	24	1	403	289	253	120	26.6	44
Quivira Sel., S-31-194			5-7	6-6	36	11	3	91	28	4	371	397	295	251	32.9	12
Do , S-31-205			5-1	6-4	35	4	11	85	21	1	328	350	189	370	30.9	21
Do , S-31-216			5-2	6-4	36	13	11	88	29	1	341	384	275	281	32.0	16
Do , S-31-218			5-2	6-4	36	2	7	92	24	3	359	237	336	298	30.8	22
Kanred X Hard Federation	✓	11373	5-2	6-5	34	18	5	84	45	23	300	351	191	343	29.6	27
Kanred X Hard Federation	✓	10091	4-30	6-3	34	14	2	90	33	16	268	295	282	219	26.6	44
Do	✓	10092	5-2	6-4	34	6	5	86	48	15	310	399	289	246	31.1	19
Do	✓	10093	4-29	6-3	33	3	3	88	35	16	322	280	216	341	29.0	30
Kharkof	16830 ✓	1442	5-12	6-9	34	6	2	90	83	9	214	191	122	173	17.5	82
Nebraska 60	15835 ✓	1650	5-13	6-10	34	0	1	90	88	8	219	161	162	123	16.6	86

Table ____ continued

Variety	T.S. No.	C.I No	Date First Head	Date First Ripe	Plant Height	Lodging	Est Freeze Damage 3-16	Est Stand At Harvest	Rust Leaf	Rust Stem	Grain Yield Per Plat-Grams I	II	III	IV	Average Bu. Per Acre	Rank
Oro		8220	5-10	6-9	34	0	3	86	76	3	245	214	155	200	20.4	77
Cheyenne	18566	8885	5-10	6-7	34	0	1	93	83	1	278	236	199	227	23.5	63
Canadian Hybrid, Col. 359		-	5-12	6-8	32	0	9	84	91	1	231	171	101	178	17.0	84
Sibley 81	✓	10084	5-9	6-9	36	1	21	65	48	8	201	208	189	236	20.9	74
P. 1066-1 x Burbank	✓	10087	5-6	6-7	35	3	14	76	48	5	227	311	289	311	28.5	33
Beloglina Sel.	✓	8884	5-13	6-9	33	6	0	94	74	5	250	205	224	207	22.2	71
Kanred x Minturki	✓	10012	5-13	6-10	34	4	1	94	78	10	228	207	236	237	22.7	67
Minturki x Bel. Buffum	✓	10088	5-12	6-10	34	1	0	93	81	8	167	109	168	197	16.0	88
Turkey	✓	10083	5-11	6-7	33	4	3	95	88	0	267	276	204	253	25.0	51
Turkey	✓	10015	5-11	6-7	32	0	1	88	95	3	121	114	136	112	12.1	92
Turkey	✓	10094	5-10	6-7	31	0	1	94	95	0	201	179	155	165	17.5	82
Turkey	✓	10095	5-10	6-7	30	0	1	94	98	0	175	141	180	179	16.9	85
Turkey	✓	10096	5-10	6-7	29	0	2	93	95	1	120	95	140	94	11.2	94
Turkey		10097	5-10	6-6	30	0	1	95	95	T	114	123	116	93	11.2	93
Turkey	✓	10016	5-8	6-6	30	0	5	86	95	T	141	150	199	95	14.1	89
Turkey	✓	10098	5-8	6-6	29	0	1	93	95	T	109	192	130	130	14.0	90
Turkey	✓	10100	5-10	6-7	32	3	3	93	89	1	135	186	155	186	16.6	86
Turkey	✓	11375	5-11	6-7	30	0	1	94	95	T	115	155	152	117	13.5	91
Cobred			5-10	6-10	34	0	1	88	58	10	176	207	253	170	20.2	78

Average yields in bushels per acre of wheat varieties grown at Lawton, Oklahoma, 1917 to 1933.

C.I.No.		1922 to 1933	1931 to 1933	1933 Yields
8180	Kawvale	----	29.6	23.6
1442	Kharkof	18.2	28.5	22.8
5146	Kanred	19.0	28.4	22.8
6936	Tenmarq	----	28.4	23.7
8886	Quivira	----	28.3	21.4
	Eagle Chief	----	28.2	23.2
8885	Cheyenne	----	27.7	23.9
	Turkey-102(from Goodwell,Okla.)	----	27.5	23.0
1558	Turkey	~~27.9~~	27.3 ~~27.5~~	22.8 ~~23.1~~
6251	Blackhull	18.1	27.1	23.5
8054	Superhard Blackhull	----	26.6	22.8
	Redhull	----	26.5	22.5
8381	Purkoff	----	26.3	21.7
	Ioturk	----	26.0	26.4
6471	Fulcaster	16.7	25.8	20.2
10084	Sibley-81	----	25.8	18.3
8265	Denton	----	25.7	21.3
6250	Nebraska 60	----	25.6	22.7
	Mediterranean	14.8	25.5	21.0
8856	Early Blackhull	----	23.9	19.9
6199	Harvest Queen	15.0	23.5	18.7
	Currell	----	22.0	16.9
	Fultz	13.4	20.7	17.2
5147	Nebraska 28	----	18.9	15.2

Lawton, Okla., 1933.

Office cooperating: Cereal Crops and Diseases.
Size of each plot 0.02 acre.
Seeding rate : 4 pecks per acre.
Emerged, ~~Nov~~ Oct. 11.

Crop: Winter wheat, Variety test.
Plot dimensions, 8 ft., 6 in. x 103 ft.
Seeding date, October 3.
Seed treated with copper carbonate.

26 varieties
σ diff = 1.4647 bu./A.
P.E. diff = 1.0014 " "
G.P.E. = 0.7081 " "
= 3.33 % of grand mean
$\bar{X}$ = 21.27 bu./A.

Number.		Variety.	Heading.	Ripe.	Cut.	Ht.	Lodging.	Shattering.	Smut.	Leaf rust.	Weight per Plot.			Bu. per Acre	Test.
Plat.	C. I.										Total	Grain	Straw		
Check	1558	Turkey	First	Fully	Fully	In.				%					
1	"		5-5	5-10	6-7	6-7	31	None	None	None	65	85	29.75	55.25	24.8	61
2	"		"	"	"	"	31	"	"	"	65	65	26.75	38.25	22.3	61
3	"		"	"	"	"	29	"	"	"	65	75	30.00	45.00	25.0	60
4	"		5-6	"	"	"	29	"	"	"	65	60	22.75	37.25	19.0	60
		Average					30				65	71.3	27.3	44.0	22.8	61
A	5147	Nebraska 28	---	4-21	5-26	5-29	31	None	None	None	25-65	45.0	19.00	26.00	15.8	59
B			---	4-21	5-26	5-29	29	"	"	"	25-65	50.0	16.50	33.50	13.7	59
C			---	4-21	5-26	5-29	30	"	"	"	25-65	55.0	19.50	35.50	16.2	59
		Average					30				25-65	50.0	18.3	31.7	15.2	59
A	8856	Early Blackhull	4-19	4-24	5-29	5-29	36	Light	None	None	10-25	60.0	24.25	35.75	20.2	62
B			4-19	4-24	5-29	5-29	36	"	"	"	10-25	55.0	22.75	32.25	19.0	62
C			4-21	4-24	5-29	5-29	36	"	"	"	10-25	60.0	24.75	35.25	20.6	62
		Average									10-25	58.3	23.9	34.4	19.9	62

C. I. Form No. 66.

8—5013 GOVERNMENT PRINTING OFFICE

Lawton, Okla., 1933.

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Size of each plot 0.02 acre.
Seeding rate : 4 pecks per acre.
Emerged, Nox Oct. 11.

Crop: Winter wheat, Variety test.
Plot dimensions, 8 ft., 6 in. x 103 ft.
Seeding date, October 3.
Seed treated with copper carbonate.

Number.		VARIETY.	Heading.	Ripe.	Cut.	Ht.	Lodging.	Shattering.	Smut.	Leaf rust.	Weight per Plot.			Bu. per Acre	Test.
Plat.	C. I.		First	Fully	Fully	In.				%	Total	Grain	Straw		
A	8886	Quivira	4-24	5-1	6-1	6-2	32	None	None	None	5	60.0	26.75	33.25	22.3	62
B		✓	4-24	5-1	6-1	6-2	29	"	"	"	5	60.0	22.00	38.00	18.3	62
C			4-24	5-1	6-1	6-2	33	"	"	"	5	70	28.25	41.75	23.5	61
		Average					31				5	63.3	25.7	37.7	21.4	62
A	11373	Kans. No. 2671 Kanred x Hard Federation	4-24	5-1	6-1	6-2	29	None	None	None	40-65	55.0	23.50	31.50	21.7	61
B		✓	4-24	5-1	6-1	6-2	27	"	"	"	40-65	60.0	20.75	39.25	17.3	61
C			4-24	5-1	6-1	6-2	29	"	"	"	40-65	60.0	26.50	33.50	22.1	61
		Average					28	"	"	"	40-65	58.3	23.6	34.8	20.4	61
A	10092	Kans. No. 2673 Kanred x Hard Federation	4-24	5-1	6-1	6-2	29	None	None	None	40-65	60.0	26.75	33.25	22.3	60
B			4-24	5-1	6-1	6-2	27	None	None	None	40-65	55.0	26.25	28.75	21.9	61
C		✓	4-24	5-1	6-1	6-2	28	None	None	None	40-65	50.0	25.25	24.75	21.0	61
		Average					28				40-65	55.0	26.1	28.9	21.7	61

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Size of each plot 0.02 acre.
Seeding rate : 4 pecks per acre.
Emerged , October 11

Crop: Winter wheat, Variety Test.
Plot dimensions, 8ft.-6in. x 103 ft.
Seeding date , October 3.
Seed treated with copper carbonate.

Number.		VARIETY.	Heading.	Ripe.	Cut. Ht.		Lodging.	Shattering.	Smut.	Leaf rust.	Weight per plot.			Bu. per	
Plat.	C. I.		First	Fully	Fully		In.				%	Total	Grain	Straw	Acre	Test
A	8180	Kawvale	4-28	5-7	6-2	6-2	32	None	None	None	5	75.0	25.25	49.75	21.0	60
B			4-27	5-7	6-2	6-2	32	"	"	"	5	75.0	30.50	44.50	25.4	60
C			4-29	5-7	6-2	6-2	31	"	"	"	5	70.0	27.0	43.00	22.5	61
		Average					32	"	"	"	5	73.3	27.6	45.8	23.0	60
A	---	Eagle Chief	5-1	5-8	6-6	6-7	30	None	None	None	65	70.0	27.50	42.50	22.9	61
B			5-1	5-8	6-6	6-7	30	"	"	"	65	85.0	30.75	54.25	25.6	60
C			5-1	5-8	6-6	6-7	31	"	"	"	65	65.0	25.50	39.50	21.2	61
		Average					30				65	73.3	27.9	45.4	23.2	61
A	6936	Tenmarq	4-28	5-7	6-5	6-5	30	None	None	None	65	70	27.75	42.25	23.1	61
B			4-27	5-6	6-5	6-5	31	"	"	"	65	80	30.00	50.00	25.0	61
C			4-29	5-6	6-5	6-5	31	"	"	"	65	70	27.75	42.25	23.1	62
		Average					31				65	73.3	28.5	44.8	23.7	61

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Lawton, Okla., 1933.

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Size of each plot 0.02 acre.
Seeding rate : 4 pecks per acre.
Emerged , October 11

Crop: Winter wheat, Variety Test.
Plot dimensions, 8ft.-6in. x 103 ft.
Seeding date , October 3.
Seed treated with copper carbonate.

Number.		VARIETY.	Heading.	Ripe.	Cut.	Ht.	Lodging.	Shattering.	Smut.	Leaf rust.	Weight per plot.			Bu. per	
Plat.	C. I.		First	Fully	Fully		In.				%	Total	Grain	Straw	Acre	Test
A	1442	Kharkof	5-4	5-10	6-6	6-7	30	None	None	None	65	70.0	28.00	42.00	23.3	60
B		✓	5-4	5-10	6-6	6-7	29	"	"	"	65	80.0	31.00	49.00	25.8	61
C			5-2	5-10	6-6	6-7	30	"	"	"	65	65.0	23.00	42.00	19.2	61
		Average					30				65	71.7	27.3	44.3	22.8	61
A	5146	Kanred	5-1	5-7	6-6	6-7	30	None	None	None	65	70.0	26.75	43.25	22.3	61
B		✓	4-29	5-7	6-5	6-5	30	None	None	None	65	75.0	30.0	45.00	25.0	61
C			5-1	5-7	6-5	6-5	30	None	None	None	65	65.0	26.50	38.50	22.1	61
		Average					30				65	70.0	27.8	42.3	22.8	61
A	6251	Blackhull	4-28	5-6	6-5	6-5	32	None	None	None	65	80.0	27.75	52.25	23.1	63
			4-27	5-5	6-5	6-5	32	None	None	None	65	60.0	30.00	30.00	25.0	63
		✓	4-29	5-7	6-5	6-5	32	None	None	None	65	60.0	27.00	33.00	22.5	62
		Average					32				65	66.7	28.3	38.4	23.5	63

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Size of each plot 0.02 acre.
Seeding rate : 4 pecks per acre.
Emerged , October 11.

Crop : Winter wheat, Variety test.
Plot dimensions ,8ft.,6 in. x 103 ft.
Seeding date, October 3.
Seed treated with copper carbonate.

Number.		VARIETY.	Heading.	Ripe.	Cut.	Ht.	Lodging.	Shattering.	Smut.	Leaf rust.	Weight per plot			Bu. per	Test.
Plat.	C. I.		First	Fully	Fully		In.				%	Total	Grain	Straw	Acre	
A	8054	Superhard Blackhull	4-28	5-6	6-5	6-5	33	None	None	None	65	70.0	27.25	42.75	22.7	63
B			4-28	5-5	6-5	6-5	32	None	None	None	65	60.0	28.00	32.00	23.3	63
C		✓	4-30	5-8	6-5	6-5	32	None	None	None	65	70.0	27.00	43.00	22.5	63
		Average					32				65	66.7	27.4	39.3	22.8	63
A	---	Turkey-102. Goodwell, Okla.	5-1	5-8	6-6	6-7	31	None	None	None	65	75.0	28.50	46.50	23.8	61
B			5-1	5-8	6-6	6-7	29	"	"	"	65	75.0	28.50	46.50	23.8	60
C		✓	5-1	5-8	6-6	6-7	29	"	"	"	65	55.0	25.75	29.25	21.5	61
		Average					30				65	68.3	27.6	40.8	23.0	61
A	8885	Cheyenne	5-1	5-8	6-6	6-7	29	None	None	None	65	70.0	29.75	40.25	24.8	62
B			5-1	5-8	6-6	6-7	28	"	"	"	65	65.0	28.50	36.50	23.8	61
C		✓	5-1	5-8	6-6	6-7	29	"	"	"	65	75.0	27.75	47.25	23.1	62
		Average					29				65	70.0	28.7	41.3	23.9	62

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Seeding rate : 4 pecks per acre.
Emerged , October 11.

Crop : Winter wheat, Variety test.
Plot dimensions ,8ft.,6 in. x 103 ft.
Seeding date, October 3.
Seed treated with copper carbonate.

Number.		VARIETY.	Heading.	Ripe.	Cut.		Ht.	Lodging.	Shattering.	Smut.	Leaf rust.	Weight per plot			Bu. per	Test.
Plat.	C. I.		First	Fully	Fully		In.				%	Total	Grain	Straw	Acre	
A	6250	Nebraska 60	5-5	5-12	6-7	6-7	31	None	None	None	65	80.0	28.00	52.00	23.3	61
B			5-3	5-12	6-7	6-7	28	"	"	"	65	70.0	26.50	43.50	22.1	61
C			5-3	5-12	6-7	6-7	31	"	"	"	65	70.0	27.25	42.75	22.7	61
		Average					30				65	73.3	27.3	46.1	22.7	61
A	8381	Purkoff	5-1	5-8	6-6	6-7	34	None	None	None	25	85.0	28.00	57.00	23.3	59
B			5-2	5-9	6-6	6-7	30	"	"	"	25	65.0	23.75	41.25	19.8	59
C			5-2	5-9	6-6	6-7	33	"	"	"	25	70.0	26.25	43.75	21.9	59
		Average					32				25	73.3	26.0	47.3	21.7	59
A	---	Ioturk	5-5	5-10	6-7	6-7	31	None	None	None	65	90.0	31.50	58.50	26.3	62
B			5-5	5-10	6-7	6-7	29	"	"	"	65	70.0	27.00	43.00	22.5	62
C			5-5	5-10	6-7	6-7	32	"	"	"	65	85.0	32.75	52.25	27.3	62
		Average					31				65	81.7	30.4	51.3	25.4	62

C. I. Form No. 66.

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Lawton, Okla., 1933.

Office cooperating : Cereal Crops and Diseases.
Size of each plot : 0.02 acre.
Seeding rate : 4 pecks per acre.
Emerged , October 11.

Crop : Winter wheat, Variety Test.
Plot dimensions, 8ft., 6in. x 103 ft.
Seeding date , October 3.
Seed treated with copper carbonate.

Number.		VARIETY.	Heading.	Ripe.	Cut.	Ht.	Lodging.	Shattering.	Smut	Leaf rust.	Weight per plot.			Bu. per	Test.
Plat.	C. I.		First	Fully	Fully		In.				%	Total	Grain	Straw	Acre	
A	ac. 3326	Currell	4-27	5-7	6-3	6-3	33	None	None	None	65	50.0	20.25	29.75	16.9	60
B			4-28	5-7	6-3	6-3	30	"	"	"	65	50.0	18.50	31.50	15.4	62
C		✓	4-28	5-7	6-3	6-3	34	"	"	"	65	60.0	22.25	37.75	18.5	60
		Average					32				65	53.3	20.3	33.00	16.9	61
A	ac. 3416	Fultz	4-29	5-7	6-3	6-3	33	None	None	None	65	50.0	21.50	28.50	17.9	58
B			5-1	5-7	6-3	6-3	31	"	"	"	65	50.0	19.50	30.50	16.3	58
C		✓	5-1	5-7	6-3	6-3	34	"	"	"	65	50.0	21.00	29.00	17.5	59
		Average					33				65	50.0	20.7	29.3	17.2	58
A	8265	Denton	4-30	5-7	6-6	6-7	35	None	None	None	5 - 25	70.0	26.00	44.00	21.7	60
B			5-1	5-7	6-6	6-7	32	"	"	"	5 - 25	60.0	23.75	36.25	19.8	60
C		✓	5-1	5-7	6-6	6-7	35	"	"	"	5- 25	70.0	26.75	43.25	22.3	61
		Average					34					66.7	25.5	41.2	21.3	60

C. I. Form No. 66.

8—5013 GOVERNMENT PRINTING OFFICE

Lawton, Okla., 1933.

Office cooperating : Cereal Crops and Diseases.
Size of each plot : 0.02 acre.
Seeding rate : 4 pecks per acre.
Emerged , October 11.

Crop : Winter wheat, Variety Test.
Plot dimensions, 8ft., 6in. x 103 ft.
Seeding date , October 3.
Seed treated with copper carbonate.

Number.		VARIETY.	Heading.	Ripe.	Cut.	Ht.	Lodging.	Shattering.	Smut	Leaf rust.	Weight per plot.			Bu. per	Test.
Plat.	C. I.		First	Fully	Fully	In.				%	Total	Grain	Straw	Acre	
A	10084	Sibley-81	5-1	5-7	6-6	6-7	33	None	None	None	65	70.0	25.50	44.50	21.3	62
B		✓	5-1	5-7	6-6	6-7	30	"	"	"	65	45.0	20.00	25.00	16.7	61
C			5-1	5-7	6-6	6-7	30	"	"	"	65	60.0	20.25	39.75	16.9	61
		Average					31				65	58.0	21.9	36.4	18.3	61
A	---	Redhull	5-1	5-8	6-6	6-7	32	None	None	None	65	70.0	27.75	42.25	23.1	61
B		✓	5-1	5-8	6-6	6-7	31	"	"	"	65	70.0	27.75	42.25	23.1	61
C			5-1	5-8	6-6	6-7	30	"	"	"	65	70.0	25.50	44.50	21.3	62
		Average					31	"	"	"	65	70.0	27.0	43.0	22.5	61
A	6471	Fulcaster	5-1	5-7	6-5	6-5	33	None	None	None	65	60.0	24.75	35.25	20.6	60
B			5-1	5-7	6-5	6-5	31	None	None	None	65	75.0	26.25	48.75	21.9	60
C		✓	5-1	5-7	6-5	6-5	31	"	"	"	65	55.0	21.75	33.25	18.1	60
		Average					32				65	63.3	24.3	39.1	20.8	60

8—5013 GOVERNMENT PRINTING OFFICE

Lawton, Okla., 1933.

Office cooperating : Cereal Crops and Diseases.
Size of each plot : 0.02 acre.
Seeding rate : 4 pecks per acre.
Emerged , October 4.

Crop : Winter wheat, Variety Test.
Plot dimensions, 8 ft. 6in. x 103 ft.
Seeding date , October 3.
Seed treated with copper carbonate.

Number.		VARIETY.	Heading.	Ripe.	Cut.		Ht.	Lodging.	Shattering.	Smut.	Leaf rust.	Weight per plot.			Bu. per	Test.
Plat.	C. I.		First	Fully	Fully		In.				%	Total	Grain	Straw	Acre	
A	6199	Harvest Queen	5-1	5-8	6-5	6-5	36	None	None	None	40-65	70.0	24.50	45.50	20.4	60
B			5-1	5-7	6-6	6-7	34	"	"	"	40-65	75.0	24.00	51.00	20.0	60
C			5-1	5-7	6-6	6-7	32	"	"	"	40-65	50.0	19.00	31.00	15.8	61
		Average					34				40-65	65.0	22.5	42.5	18.7	60
A	ac. 229-6	Mediterranean	4-28	5-7	6-5	6-5	33	None	None	None	65	60.0	26.00	34.00	21.7	60
B			4-28	5-7	6-5	6-5	32	"	"	"	65	75.0	28.00	47.00	23.3	60
C			4-30	5-7	6-5	6-5	32	"	"	"	65	60.0	21.50	38.50	17.9	60
		Average					32				65	65.0	25.2	39.8	21.0	60
A																
B																
C																

C. I. Form No. 66.

8—5013 GOVERNMENT PRINTING OFFICE

Lawton, Okla. 1933.

Climatic Notes.

A deficiency of slightly more than 5 inches of rainfall from September 1 to November 30 restricted the fall and early winter growth of small grains. Although the plant growth of wheat in the variety test plots was very moderate, the plants appeared to be vigerous and well established in the soil.

December temperatures fluctuated from a minimum of 7° to a maximum of 75° and the monthly mean of 36° was 3° below the average. Precipitation in the form of sleet and snow from the 9th. to the 15th. amounted to 0.38 inch. A gently falling rain of 3.57 inches from the 21st to the 23rd. of December provided ample soil moisture for early spring growth.

Clear weather, nearly normal precipitation, and mild temperatures in January that were 8.5° above normal permitted considerable growth of wheat the latter half of the month.

Freezing temperatures of 0°, -2°, and -1° February 6 to 8, and blowing soil driven by a very high wind produced temporary injury to wheat. A little snow fell during this storm, but any protective covering that might have formed was prevented by a north wind of unusually high velocity. Plant growth of wheat was killed back to the surface by blowing soil. The February precipitation was very scant until the latter part of the month when about 0.96 inch was recorded. The mean temperature was 5.4° below normal.

March weather shifted rapidly and frequently from conditions that were favorable to plant growth to high winds, drifting soil, and low temperatures. Spring growth of nearly all plants except native grass was nearly 2 weeks late by April 1. Even though the soil was packed and eroded by the dashing rains amounting to 2.49 inches March 4 to 10, small grains were benefited by the increased soil moisture. Wheat made a rapid, vigerous growth during March and such early varieties as Nebr. 28 and Early Blackhull were well jointed by the latter part of the month.

April temperatures varied from a maximum of 89° on the 4th. to a minimum of 31° on the 14th. Frequent periods of high wind velocity prevailed and wheat plainly showed the need of additional moisture and less wind by the 15th. Much of the basal foliage was yellow and large soil cracks were present in the plot alleys. April rains were torrential in character and the monthly total was 0.57 inch below the average.

Most of the varieties were fully headed by May 7 and subsequent development and maturity was quite satisfactory during the month when 8 rains, pretty well distributed, totaled 6.27 inches. Very moderate to cool temperatures the last of May were also quite favorable to maturity.

Leaf rust developed very extensively in May on all varieties except Early Blackhull, Quivera, Kawvale, Purkoff, and Denton. The percentage of rust on these varieties was quite low as compared with all others in the test.

A very heavy infestation of adult chinch bugs that emerged from hibernation was present in all small grains by the first of April.

(Extract from the report of Investigations in Dry Land Agriculture)

Winter Wheat Variety Test:- Eight varieties of winter wheat and one variety of winter rye were sown for comparison in triplicate 1/50th- acre plots September 17, 1932. The wheat and rye were recorded as up on October 10, the stand being uniformly good on all plots. Winter conditions were severe for fall sown grains and the stands on all plots were reduced as a result of drouth and exposure to wind and cold. Spring growth was slow in starting, but with improved moisture and temperature conditions the latter part of May, the wheat soon attained a normal appearance. Winter rye headed June 1 and all of the wheat varieties were fully headed by June 16. Ripening was hastened by drouth but all varieties matured grain of comparatively good quality. Winter rye was ripe July 1 and the wheat varieties July 8 and 10. All plots were harvested July 14 and threshed August 14. The data obtained in this test are assembled in Table X.

Table X

Winter Wheat Variety Test.
Huntley, Montana.
1933

Variety	Date Headed	Date Ripe	Ave. Height (in.)	Av. Stand (%)	Yields by Replications 1	2	3	Test Wt. (lbs)	Average Yield Straw (lbs)	Grain (bu.)
Montana 36	6-16	7-10	28	87	13.3	21.7	14.2	60	2850	16.4
Kharkof	6-16	7- 8	29	77	14.2	15.0	15.0	59	2500	14.7
Turkey	6-16	7- 8	28	87	16.7	13.3	14.2	59	2885	14.7
Alton	6-16	7-10	27	80	13.3	15.0	15.0	58	2515	14.4
Newturk	6-16	7- 8	27	77	13.3	14.2	15.0	59	2515	14.2
Ridit	6-13	7-10	31	70	18.3	13.3	10.8	58	2350	14.1
Kanred	6-16	7-10	27	80	12.5	14.2	13.3	58	2500	13.3
Karmont	6-16	7-10	27	67	10.0	10.8	11.7	58	2515	10.8
Rosen Rye	6- 1	7- 1	46	90	23.2	20.5	23.2	55	3735	22.3

Winter Wheat Variety Test.
Huntley, Montana,
1933.

Yield in Bushels to the Acre.

Variety	1st. Rep.	2nd. Rep.	3d. Rep.	Ave.
Montana 36	13.3	21.7	14.2	16.4
Turkey	16.7	13.3	14.2	14.7
Kharkof	14.2	15.0	15.0	14.7
Alton	13.3	15.0	15.0	14.4
Newturk	13.3	14.2	15.0	14.2
Ridit	18.3	13.3	10.8	14.1
Kanred	12.5	14.2	13.3	13.3
Karmont	10.0	10.8	11.7	10.8

STILLWATER WHEAT VARIETY 1932-33
Plats 57 ft, X 70 in.

Variety	Plat 1	Plat 2	Plat 3	Plat 4
Turkey Check	401	434 30.85	467 31.11	500 24.02
Early Blackhull	402	435	468	501
Quivira	403	436	469	502
Turkey Check	404 22.66	437 29.76	470 22.93	503 22.93
Eagle Chief	405	438	471	504
Tenmarq	406	439	472	505
Turkey Check	407 25.39	440 29.76	473 28.39	506 23.76
Blackhull	408	441	474	507
Redhull	409	442	475	508
Turkey Check	410 26.49	443 29.76	476 31.11	509 29.03
Kanred	411	444	477	510
Kharkof	412	445	478	511
Turkey Check A	413 23.76	446 A 28.39	479 34.13	512 31.40
Turkey Check B	413	446 B ———	479	512
Nebraska 60	414	447	480	513
Ioturk	415	448	481	514
Turkey Check A	416 A 26.49	449 22.93	482 31.40	515 30.02
Turkey Check B	416 B 22.51	449	482	515
Cheyenne	417	450	483	516
Turkey Sel. O.A.M.C.	418	451	484	517
Turkey Check	419 22.93	452 25.79	485 26.49	518 29.21
Sibley 81	420	453	486	519
Sibley 62	421	454	487	520
Turkey Check A	422 22.12	455 22.93	488 A 33.84	521 32.21
Turkey Check B	422	455	488 B ———	521
Nebr. 28	423	456	489	522
Kawvale	424	457	490	523
Turkey Check	425 22.92	458 43.12	491 22.63	524 32.49
Fulcaster	426	459	492	525
Harvest Queen	427	460	493	526
Turkey Check A	428 A 27.29	461 21.42	494 22.93	527 A 31.66
Turkey Check B	428 B 24.30	461	494	527 B 30.85
Denton	429	462	495	528
Purkof	430	463	496	529
Turkey Check A	431 31.67	464 A 25.66	497 20.74	530 28.93
Turkey Check B		464 B 30.31	497	530
Penquite	432	465	498	531
Nittany	433	466	499	532
Turkey Check	434 30.85	467 31.11	500 24.02	533 26.75
Avg.	25.34	26.60	27.48	28.56

STILLWATER WHEAT VARIETY 1932-33

Plat No.	Variety	Bu. Per Acre	Lbs. Straw Per Acre	Test Wt.
401	Turkey Check	25.34		
434	"	30.85 28.60	5513	57.9
467	"	31.11 27.48	5100	59.2
500	"	24.02 28.56	2749	58.5
Aver.		28.66 27.50	4454	58.5
402	Early Blackhull	30.15	3497	60.4
435	"	37.66	5273	61.2
468	"	38.76	5208	62.0
501	"	25.11	3046	61.5
Aver.		32.92	4256	61.3
403	Quivira	23.21	3062	56.5
436	"	34.39	5437	58.6
469	"	36.03	4422	59.2
502	"	15.83	2735	58.7
Aver.		27.387	3914	58.3
404	Turkey Check	22.66	3734	56.2
437	"	29.76	5387	57.8
470	"	22.93	5142	58.1
503	"	22.93	2996	58.7
Aver.		24.57	4315	57.7
405	Eagle Chief	22.38	3358	55.4
438	"	33.04	5813	57.4
471	"	35.15	5135	57.6
504	"	18.01	2768	56.9
Aver.		27.15	4269	56.8
406	Tenmarq	21.83	3038	53.8
439	"	33.30	3292	56.6
472	"	38.76	5044	56.9
505	"	20.48	2669	55.9
Aver.		28.59	3511	55.8

Stillwater Wheat Variety 1932-33

Plat No.	Variety	Bu. Per Acre	Lbs. Straw Per Acre	Test Wt.
407	Turkey Check	25.39	3757	56.7
440	"	29.76	4790	58.0
473	[illegible]	28.39	5175	58.7
506	"	23.76	2948	58.3
Aver.		26.83	4168	57.9
408	Blackhull	25.94	4143	59.7
441	[illegible]	33.58	5470	60.7
474	"	42.71	5643	61.4
507	"	25.39	3422	61.8
Aver.		31.91	4670	60.9
409	Redhull	24.70	3922	56.6
442	"	27.29	4946	58.2
475	"	31.79	5626	59.1
508	"	23.21	3684	59.5
Aver.		26.75	4545	58.4
410	Turkey Check	26.49	3881	57.1
443	"	29.76	4659	58.5
476	"	31.11	4094	59.0
509	"	27.03	3233	58.7
Aver.		28.60	3967	58.3
411	Kanred	22.66	3439	54.6
444	"	25.11	5011	56.2
477	"	34.39	5568	57.2
510	"	22.93	3406	58.2
Aver		26.27	4356	56.6
412	Kharkof	24.02	3955	55.7
445	"	25.66	5208	56.3
478	"	32.75	5552	56.9
511	"	24.02	3668	57.8
Aver.		26.61	4596	56.7
413	Turkey Check	23.76	4029	57.2
446 A	"	28.39	4921	58.1
446 B	"	No Data		
479	"	34.13	6312	58.7

See next page.

Stillwater Wheat Variety 1932-33

Plat No.	Variety	Bu. Per Acre	Lbs. Straw Per Acre	Test Wt.
512	Turkey Check	31.40	3684	59.2
Aver. A		29.42	4737	58.3
Aver B		29.76	4675	58.4
414	Nebr. 60	24.02	3431	56.5
447	"	20.20	2587	58.2
480	"	24.85	4470	58.8
513	"	22.66	4029	59.2
Aver.		22.93	3629	58.2
415	Ioturk	21.03	3684	57.1
448	"	21.83	3423	57.9
481	"	28.52	5429	59.6
514	"	20.74	4406	59.3
Aver.		23.03	4236	58.5
416 A	Turkey Check	26.49	4306	57.2
416 B	"	22.51	3785	56.4
449	"	22.93	3227	57.8
482	"	31.40	5895	59.1
515	"	30.02	4046	59.9
Aver. A		27.71	4369	58.5
Aver. B		26.72	4238	58.3
417	Cheyenne	24.98	3963	55.9
450	"	28.93	3570	57.9
483	"	34.80	5445	58.8
516	"	30.02	4471	60.3
Aver.		29.68	4362	58.2
418	Turkey Sel. O.A.M.C.	18.84	3422	54.9
451	"	20.48	3472	56.4
484	"	30.57	5208	57.3
517	"	26.75	3947	58.5
Aver.		24.16	~~3762~~ 4012	~~57.8~~ 56.8
419	Turkey Check	22.93	4029	56.7
452	"	25.79	5261	57.9
485	"	26.49	5895	58.9
518	"	29.21	3422	60.3
Aver.		26.11	4152	58.5

Plat No.	Variety	Bu. Per Acre	Lbs. Straw Per Acre	Test Wt.
420	Sibley 81	22.93	3636	58.1
453	"	28.12	3570	59.9
486	"	42.03	6616	59.7
519	"	29.21	4422	60.6
Aver.		30.57	4561	59.6
421	Sibley 62	21.57	3495	55.3
454	"	18.01	3308	56.4
487	"	28.12	4520	57.9
520	"	28.93	4356	59.3
Aver		24.16	3920	57.2
422	Turkey Check	22.12	4306	58.0
455	"	22.93	3292	58.1
488 A	"	33.84	5094	59.1
488 B	"			
521	"	32.21	3996	60.2
Aver.	A	27.78	4172	58.9
Aver.	B°	25.75	°3865	°58.8
423	Nebr. 28	27.84	3784	58.3
456	"	23.21	3029	60.0
489	"	19.24	2194	59.3
522	"	30.85	3996	60.3
Aver.		25.29	3251	59.5
424	Kawvale	25.12	4315	56.0
457	"	27.15	2971	57.5
490	"	22.12	2505	57.6
523	"	31.11	3980	59.8
Aver.		26.38	3443	57.7
&&&&&				
425	Turkey Check	22.92	4165	57.7
458	"	43.12	1720	58.3
491	"	22.63	3005	58.4
524	"	32.49	4004	60.3
Aver.		30.29	3224	58.7
&				
426	Fulcaster	No Data. Not Fulcaster		
459				
492				
525				

Plat No.	Variety	Bu. Per Acre	Lbs. Straw Per Acre	Test Wt.
427	Harvest Queen	22.66	4044	55.4
460	"	20.74	3129	56.1
493	"	18.96	2851	56.8
526	"	25.00	4834	58.7
Aver.		21.84	3715	56.8
428 A	Turkey Check	27.29	4414	58.5
428 B4	"	24.30	5011	58.2
461	"	21.42	3022	58.4
494	"	22.93	2506	58.2
527 A	"	31.66	4127	60.0
527 B	"	30.85	4716	59.4
Aver. A		25.83	3517	58.8
Aver. B		24.88	3814	58.6
429	Denton	27.29	4864	58.0
462	"	24.56	3930	58.5
495	"	21.67	3000	58.4
528	"	32.49	5551	59.6
Aver.		26.50	4336	58.6
430	Purkof	25.66	5044	55.9
463	21.83	21.83	3275	55.4
496	"	16.71	2628	55.6
529	"	29.76	5354	57.1
Aver.		23.49	4075	56.0
431	Turkey Check	31.67	3894	57.8
464 A	"	25.66	3374	58.2
464 B	"	30.31	4732	59.8
497	"	20.74	2310	58.7
530	"	28.93	4684	59.0
Aver. A		26.75	~~3588~~ 3566	58.4
Aver. B		27.91	~~3928~~ 3905	58.8
432	Penquite	28.39	5764	59.0
465	"	36.57	5240	60.4
498	"	19.45	2200	58.8
531	"	35.77	4863	59.9
Aver.		30.05	4517	59.5

Stillwater Wheat Variety 1932-33

Plat No.	Variety	Bu. Per Acre	Lbs. Straw Per Acre	Test Wt.
433	Nittany	25.46	4413	54.5
466	"	29.06	5250	56.1
499	"	12.10	2213	52.2
532	"	26.75	5011	55.9
Aver.		23.34	4222	54.7
&				
434	Turkey Check	30.85	5223	57.9
467	"	31.11	4701	59.2
500	"	24.02	2604	58.5
533	"	26.75	4013	58.8
Aver.		28.18	4135	58.6

0 = 3 Plat Average

Table — Annual and Average yields of Winter Wheat Grown in Replicated 1/4-foot Nursery Plots at Texas Substation No. 6, Denton, Texas For The Period 1927-1932, Inclusive

Variety	T.S. No.	CI No.	Yields Per Acre - Bushels							Average 1927-1933	Average 1928-1933	Average All yrs Grown (Bu)	Average at Denton same years
			1927	1928	1929	1930	1931	1932	1933				
Denton Mediterranean	1236	8265	25.4	8.3	20.7	18.7	26.6	30.7	28.4	22.6	27.6	*	
"	3015-63	-	33.5	2.2	23.6	16.0	27.9	30.7	27.8	23.0	29.3	*	22.6
"	3015-92	-	33.6	7.3	24.7	17.3	26.9	23.1	26.4	23.1	24.8	*	22.6
"	3015-81	10086	31.2	7.5	17.6	17.4	26.4	28.1	24.3	22.8	26.2	*	22.6
"	3015-105-1	-	45.4	7.4	27.4	15.8	35.7	32.4	21.7	27.6	29.7	27.6	22.6
"	5133-20	10085	44.5	10.2	21.7	25.8	27.0	32.7	29.0	27.1	30.4	27.1	22.6
"	5133-23	11525	22.0	6.6	25.1	15.4	25.7	30.1	27.3	21.9	28.9	21.9	22.6
"	5133-34	11526	38.4	12.8	20.3	23.0	24.0	29.5	26.5	24.9	28.0	24.1	22.6
"	5133-35	-	22.4	10.8	17.9	13.4	22.5	30.1	23.6	20.4	26.9	20.4	22.6
"	5133-36	-	18.0	8.0	23.1	14.0	24.4	28.9	24.3	19.9	26.5	19.1	22.6
"	5133-38	-	17.5	9.7	24.4	18.3	25.4	29.5	22.1	20.7	25.1	20.7	22.6
Red May	1250-1	-	34.9	16.2	27.5	17.6	20.0	26.5	21.0	26.2	30.9	26.2	22.6
Kawvale	12577	8180			32.4	10.1	23.9	34.7	32.7	-	34.2	29.0	25.0
Kanred X Fulcaster 10-K-12		-				25.9	31.8	32.4	29.2	-	30.3	30.8	26.1
" " 10-K-13		-				21.5	35.9	35.7	35.4	-	35.6	32.1	26.1
White Med. Iterranean	15834	10023						33.0	31.7	-	32.4	32.4	27.6
Clark 40		8858			21.5	26.4	40.6	30.9	32.1	-	31.4	30.3	24.8
Sutton	15832	10053					33.1	28.5	24.5	-	26.5	28.7	28.6
Fulcaster	7082	6471					34.3	29.4	29.0	-	26.2	28.7	28.6
Harvest Queen	15137	6179					25.3	23.4	23.8	-	23.6	24.2	28.6
Nebraska 28	15836	5141					17.1	17.7	21.0	-	20.4	19.3	28.6
Fultz-Mediterranean	-	-						33.4	24.2	-	28.8	28.8	29.6
Kanred X Kawvale Ks. KN-111-1-1-N4									32.2	-	32.2	32.2	28.4
Kanred X Kawvale Ks. KN 105-7-5									34.1	-	-	34.1	28.4
Fulcaster X Marquis Ks. 1931 KN 443									33.9	-	-	33.9	28.4

Table — Continued

Variety	T.S. No.	C.I. No.	Yield Per Acre - Bushels 1927	1928	1929	1930	1931	1932	1933	Average 1927-1933	Average 1932-1933	Average Nil Years Grown	Average of Denton Same Years
Pearmain x Kanred, 15-1131-AN-1-1-1

Table — Continued

Variety	T.S. No	C.I No	Yield Per Acre - Bushels 1127	1128	1129	1130	1931	1932	1933	Average 1927-1933	Average 1932-1933	Average All yrs Grown	Average of Denton Same Years
Leidigh, L-4									20.9			20.9	28.4
Do , L-5-5									35.7			35.7	28.4
Do , L-5-6									32.4			32.4	28.4
Michigan Amber Sel.									22.7			22.7	28.4
Fulhard								29.9	26.4		28.2	28.2	29.6
Kanred x Marquis, K.C. 2640					25.3	23.4	35.4	30.6	27.4		29.0	28.4	25.0
Do , K.C. 2644		10070			24.9	21.4	29.1	34.2	23.4	26	26.6	26.6	25.0
Do , K.C. 2679		11514			24.9	21.4	29.1	17.0	24.4		20.7	20.7	29.6
Tenmarq	12578	6936	18.4	-	29.5	15.7	39.1	29.0	30.1		29.6	26.5	25.0
Tenmarq Selection		10089						30.4	18.0		24.2	24.2	29.6
Blackhull	7172	6251			17.3		33.5	24.3	19.3		21.8	23.6	26.5
Early Blackhull	15938	8851			21.5		35.6	29.4	29.9		29.7	29.1	26.5
Kanred	11763	5146	14.2	6.5	16.0	26.6	32.3	25.9	24.8	21.0	25.4	21.0	22.6
Kanred Selection	-	10099						25.9	23.0		24.5	24.5	29.6
Quivira	15893	8886					42.9	30.3	26.6		28.5	33.3	28.6
Quivira Sel., S-31-194									32.9			32.9	28.4
Do , S-31-205									30.9			30.9	28.4
Do , S-31-216									32.0			32.0	26.4
Do , S-31-218									30.8			30.8	28.4
Kanred x Hard Federation		11373						26.4	29.6		28.0	28.0	29.6
Do		10091						30.6	26.6		28.6	28.6	29.6
Do		10092						31.1	31.1		31.1	31.1	29.6
Do		10093						30.0	27.0		27.5	27.5	29.6
Kharkof	16830	1442					29.7	24.6	17.5		21.1	23.9	28.6
Nebraska 60	15835	1650					29.6	24.7	16.6		20.7	23.6	28.6

Table ___ Continued

Variety	T. S. No.	C. I No	Yield Per Acre - Bushels 1927	1928	1929	1930	1931	1932	1933	Average 1927-1933	Average 1932-1933	Average All Yrs Grown	Average of Denton same years
Oro		8220						27.3	20.4		23.9	23.9	29.6
Cheyenne	18566	8885						25.3	23.5		24.4	24.4	29.6
Canadian Hybrid Col. Ni. 359								22.3	17.0		19.7	19.7	29.6
Sibley 81		10084						31.5	20.9		26.2	26.2	29.6
P.1066- x Burbank.		10087						33.4	28.5		31.0	31.0	29.6
Beloglina Sel.		8884						27.0	22.2		24.6	24.6	29.6
Kanred x Minturki		10012						24.9	22.7		23.8	23.8	29.6
Minturki x Bel. Buffum		10088						25.8	16.0		20.9	20.9	29.6
Turkey	~~10083~~	10083						26.5	25.0		25.8	25.8	29.6
Turkey	~~10015~~	10015						16.7	12.1		14.4	14.4	29.6
Turkey		10094						20.5	17.5		19.0	19.0	29.6
Turkey		10095						21.2	16.9		19.1	19.1	29.6
Turkey		10096						18.9	11.2		15.1	15.1	29.6
Turkey		10097						17.3	11.2		14.3	14.3	29.6
Turkey		10016						22.9	14.1		18.5	18.5	29.6
Turkey		10098						21.7	14.0		17.9	17.9	29.6
Turkey		10100						28.1	16.6		22.4	22.4	29.6
Turkey		11375						22.0	13.5		17.8	17.8	29.6
Iobred									20.2			20.2	28.4

Table — Time of Planting Test of 5 Winter Wheat Varieties Planted in Triplicate 16-Foot Nursery Plots, 1933 Texas Substation No. 6, Denton, Texas

Variety	T.S. No	C I No.	Date First Head	Date Fully Ripe	Plant Height	Lodging	Leaf Rust	Stem Rust	Yield Per Plot Grams I	Yield Per Plot Grams II	Yield Per Plot Grams III	Yield Per Acre Bu
					Inches	Pct.	P. Ct.	P. Ct.				
September 29 Planting					Emerged Oct. 10							
Early Blackhull	15838	8856	4-26	5-30	35	T	75	0	378	305	314	33.2
Kanred	11763	5146	5-8	6-5	33	9	75	T	250	246	259	25.2
Tenmarq	12578	6736	5-5	6-5	35	4	72	0	327	378	346	35.0
Kharkof	16830	1442	5-10	6-8	32	12	92	3	173	227	213	20.4
Minturki	—	6155	5-12	6-9	35	0	78	3	166	186	233	19.5
October 11, Planting					Emerged Jan. 6							
Early Blackhull	15838	8856	4-28	6-3	33	8	72	0	183	228	176	19.6
Kanred	11763	5146	5-18	6-12	34	15	82	15	267	219	257	24.8
Tenmarq	12578	6736	5-11	6-12	34	8	63	15	331	273	265	29.0
Kharkof	16830	1442	5-15	6-14	33	25	75	40	286	185	205	22.5
Minturki	—	6155	5-17	6-14	37	2	60	65	215	213	179	20.2

Table ____ Annual and Average Yields of Winter Wheat Grown at Texas Substation No 6., Denton, Texas During The Years, 1926-1933 Inclusive.

Variety	T.S. No.	C.I. No.	Yield Per Acre - Bushels								Average Yield 1926-1933	Average Yield 1931-1933	Average All Years Grown	Average of Denton Same Years
			1926	1927	1928	1929	1930	1931	1932	1933				
Denton	9236	8265	28.3	20.6	34.1	23.8	13.4	38.4	30.5	32.4	27.7	33.8	27.7	
Mediterrancan	3015-81	10086	30.3	23.2	31.0	23.5	19.8	34.5	29.3	25.5	27.1	29.8	27.1	27.7
Do	3015-72		30.6	21.3	27.3	21.4	18.8	38.2	24.6	24.8	25.9	29.2	25.9	27.7
Do	5933-20	10085							30.9	29.1		—	30.0	31.5
Do	5933-23	11525							30.3	27.0		—	29.4	31.5
Do	5933-32								27.5	30.8		—	29.2	31.5
Do	5933-34	11526							32.0	29.2		—	30.6	31.5
Do	5933-38								32.0	28.1		—	30.1	31.5
Sutton	10082	10053					15.0	40.4	29.5	22.7		30.9	26.9	28.7
Fulcaster	7082	6491	21.3	19.7	24.8	21.9	—	34.7	26.5	28.8		30.0	25.1	29.7
Harrest Queen	15837	6199						28.3	19.1	25.2		24.2	24.2	33.8
Nebraska 28	15836	5147						6.8	15.7	19.7		14.1	14.1	33.8
White Mediterranean	15834	10023							27.9	32.9		—	30.4	31.5
Kawvale	12577	8180				27.8	10.2	38.7	31.4	30.3		33.5	27.7	27.7
Quivira	15833	8886						41.8	34.5	32.0		36.1	36.1	33.8
Blackhull	7172	6251	30.4	14.5	31.4	25.5	19.5	34.4	22.0	27.8	25.7	28.1	25.7	27.7
Kharkof	16830	1442						34.5	21.7	26.2		27.5	27.5	33.8
Tenmarq	12578	6536				29.5	19.8	42.4	32.0	31.3		35.2	31.0	27.7
Kanred	11763	5146	27.3	14.0	31.9	20.1	18.6	34.7	29.2	31.0	25.9	31.6	25.9	27.7
Nebraska 60	15835	6250						31.9	20.9	23.8		25.5	25.5	33.8

Table ____ Agronomic Data For Winter Wheat Varieties Grown in Four 1/55-Acre Plots At Texas Substation No. 6, Denton, Texas, 19__

Seeded - October 7 Rate of Seeding - 75 pounds Emerged - Oct. 14

Variety	T.S. No.	C.I No.	Date First Head	Date Fully Ripe	Winter Survival	Height (in.)	Shattering Pct.	Leaf Rust Pct.	Stem Rust Pct.	Grain Yield-Pounds Per Plat I	II	III	IV	Average Bu Per Acre	Test Weight Per Bushel
Denton	9236	8265	5-9	6-8	88	40	1	3	63	31.7	38.4	36.8	36.5	32.4*	60.5†
Mediterranean	3015-81	10086	5-8	6-9	79	37	0	5	55	20.8	30.3	30.6	29.4	25.5	59.5
Do	3015-72		5-8	6-8	82	37	3	6	58	206	28.9	29.4	29.5	24.8	58.5
Do	5933-20	10085	5-6	6-4	92	36	T	4	6	26.3	34.8	34.3	31.6	29.1	60.0
Do	5933-23	11525	5-6	6-6	92	39	5	1	61	25.2	36.3	34.8	30.4	29.0	61.0
Do	5933-32		5-6	6-4	89	38	1	16	56	29.9	37.1	36.4	30.9	30.8	60.0
Do	5933-34	11526	5-6	6-4	92	37	1	2	10	27.8	34.4	31.6	33.8	29.2	61.0
Do	5933-38		5-5	6-4	92	40	1	2	24	28.7	31.9	30.3	31.8	28.1	60.0
Sutton	15832	10053	5-12	6-8	76	38	1	46	66	18.8	25.3	25.8	29.3	22.7	60.0
Fulcaster	7082	6471	5-9	6-9	89	37	3	55	51	26.4	32.1	33.8	33.5	28.8	60.0
Harvest Queen	15837	6199	5-10	6-8	93	40	0	68	55	18.4	27.9	31.8	31.9	25.2	58.0
Nebraska 28	15836	5147	4-19	5-27	84	29	0	65	E	19.5	22.0	23.3	21.0	19.9	58.0
White Mediterranean	15834	10023	5-3	6-6	83	37	0	61	25	29.4	38.2	39.6	36.5	32.9	61.0
Kawvale	12577	8180	5-8	6-7	92	36	2	6	30	28.7	35.4	35.3	32.7	30.3	59.0
Quivira			5-3	6-6	81	36	T	10	4	23.2	41.1	37.9	37.6	32.0	61.5
Blackhull	11724	6251	5-9	6-7	89	36	0	70	10	24.5	30.1	34.6	32.1	27.8	61.0
Karkaft Kharkof	11830	7442	5-12	6-9	95	35	0	73	15	24.5	26.3	29.9	33.4	26.2	60.0
Tenmarq	12578	6536	5-8	6-7	86	36	0	51	10	29.7	37.3	37.3	32.1	31.3	60.0
Khanred	11763	5746	5-10	6-7	91	36	0	64	6	29.9	32.9	35.6	36.8	31.0	59.5
Nebraska 60	15835	6250	5-12	6-10	93	34	0	76	11	23.4	24.9	28.3	27.3	23.8	59.0

E - Escaped.

† Test weight taken on uncleaned grain.

* yields of Denton as follows 25.4, 33.7, 36.1, 37.7, 37.1, 36.9, 36.6, 38.3 34.6 = avg 35.38 lbs per plat.

Agronomic data for winter wheat varieties grown in four 1/47-acre plots at the Woodward Field Station, 1933.

Date of seeding Oct. 13, 1932 | Rate of seeding 4 pecks per A. | Date emerged Oct. 21, 1932 | Size of plot 132 feet long 7 " wide

VARIETY, HYBRID, OR SELECTION	C.I. No.	DATE FIRST HEADED	RIPE	HEIGHT	Grain yield per 1/47-acre plot (fallow)		(cropped)		Average		Test Wt. per bu.
		1933		in.	lbs.	lbs.	lbs.	lbs.	lbs.	bu. per acre	lbs.
Early Blackhull	8856	4/21	6/3	25	27.0	31.5	27.5	26.5	28.1	22.1	59.5
Cheyenne	8885	5/5	6/7	27	28.5	29.5	23.5	29.0	27.6	21.7	58.5
Oro	8220	5/5	6/8	27	25.0	27.0	19.0	26.5	24.4	19.2	58.0
Kharkof	6686	5/7	6/8	27	25.5	24.5	21.5	25.5	24.3	19.1	56.5
Superhard	8054	5/1	6/7	28	24.5	27.0	21.0	24.0	24.1	18.9	57.0
Local Turkey	--	5/7	6/8	25	22.5	25.5	20.0	25.0	23.3	18.3	56.5
Kharkof	1442	5/7	6/8	26	23.0	23.5	22.0	25.5	23.5	18.5	56.0
Nebraska No. 60	6250	5/9	6/9	25	24.0	22.5	21.0	25.0	23.1	18.1	56.5
Nebraska No. 28	5147	4/20	6/2	20	24.0	24.0	22.0	22.0	23.0	18.1	57.0
Blackhull	6251	5/3	6/7	29	22.0	26.5	19.0	24.0	22.9	18.0	56.0
Kanred x Marquis	10090	5/4	6/7	29	23.0	25.0	19.5	23.5	22.8	17.9	55.0
Fulcaster	6471	5/5	6/8	29	21.0	25.0	20.5	20.0	21.6	17.0	53.5
Turkey, Goodwell 102	--	5/5	6/7	27	21.0	25.0	19.0	21.5	21.6	17.0	54.0
Tenmarq	6936	5/2	6/6	28	22.0	24.5	19.0	20.0	21.4	16.8	50.0
Kawvale	8180	5/4	6/5	28	18.5	26.0	19.5	21.0	21.3	16.7	50.5
Kanred	5146	5/5	6/7	27	20.0	24.5	19.5	20.5	21.1	16.6	53.5
Quivira	8886	4/28	6/6	27	20.0	24.0	20.0	18.5	20.6	16.2	53.5
Cooperatorka	8861	5/7	6/8	27	20.0	22.0	16.0	23.5	20.4	16.0	57.0
Redhull	--	5/5	6/8	28	19.5	24.0	17.5	20.0	20.3	15.9	55.0
Eagle Chief	8868	5/6	6/7	27	19.0	23.0	18.5	19.0	19.9	15.6	54.0
Sibley, Okla. No. 81	10084	5/5	6/7	27	19.0	24.0	17.0	19.5	19.9	15.6	54.5
Denton	8265	5/7	6/9	30	20.0	22.5	14.5	21.5	19.6	15.4	55.5
Harvest Queen	6199	5/6	6/7	32	17.5	22.5	17.0	20.5	19.4	15.2	54.0

Factor for converting pounds per plot to bushels per acre--0.7857.

Leaf rust infection, the percentage of which has been recorded heretofore, was not present in sufficient quantity to note.

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duplicated

Average agronomic data and yields recorded on 20 winter wheat varieties grown on fallow in 1/40 acre plots at the North Platte Substation, in 1933.

Date of seeding September 15, 1932 Emerged Sept. 18, 1932 Harvested July 5, 1933

20 varieties
Diff. = 2.1163 lbs./A.
" = 1.4274 " "
P.E. diff. = 1.0093
G.P.E. = 3.137 = 9.6 and %
X = 32.25 lbs./A.

Variety	C. I. No.	Dates. Emergence.	Headed.	Ripe.	Days to maturity from— Emergence.	Heading.	Stand, thousand plants per acre.	Winter survival.	Height, inches.	Rust. Leaf.	Stem.	Lodging.	lbs. Grain per plot Rep. 1	Probable error. Rep. 2	Av.	Straw, pounds. Bu. per acre	Bushel weight, pounds.
								%		%	%	%					
Oro	8220		6-3	trace	loose	smut		90	36.5			52	41	54	49.0	32.7	
Quivira	8886		5-27	"	"	"		80	34.5				37	45	41.0	27.3	
Turkey Selection	10016		5-30					85	34.0				41	50	45.5	30.3	
Fulhard	8257		5-31					80	35.0				42	52	47.0	31.3	
Blackhull	6257		5-31					85	34.0				48	54	51.0	34.0	
Tenmarq	6936		6-1					90	35.0				48	54	51.0	34.0	
Tenmarq Selection	10089		6-1					60	32.0				36	41	38.5	25.7	
Cheyenne	8885		6-2					100	35.0				48	60	54.0	36.0	
Kanred	5146		6-2					100	36.0				46	50	48.0	32.0	
Local Turkey			5-29					95	35.0				47	50	48.5	32.3	
Turkey Selection	10094		6-1					100	36.5				51	54	52.5	35.0	
Beloglina	1543		6-2					85	33.0	loose smut			48	46	47.0	31.3	
North Platte 11	8884		6-2					95	36.0	loose smut			50	55	52.5	35.0	
Newturk	6935		6-2					95	36.0	loose smut			48	51	49.5	33.0	
Nebraska 60	6250		6-3					95	35.0	trace l.s.			51	57	54.0	36.0	

C. I. Form No. 13.

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cont'd-- Average agronomic data and yields recorded on 20 winter wheat varieties duplicated on fallow in 1/40 acre plots at the North Platte Substation, in 1933.

Date of seeding .....

Variety.	C. I. No.	Dates.			Days to maturity from—		Stand, thousand plants per acre.	Winter survival.	Height, inches.	Rust.		Lodging.	Acre yield.				Bushel weight, pounds.
		Emergence.	Headed.	Ripe.	Emergence.	Heading.				Leaf.	Stem.		Grain.			Straw, pounds.	
													Bushels.	Probable error.	Pounds.		
								%		%	%	%					
Kharkof ✓	1442		6-1	trace		loose	smut	100	35.5				50	57	53.5	35.7	
Hays No. 2 ✓	6686		6-3	"		"	"	100	37				44	50	47.0	31.3	
Sherman ✓	4430		6-3	"		"	"	100	36.0				52	47	4915	33.0	
North Platte 14 ✓	10012		6-3	"		"	"	90	38.0				44	48	46.0	30.7	
Minturki ✓	6155		6-3-5	"		"	"	100	37.0				45	43	44.0	29.3	

C. I. Form No. 13.

GOVERNMENT PRINTING OFFICE 8—2503

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY

AGRONOMIC AND QUALITY DATA

Data obtained by the Division of Cereal Crops and Diseases in cooperation with the State Agricultural Experiment Station

Alliance, Nebr., 1932-33

14 varieties
L.S.D. = 2.2116 bu./A.
P.E. diff. = 1.4917 " "
G.E. = 1.0548 " "
= 4.347% of ground X
X = 24.31 bu./A.

DATE OF SEEDING September 1

DATE OF EMERGENCE September 8

VARIETY	C. I. No.	DATES		DAYS TO MATURITY FROM		STAND	WINTER SURVIVAL	HEIGHT	RUST		LODG.	ACRE YIELD by replicates			Av. yield 1931-33		
		Headed	Ripe	Emergence	Heading				Leaf	Stem	1	2	3	Av.	Test weight per bushel	Protein content	U. S. grade 3-yr. av.
		June	July			Per ct.	Per ct.	Inches	Per ct.	Per ct.	Pounds	Bushels		Pounds	Pounds	Per ct.	Bu.
Turkey sel.	10016	12	11		29		60	26			15.4	29.5	28.7	24.5			14.4
Turkey sel.	10098	12	11		29		63	26			7.6	24.6	29.3	20.5			----
Turkey sel.	10015	15	12		27		70	26			14.3	23.4	28.1	21.9			14.1
Turkey sel.	10094	15	12		27		65	26			13.9	24.9	27.4	22.1			----
Kanred	5146	15	12		27		67	27			15.9	22.6	27.7	23.1			13.4
Nebr. 60	6250	15	13		28		63	27			13.9	22.0	28.2	21.4			14.6
Kharkof	1442	14	12		28		63	27			14.3	23.1	27.6	21.7			13.1
Kharkof sel.	6686	14	12		28		70	27			15.9	25.8	28.7	24.5			14.4
Minturki	6155	14	12		28		78	28			17.0	25.2	27.7	23.3			13.6
Oro	6220	15	12		27		68	28			20.8	28.9	29.7	26.5			14.1
Cheyenne	8885	15	12		27		65	25			15.1	27.3	30.1	25.2			14.0
Blackhull	6251	11	11		30		53	28			22.2	28.6	29.7	26.8			13.2
Tenmarq	6936	10	10		30		57	29			21.4	31.1	36.6	29.7			12.4
Quivira	8886	10	9		29		53	29			15.3	28.2	41.5	29.3			12.9

U. S. GOVERNMENT PRINTING OFFICE: 1921 8—2503

Table Agronomic data and yields for 30 varieties and selections of wheat grown in the U.S.D.A. Uniform yield nursery in replicated 3-row plots 16 feet long, Fort Hays Experiment Station, Hays, Kans., 1933.

1933 Row No.	Selection	C.I. No.	State or hybrid Number	Date Headed	Date Ripe	Ht. Ins.	Winter survival	1933 Yield Grams from center row from series 1	2	3	Per acre bus.	1932-1933 2-Yr ave. bus.	1933 Rank
1	Kharkof	1442	Kan. 2591	5-20	6-17	28	100	123	142	160	14.2	25.8	24
7	Blackhull	6251	" 345	5-15	6-13	32	99	170	199	214	19.4	34.2	8
2	Nebraska No. 60	6250	" 332	5-20	6-17	28	100	121	125	154	13.3	26.8	25
32	Early Blackhull	8856	" 483	5-8	6-10	33	96	176	230	216	22.4	31.8	6a/
33	Turkey Sel.	10083	Okla. #1	5-17	6-14	30	100	174	215	154	18.1	32.9	11b/
34	Sibley No. 81	10084		5-19	6-14	31	98	162	207	173	18.0	28.0	12
35	Mediterranean	10085	Tex. 5953-20	5-14	6-14	31	97	154	213	172	17.9	26.6	13b/
36	Mediterranean	10086	Tex. 5015-81	5-17	6-14	31	96	154	184	149	16.2	29.4	17
37	Marquis x Kanred H.C. 312	11374	Kan. 2679	5-11	6-13	31	88	168	196	176	18.1	29.5	11a/
12	P-1066-1 x Burbank	10087	" 2684	5-16	6-14	30	92	176	230	210	20.5	36.1	7
38	Beloglina	8804	N.Platte #11	5-20	6-16	32	99	160	190	186	17.9	30.8	13a/
39	Kanred x Minturki	10012	N.Platte #14	5-21	6-16	32	100	150	142	153	15.0	27.1	22
41	Minturki x (Bel. x Buffum)	10088	N.Platte 19115-v1-14	5-21	6-16	32	100	152	144	168	14.8	27.4	23
8	Tenmarq	10089	Kan. 2670	5-13	6-13	31	99	162	177	206	18.2	34.7	10
42	Fulhard	8257	Kan. 2561	5-15	6-15	33	99	209	216	246	22.4	34.2	6b/
43	Kanred x Marquis	10090	Kan. 2644	5-17	6-15	33	98	216	174	238	22.9	34.4	5
10	Kanred x Hard Federation	11375	Kan. 2671	5-10	6-12	31	98	224	260	253	24.7	33.0	4
11	" " "	10091	Kan. 2672	5-9	6-12	30	99	228	270	238	26.2	35.0	2
44	" " "	10092	Kan. 2673	5-10	6-13	32	99	333	250	276	28.0	33.6	1
45	" " "	10093	Kan. 2674	5-9	6-11	30	98	239	240	262	25.4	30.1	3
4	Turkey Sel.	10015	Nebr. 1062	5-17	6-16	29	100	158	192	196	17.2	25.9	15b/
5	" "	10016	" 1069	5-15	6-15	28	100	142	150	182	15.6	27.9	19
46	" "	10094	" 1065	5-17	6-16	29	100	169	154	204	17.6	30.1	14b/
47	" "	10095	" 1064	5-17	6-16	28	100	171	158	186	17.2	28.1	15a/
48	" "	10096	" 1066	5-16	6-16	28	100	173	171	210	18.5	28.4	9
49	" "	10097	" 1068	5-17	6-16	29	100	148	144	178	15.7	26.8	20
51	" "	10098	" 1070	5-14	6-12	29	100	140	164	178	16.0	29.8	18
52	Kanred Sel.	10099	Colo. 0166	5-18	6-14	29	100	165	171	176	17.1	27.7	16
53	Turkey Sel.	10100	" 159	5-16	6-15	29	100	140	206	181	17.6	27.5	14a/
54	" "	11375	" 351	5-20	6-16	29	100	157	158	168	15.2	30.2	21
					Average all selections- - - - - -						18.7	30.1	
31	Kanred check	5146		5-18	6-15	29	100	156	165	175	16.5	32.7	
40	" "	5146		5-18	6-14	31	100	182	186	198	18.9	29.8	
50	" "	5146		5-17	6-14	29	99	152	160	176	16.3	29.1	
					Average all Kanred checks - - - -						17.2	30.5	

a/ and b/ indicates tie

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY

AGRONOMIC AND QUALITY DATA

Data obtained by the Division of Cereal Crops and Diseases in cooperation with the State Agricultural Experiment Station

Table Agronomic data averaged for 20 varieties of winter wheat grown on two replicated plots on cropped land and two replicated plots on fallowed land, 1/50 acre size, Fort Hays Experiment Station, Hays, Kansas, 1933.

DATE OF SEEDING _____ DATE OF EMERGENCE _____

VARIETY	C. I. No.	DATES		DAYS TO MATURITY FROM		STAND	WINTER SURVIVAL	HEIGHT	RUST		LODGING	ACRE YIELD			GRAIN QUALITY		
		Headed	Ripe	Emergence	Heading				Leaf	Stem		Grain		[illegible] Straw	Test weight per bushel	Protein content	U. S. grade
						Per ct.	*Per ct.*	*Inches*	*Per ct.*	*Per ct.*	*Per ct.*	*Bushels*	*Pounds*	*Pounds*	*Pounds*	*Per ct.*	
Early Blackhull	8856	5-9	6-11	219	33		100	33				21.6		1	57		
Quivira	8886	5-9	6-13	219	35		100	33				18.4		5	55		
Blackhull	6251	5-16	6-16	226	31		100	32				18.1		7	56		
Marquis x Kanred H.C.318	11374	5-12	6-15	222	34		90	31				16.5		12	56		
Tenmarq Kan. 514	6936	5-15	6-15	225	31		100	31				18.0		8	52		
Tenmarq Kan. 2670	10089	5-14	6-15	224	32		100	32				18.3		6	51		
Kanred	5146	5-20	6-16	230	27		100	30				16.4		13	53		
Turkey	1533	5-21	6-16	231	26		100	30				15.4		15	55		
Kharkof Hays No. 2	6686	5-22	6-17	232	26		100	30				15.6		14	55		
Kharkof	1442	5-21	6-17	231	27		100	30				13.1		19	53		
Oro	8220	5-21	6-17	231	27		100	30				17.4		10	53		
Minturki	6155	5-22	6-18	232	27		100	31				12.5		20	52		
Nebr. No. 60	6250	5-21	6-18	231	28		100	29				17.3		11	54		
Cooperatorka	8861	5-20	6-16	230	27		95	31				14.5		17	55		
Cheyenne	8885	5-18	6-16	228	29		100	27				17.9		9	57		
P 1066-1 x Burbank	10087	5-17	6-15	227	29		100	27				18.5		4	53		
Marquis x Kanred H.C. 312		5-19	6-18	229	30		90	29				14.4		18	54		
Kawvale	8180	5-16	6-15	226	30		100	29				15.1		16	50		
Kanred x Hard Federation Kan. 2671	11373	5-9	6-12	219	34		100	28				19.6		2	56		
Kanred x Hard Federation Kan. 2672	10091	5-9	6-12	219	34		100	27				18.7		3	55		

Stand - 100 per cent in fall

Rust: None; None

Lodging: None

U. S. GOVERNMENT PRINTING OFFICE: 1931 8—2503

Table Individual and average yields in pounds for 1/50 acre plots, also average bushel yield per acre for winter wheat replicated twice on cropped land and twice on fallow land, Fort Hays Experiment Station, Hays, Kansas, 1933. Also average bushel yield per acre for the cropped and fallowed plots and rank of varieties.

Plot No.	Variety	C.I. No.	Yield in pounds per plot and bushels per acre: Cropped land: Pounds: Series 1	Cropped land: Pounds: Series 2	Cropped land: Ave.	Cropped land: Ave. acre bus.	Cropped land: Test Wt. per bus.	Fallowed land: Pounds: Series 1	Fallowed land: Pounds: Series 2	Fallowed land: Ave.	Fallowed land: Ave. acre bus.	Bus. per acre all plots	Test Wt. per bus.	Variety rank
1	Early Blackhull	6836	30.0	18.5	24.3	20.2	58	30.0	24.5	27.3	22.7	21.5	56	1
2	Quivira	6835	24.0	18.5	21.3	17.7	55	21.5	24.0	22.8	19.0	18.3	55	5
3	Blackhull	6251	23.5	17.5	20.5	17.1	57	21.5	24.0	22.8	19.0	18.0	56	7
4	Marquis x Kanred H.C. 318	11374	19.5	15.5	17.5	14.6	57	21.0	23.0	22.0	18.3	16.5	56	12
5	Tenmarq Kan. 514	6836	20.0	19.0	19.5	16.3	58	22.5	24.5	23.5	19.6	17.9	52	8
6	Tenmarq Kan. 2670	10089	22.5	20.5	21.5	17.9	52	25.0	21.5	22.3	18.5	18.2	51	6
7	Kanred	5146	22.5	17.5	20.0	16.7	53	19.5	19.0	19.3	16.0	16.4	52	13
8	Turkey	1568	21.5	15.5	18.5	15.4	55	17.5	19.5	18.5	15.4	15.4	54	15
9	Kharkof Hays No. 2	6838	26.5	15.5	21.0	17.5	56	14.5	18.0	16.3	13.5	15.5	55	14
10	Kharkof	1442	25.5	11.5	18.5	15.4	54	11.5	14.5	13.0	10.8	13.1	52	19
11	Ore	6220	29.0	13.5	21.3	17.7	53	18.0	22.5	20.3	16.9	17.3	53	10
12	Minturki	6155	16.5	11.5	14.0	11.7	52	15.5	13.0 16.0	15.8	13.1	12.4	52	20
13	Nebraska No. 60	6250	26.0	16.0	21.0	17.5	55	21.0	20.0	20.5	17.1	17.3	54	11
14	Cooperatorka	6861	20.0	13.5	16.8	14.0	55	18.5	17.5	18.0	15.0	14.5	56	17
15	Cheyenne	6835	21.5	15.5	18.5	15.4	57	26.5	22.0	24.3	20.2	17.8	57	9
16	P 1066-1 x Burbank	10087	23.0	18.5	20.8	17.3	54	27.5	19.5	23.5	19.6	18.4	53	4
17	Marquis x Kanred H.C. 312		17.5	12.5	15.0	12.5	54	22.5	16.5	19.5	16.3	14.4	53	18
18	Kanvale	6180	18.0	15.0	16.5	13.8	51	21.0	18.0	19.5	16.3	15.0	49	16
19	Kanred x Hard Federation Kan. 2671	11375	19.0	17.5	18.3	15.2	56	31.5	25.5	28.5	23.8	19.5	56	2
20	Kanred x Hard Federation Kan. 2672	10091	15.0	17.0	16.0	13.3	56	30.0	27.5	28.8	24.0	18.6	55	3

Table Individual row yields in grams and average yields in bushels for winter wheat grown in the winter hardy nursery, in replicated nursery plots of three rows 16 feet long and 12 inches apart, Fort Hays Experiment Station, Hays, Kans., 1935. Also rank in yield for the varieties within the group.

1935 Row No.	Variety	C.I. No.	Other identification numbers	Weight in grams from center row from series 1	2	3	Yield per acre Bus.	Rank within group	1935 Percent survival at Hays	1935 Percent survival 17 U. S. Stations
1	Kharkof	1442		123	142	160	14.2	16	100	45.7
2	Nebraska No. 60	6250	Nebr. No. 60	121	125	154	13.3	20	100	48.5
3	Cheyenne	8835	Nebr. No. 1050	148	183 188	195	17.6	7	100	44.1
4	Turkey Sel.	10015	Nebr. No. 1062	130	182	196	17.2	8	100	47.8
5	Turkey Sel.	10016	Nebr. No. 1069	142	150	182	15.8	12	100	46.1
6	Kanred	5146		156	166	190	16.4	11	100	44.7
7	Blackhull	6251		170	199	214	19.4	5	99	35.8
8	Tomarê Sel.	10089	Kans. No. 2670	162	177	206	18.2	6	99	29.9
9	Quivira	8896	Kans. No. 2628	214	221	240	22.5	3	99	41.5
10	Kanred x Hard Federation	11373	Kans. No. 2671	224	260 164	258 256	24.7	2	99	42.1
11	Kanred x Hard Federation	10091	Kans. No. 2672	228	270	288	26.2	1	99	32.9
12	P-1066-1 x Burbank	10087		176	230	210	20.5	4	99	38.8
13	Iowin	10017		140	158	164	15.2	15	100	41.1
14	Wisconsin Sel. 21.25	10018	Wis. No. 21.25	108	116	127	11.7	22a/	100	50.3
15	Minturki x Turkey	11500	Wis. No. 61.26	104	101	140	12.2	21a/	100	55.8
16	Turkey x Minessa	11505	Nur. No. 48	66	65	82	7.0	28	100	56.1
17	Turkey x Minessa	8887		94	95	110	9.9	25	100	59.9
18	Kanred x Minessa	8045		116	144	204	15.5	13	100	60.0
19	Turkey	6152	Minn. No. 1488	84	80	130	9.8	26	100	55.9
20	Minturki	6155	Minn. No. 1507	134	132	170	14.5	17	100	56.2
21	Minhardi x Minturki	8215	Minn. No. 2312	142	145	171	15.5	14	100	62.0
22	Minard x Minhardi	8218	Minn. No. II-20-20	102	100	125	10.9	24	100	62.4
23	Minard x Minhardi	8369	Minn. No. 2314	135	130	148	13.7	19	100	58.2
24	Minturki x Marquis	11501	Minn. No. II-22-7	112	110	128	11.7	22b/	96	50.5
25	Minturki x Marquis	11502	Minn. No. II-22-38	158 158	151	190	16.6	10	97	50.9
26	Wheat x Rye	11503	Alberta No. I-27-11	120	106	140	12.2	21b/	100	55.5
27	Wheat x Rye	11504	Alberta No. I-27-12	158	148	198	16.8	9	100	53.2
28	Minhardi	5149	Minn. No. 1505	110	112	134	11.5	25	100	61.0
29	Lutescens	8896		88	72	88	8.1	27	100	69.9
30	Fulcaster	6471		146	130	170	14.9	16	96	36.5

a/ and b/ indicates a tie.

TABLE ____ INDIVIDUAL PLAT YIELDS, WINTER WHEAT VARIETIES -BOZEMAN, MONT. 1933

Variety	Mont. No.	Bushels per acre by replications I	II	III	Ave.	E_m
		Triplicated 1/40 acre plats				
Cheyenne	81	45.7	35.7	50.3	43.9	± 2.91
Montana 36	36	43.7	33.7	42.3	39.9	± 2.11
Turkey	4	41.7	26.7	47.3	38.6	± 4.15
Oro	68	39.7	30.3	44.3	38.1	± 2.78
Jone's Fife	16	24.0	28.3	34.3	28.9	± 2.02
Average					37.9	± 2.79
		Triplicated 1/120 acre plats				
Karmont	7	50.0	60.0	41.0	53.3	± 4.16
Mint. x Bal. x Buf.	64	61.0	53.0	46.0	53.3	± 2.92
Min. x Mint.	73	61.0	53.0	46.0	53.3	± 2.92
Kharkov	3	61.0	55.0	43.0	53.0	± 3.57
Kanred	2	63.0	49.0	43.0	51.7	± 4.00
Nebraska 60	5	63.0	45.0	45.0	51.0	± 4.05
Minard x Minh.	95	60.0	45.0	48.0	51.0	± 3.09
Turk.6152 x Minessa	91	54.0	47.0	48.0	49.7	± 1.48
Mont. 36	36	55.0	55.0	38.0	49.3	± 3.82
Newturk	33	55.0	57.0	33.0	48.3	± 5.19
Turkey x Florence	52	50.0	44.0	49.0	47.7	± 1.26
Eureka x Minh.	75	41.0	38.0	63.0	47.3	± 5.32
Quivira	89	43.0	40.0	49.0	44.0	± 1.79
Minh. x Mint.	92	48.0	39.0	41.0	42.7	± 1.84
Minturki	10	51.0	37.0	38.0	42.0	± 3.04
Turk x Mint.	56	40.0	35.0	50.0	41.7	± 2.98
Average					48.7	± 3.21

TABLE ____ AGRONOMIC DATA - WINTER WHEAT VARIETIES GROWN IN PLATS - - BOZEMAN, MONTANA - - 1933

Seeded Sept. 7, 1932 — Emerged Sept. 16, 1932 — No irrigation

Variety	C. I. No.	Mont. No.	Dates Headed	Dates Ripe	Days to maturity from Emergence	Days to maturity from Heading	Height In.	Lodging %	Lbs. Per bu.	Acre Yield bu.	Acre Yield Lbs. Grain	Acre Yield Lbs. Straw	% Protein
					Triplicated 1/40 acre plats								
Cheyenne	8835	81	6/30	7/25	312	26	35	0	63.8	43.9	2632	6768	14.94
Montana 36	5549	36	6/27	7/26	313	30	36	10	63.6	39.9	2392	6528	15.65
Turkey	6152	4	6/26	7/26	313	31	36	13	62.9	38.6	2312	6808	13.56
Cro2	8220	68	6/27	7/26	313	30	34	0	63.6	38.1	2288	6688	15.74
Jones Fife	4162	16	6/22	7/26	313	35	44	0	63.1	28.9	1732	6212	13.43
					Triplicated 1/120 acre plats								
Karmont	6700	7	6/26	7/24	311	29	35	2	63.2	53.3	3204	7920	14.42
Mint.x Bel. x Buf.	8033	64	6/29	7/24	311	26	34	2	62.2	53.3	3204	7596	13.45
Minh. x Mint.	8034	73	6/30	7/26	313	27	37	3	63.0	53.3	3204	7440	13.77
Kharkov	1442	3	6/28	7/25	312	28	36	3	63.3	53.0	3180	7620	15.37
Kanred	5146	2	6/29	7/25	312	27	34	2	63.5	51.7	3096	6504	15.33
Nebraska 60	6250	5	6/22	7/26	313	35	32	2	63.6	51.0	3060	6984	14.92
Minard x Minhardi	8389	95	6/23	7/26	313	34	36	1	62.8	51.0	3060	7536	14.03
Turkey x Minessa	88877	91	6/26	7/26	313	31	35	2	62.9	49.7	2976	6744	13.23
Montana 36	5549	36	6/27	7/25	312	29	34	7	63.5	49.3	2964	7560	15.65
Newturk	6935	33	6/26	7/24	311	29	36	2	63.1	48.3	2904	7056	13.88
Turkey x Florence	----	52	6/23	7/26	313	34	36	0	62.7	47.7	2856	6696	12.39
Eureka x Minh.	8036	75	6/22	7/24	311	33	33	3	63.6	47.3	2844	7320	12.69
Quivira	8886	89	6/18	7/24	311	37	36	4	62.9	44.0	2640	6564	13.19
Minh. x Mint.	8215	92	6/29	7/25	312	27	37	0	62.1	42.7	2556	7236	14.83
Minturki	6155	10	6/29	7/25	312	27	38	0	61.8	42.0	2520	7164	14.42
Turk. x Mint. N. N. 487	----	56	6/26	7/25	312	30	37	1	62.9	41.7	2496	6816	13.98

Spring survival 100% for all varieties.

Project: Havre 7, Montana 345.

WINTER WHEAT VARIETIES

Havre, Montana, 1933.

Fifteen varieties and hybrid selections of winter wheat were seeded on fallow September 23, 1932, with a furrow drill in triplicated 1/50 acre plats. The rate of seeding was approximately one bushel per acre, seed of all varieties being treated with copper carbonate. Soil moisture conditions favored uniform emergence on Oct 2.

The winter of 1932-1933 was characterized by light snowfall with several extended periods during which the ground was completely bare. Soil drifting occurred on two or three occasions, damaging stands on exposed knowls. Under such conditions, winter survival was not good. Commercial varieties, including Nebraska 60, Kanred, Montana 36, and Newturk had stands varying from 39 to 13 percent. A number of hybrid selections had distinctly better survivals, C.I. Nos. 8215, 8033, 8888, and 8028 having stands estimated at 66 to 56 percent. Owing to tillering the stands at harvest of all plats were much improved.

A serious Russian thistle weed problem made it impossible to harvest this test with a binder. Yield data were obtained, however, from two furrow drill rows 22 feet in length taken from each plat along the western border of the project. Results for 1933 are summarized in a table following. The yields of C.I. 8888, 8887, 8042, Montana 36, Yogo, and C.I. 8028 were 6.6, 6.4, 6.3, 6.0, 5.3 and 5.1 bushels per acre respectively. Kharkof, Newturk and Karmont were lowest in yield, varying from 3.8 to 3.5 bushels. Drouth and extreme heat greatly reduced production.

Average yield comparisons from 1927 to 1933 show that Montana 36, C.I. 8028, Kharkof, Newturk, Karmont and Kanred ranked as listed. During the period 1931 to 1933, such varieties as Yogo, Minturki, C.I. 8028, C.I. 8034, C.I. 8889, and Montana 36 have had a slight advantage over Karmont, Nebraska 60, Kanred, and Kharkof.

Agronomic data recorded for 15 varieties of winter wheat sown on fallow with a furrow drill in triplicated 1/50 acre plats.*

Havre, Montana, 1933.

Sown Sept. 23, Emerged Oct. 2, 1932.

Variety or Hybrid	C.I. No.	Date Headed	Date Ripe	Days Emergence to Maturity	Days Heading to Maturity	Stand % In Spring	Stand % At Harvest	Height At Heading	Height At Harvest	Yield: Bushels per Acre* 1st Rep	2nd Rep	3rd Rep	Ave. Yield	Wt. per Bu	Rank
Montana No. 36	5549	6-18	7-18	289	30	27	43	20	20	4.1	8.9	5.1	6.0	60.8	4
Kanred	5146	6-17	7-18	289	31	34	50	20	20	3.4	6.2	5.7	5.1	60.8	9
Nebraska No. 60	6250	6-17	7-18	289	31	39	50	19	19	4.7	3.6	5.1	4.5	60.2	10
Karmont	6700	6-20	7-18	289	28	10	18	18	18	2.3	3.5	4.6	3.5	60.2	15
Newturk	6935	6-19	7-18	289	29	13	13	19	20	3.3	4.8	2.9	3.7	60.8	14
Kharkof	1442	6-18	7-18	289	30	12	17	18	18	2.0	4.9	4.5	3.8	61.4	13
Turkey X Minessa	8028	6-20	7-18	289	28	56	72	18	20	3.6	3.7	8.1	5.1	60.2	8
Minhardi X Minturki	8215	6-20	7-18	289	28	66	80	20	20	3.3	4.8	5.2	4.4	61.4	12
Minhardi X Minturki	8034	6-21	7-18	289	27	43	68	19	20	2.5	4.5	6.5	4.5	61.4	11
Yogo	8033	6-20	7-18	289	28	64	78	20	20	3.6	5.8	6.5	5.3	61.4	5
Minard X Minhardi	8889	6-18	7-18	289	30	52	67	21	21	4.6	5.6	5.5	5.2	61.4	6
Minturki	6155	6-19	7-18	289	29	51	67	20	20	5.1	4.9	5.7	5.2	60.8	7
Turkey X Minessa	8887	6-21	7-18	289	27	54	67	18	21	7.3	5.8	6.0	6.4	60.2	2
Minard X Minhardi	8888	6-18	7-18	289	30	62	77	20	20	7.9	5.6	6.3	6.6	61.4	1
Kanred X Minhardi	8042	6-19	7-18	289	29	54	62	20	20	7.5	6.3	5.1	6.3	60.4	3

* Owing to excessive growth of Russian thistles, it was impossible to harvest these plats with a binder. Yield data were obtained from 2 furrow drill rows 22 feet in length taken from each plat along the western border of the project.

Annual and average yields of certain winter wheat varieties grown on fallow in plat experiments.

Havre, Montana, 1927 to 1933.

Variety or Hybrid	C.I. No.	Annual Yields: Bushels per Acre- 1927	1928	1929	1930	1931	1932	1933	Average 1927 to 1933	Average 1931 to 1933
Montana 36	5549	46.5	39.2	18.4	4.5	4.6	5.6	6.0	17.8	5.4
Kanred	5146	35.4	34.0	13.8	4.5	4.1	4.5	5.1	14.5	4.6
Karmont	6700	37.4	38.2	13.2	3.1	3.9	7.2	5.5	15.2	4.9
Newturk	6935	45.7	36.7	11.5	4.2	3.7	7.5	3.7	16.1	5.0
Kharkof	1442	46.1	38.7	13.6	4.2	3.6	4.2	3.8	16.3	3.9
Turkey X Minessa	8028	45.3	31.5	16.1	5.6	3.0	12.8	5.1	17.1	7.0
Nebraska No. 60	6250					3.4	6.1	4.5		4.7
Minhardi X Minturki	8034					3.2	9.5	4.5		5.7
Do	8215					3.6	11.4	4.4		6.5
Yogo	8033					3.4	14.7	5.3		7.8
Minard X Minhardi	8889					3.9	7.8	5.2		5.6
Minturki	6155					4.1	13.1	5.2		7.5

TABLE ___ AGRONOMIC DATA, WINTER WHEAT VARIETIES, TRIPLICATED 3-ROW BLOCKS, BOZEMAN, 1933

Seeded - September 7, 1932 | Emerged - Sept. 14, 1932 | Irrigated - None

Variety	Row No.	Mont.or C.I. No.	Dates Headed	Dates Ripe	Days to Maturity from Emergence	Days to Maturity from Heading	Spring Survival %	Height Ins.	Lodging %	Shattering %	Protein %	Lbs. per Bu.	Bus. per Acre
Turkey x Minessa	162	8887	20	26	315	36	—	40	15	2		62.8	74.9
Cheyenne	121	8885	22	25	314	33	—	40	0	14		63.9	73.7
Smithsonian	114	98	21	25	314	34	—	44	17	0		63.2	67.5
Mint. x Bel. x Buf.	139	8033	23	25	314	32	97	34	0	1		63.8	67.3
Beloglina Sel.	126	8884	22	27	316	35	--	39	2	2		63.5	66.9
Minturki x Turkey	125	11500	21	27	316	36	--	40	0	33		63.9	66.5
Turkey	117	6152	22	24	313	32	—	40	14	8		63.9	65.9
Turkey x Minhardi	159	8217	22	25	314	33	—	40	0	3		63.1	65.9
Wheat - Rye	113	8890	24	28	317	34	—	43	25	13		62.7	65.8
Iowa 1946	111	8	22	25	314	33	—	46	13	8		63.5	65.3
Kharkov	123	1442	22	27	316	35	—	40	0	4		63.1	64.3
Nebraska 60	122	6250	22	26	315	34	—	41	0	4		63.7	63.9
Turkey 6152x Minessa, N.N.48	174	—	24	26	315	32	—	39	0	1		62.0	63.5
Lutescens	148	8896	24	27	316	33	--	40	2	11		61.5	61.8
Kanred x Buffum 17	169	8030	26	26	315	30	—	36	1	2		63.8	61.5
Turkey (Neb.60)	171	6250	22	26	315	34	--	38	0	2		62.8	61.4
Ukrainka	107	50	26	26	315	30	100	42	20	32		63.2	61.1
Newturk	104	6935	24	26	315	32	45	37	3	3		63.0	59.3
Kan. x Bel.x Buf. N.N.497	155	58	22	24	313	32	--	40	5	4		63.2	58.7
Kanred x Minhardi	149	8042	23	25	314	32	--	39	0	32		62.5	58.6
Minard x Minhardi	146	8889	21	25	314	34	--	39	2	2		62.9	58.6
Minard x Minhardi	144	8218	23	25	314	32	95	38	1	5		63.0	57.8
Tenmarq Sel.	106	10089	20	25	314	35	90	34	0	28		62.2	57.5
Iowin	115	10017	23	26	315	33	--	39	1	10		64.2	57.4
Mont. 36 Av. of 9 checks		5549	23	25	314	32	—	36	2	2		63.6	56.5
Turkey x Mint. N.N.487	163	56	24	26	315	32	—	38	18	43		63.4	56.2
Kanred x Minhardi	173	10000	21	25	314	34	--	36	0	9		62.8	55.8
Turkey x Minessa	128	11505	28	26	315	28	—	38	30	0		62.5	55.4

TABLE ___ CONT'D.

Seeded - September 7, 1932 | Emerged - Sept. 14, 1932 | Irrigated - None

Variety	Row No.	Mont.or C.I.No.	Dates Headed	Dates Ripe	Days to Maturity from Emergence	Days to Maturity from Heading	Spring Survival %	Height Ins.	Lodging %	Shattering %	Protein %	Lbs. per Bu.	Bus. per Acre
Minhardi x Minturki	145	8215	22	25	314	33	100	38	1	22		63.3	55.0
Kanred x Turkey N.N.511	158	67	25	26	315	31	—	38	8	32		62.7	54.7
Kanred x Minessa	151	8045	21	25	314	34	—	36	3	1		64.2	54.5
Turkey Sel.	119	10016	20	24	313	34	—	34	0	6		63.0	54.0
Turkey Sel.	118	10015	20	24	313	34	—	36	0	13		64.4	53.5
Minhardi	138	5149	22	26	315	34	—	35	0	18		62.5	53.0
Kanred	102	5146	26	25	314	29	70	33	0	2		64.3	52.5
P1066-1 x Burbank	124	10087	20	25	314	35	—	38	0	45		64.2	52.5
Minhardi x Minturki	141	8034	24	26	315	32	95	33	0	1		64.5	52.4
Eureka x Minhardi	142	8036	22	24	313	32	90	35	1	2		63.3	51.4
Kharkov	172	6938	23	27	316	34	—	39	0	33		60.5	51.3
Karmont	103	6700	25	25	314	30	60	36	7	4		63.6	51.2
Wheat x Rye	156	11503	22	24	313	32	—	41	4	6		63.7	50.8
Buffum No. 17	112	3330	27	29	318	32	—	45	30	0		62.8	50.3
Ridit	132	6703	20	25	314	35	—	35	0	1		63.0	49.4
Wheat x Rye	157	11504	23	25	314	32	—	44	0	57		61.5	49.3
Turkey x Florence	164	52	20	25	314	35	—	39	15	1		62.6	49.3
Turkey x Minessa2	168	8028	23	26	315	33	—	37	0	59		63.5	49.2
Cooperatorka	108	49	23	25	314	32	97	40	0	52		62.7	49.2
Jones Fife	105	4162	20	25	314	35	100	41	0	33		62.6	49.0
Turkey x Bearded Minn.48	161	8245	20	25	314	35	—	34	8	1		63.4	48.4
Minturki x Marquis	145	11501	22	25	314	33	—	38	2	1		62.8	47.6
Wisconsin 21-25	136	10018	24	26	315	32	—	36	0	17		62.3	47.0
Oro	129	8220	27	25	314	28	—	32	1	3		63.8	46.6
Blackhull	127	6251	28	27	316	29	—	35	25	3		63.0	46.4
Albit	133	8275	27	30	319	33	—	38	0	0		62.4	45.7
Kawvale	134	8180	26	25	314	29	—	32	0	63		63.7	45.5
Marquis x Kanred	154	11374	28	24	313	26	—	33	0	1		64.4	44.3
Minturki x Marquis	147	11502	21	25	314	34	—	39	0	20		62.0	44.2
Quivira	152	8886	20	24	313	34	—	33	0	17		63.3.	43.4
Pulcaster	135	6471	26	25	314	29	—	32	0	35		63.3	42.9
Kanred x Nd. Fed.	153	11373	22	24	313	32	—	29	0	0		62.6	42.5

TABLE ___ CONT'D.

Variety	Row No.	Montlor C.I.No.	Seeded - September 7, 1932 Dates Headed	Ripe	Emerged - Sept. 14, 1932 Dys. to Maturity from Emergence	Heading	Spring Survival %	Height Ins.	Irrigated - None Lodging %	Shattering %	Protein %	Lbs. per Bu.	Lbs. per Acre
Wisconsin 18.4	137	10019	22	25	314	33	—	36	0	83		62.8	41.3
Berkley Rock	109	8272	22	24	313	32	—	45	0	75		61.3	40.9
Kanred x Hd. Fed.	116	10091	20	24	313	34	—	32	0	85		64.4	40.5
Hunters Wheat N.Z.	175	—	30	8-2	322	33	--	40	0	2		59.5	35.9
Velvet Wheat - N.Z.	176		28	31	320	33	--	42	0	1		60.2	35.7
Minturki	131	6155	27	25	314	28	--	34	2	5		63.3	30.2

* Spring survival note taken July 26, 1933. Killing was due to smothering caused by an ice sheet over part of the nursery wherever survival figures are given. Only second replication used for rows 102, 103, 104, 105, 106, 107 and 108; Third replication used for rows 139, 141, 142, 143, 144.

Yields by replications, winter wheat varieties, Bozeman, Mont: 1933

Variety	C. I. or Mont. No.	1933 Row No.	REPLICATIONS - BUSHELS PER ACRE I.	II	III	Av.	Rank
Triplicated 3-Row Blocks							
Mont. 36	5549	101	73.0	58.2	66.6	65.9	--
Kanred	5146	102	56.5	48.0	52.9	52.5	34
Karmont	6700	103	52.0	32.8	68.8	51.2	39
Newturk	6935	104	66.0	34.8	77.2	59.3	17
Jone's Fife	4162	105	47.4	59.0	40.6	49.0	47
Tenmarq Sel.	10089	106	65.0	46.6	65.0	57.5	22
Ukrainka	50	107	63.4	59.0	61.0	61.1	16
Cooperatorka	49	108	56.3	42.5	48.9	49.2	46
Berkley Rock	8272	109	45.5	41.9	35.2	40.9	61
Mont. 36	5549	110	73.0	52.0	47.5	57.4	--
Iowa 1946	8	111	70.4	63.4	62.0	65.3	10
Buffum 17	3330	112	56.5	50.3	44.2	50.3	41
Wheat-Rye	8890	113	62.7	60.0	74.8	65.8	9
Smithsonian	98	114	76.5	61.0	65.0	67.5	3
Iowin	10017	115	54.7	54.8	63.2	57.4	23
Kan. x Hd.Fod.	10091	116	35.8	43.2	42.6	40.5	62
Turkey	6158	117	57.8	69.0	71.0	65.9	7
Turkey Sel.	10015	118	50.8	46.8	63.0	53.5	32
Turkey Sel.	10016	119	50.3	50.6	61.0	54.0	31
Mont. 36	5549	120	61.0	55.5	68.0	61.8	--
Cheyenne	8585	121	69.0	74.0	78.2	73.7	2
Nebraska 60	6250	122	64.0	68.8	58.3	63.9	11
Kharkof	1443	123	60.8	61.0	71.0	64.3	10
P1066-1xBurbank	10087	124	42.4	52.4	62.8	52.5	35
Minturki x Turk.	11500	125	56.4	70.0	73.0	66.5	6
Beloglina Sel.	8884	126	68.8	58.0	74.0	66.9	5
Blackhull	6251	127	33.7	50.8	54.7	46.4	52
Turkey x Minessa	11505	128	49.8	57.3	59.2	55.4	27
Oro	8220	129	31.4	43.3	65.0	46.6	51
Mont. 36	5549	130	25.0	57.3	57.4	46.9	--
Minturki	6135	131	33.5	37.4	19.6	30.2	65
Ridit	6703	132	28.2	51.0	69.0	49.4	42
Albit	8275	133	29.8	51.8	55.5	45.7	53
Kawvale	8180	134	32.0	48.8	55.6	45.5	54
Fulcaster	6471	135	30.8	46.6	51.2	42.9	58
Wisconsin 21.25	10018	136	39.5	47.2	54.2	47.0	50
Wisconsin 18.4	10019	137	26.0	49.0	49.0	41.3	60
Minhardi	5148	138	45.9	56.0	57.0	53.0	33
Mint.xBel.xBuf.	8033	139	71.0	76.8	54.0	67.3	4
Mont. 36	5549	140	47.3	45.5	35.2	42.7	--
Minh.x Mint.	8034	141	51.2	61.0	45.0	52.4	36
Eureka x Minh.	8036	142	50.2	52.0	52.1	51.4	37
Minh. x Mint.	8215	143	43.0	58.1	64.0	55.0	28
Minard x Minh.	8218	144	50.7	66.8	55.8	57.8	21
Mint. x Marq.	11501	145	47.3	47.2	48.4	47.6	49
Minard x Minh.	8889	146	55.9	66.8	53.2	58.6	20
Mint. x Marq.	11502	147	41.3	48.8	48.6	44.8	56
Lutescens	8896	148	57.2	67.2	61.0	61.8	13
Kanred x Minh.	8042	149	48.4	72.4	54.9	58.6	19
Mont. 36	5549	150	43.2	77.8	44.8	55.3	--
Kanred x Minessa	8045	151	39.7	68.6	55.3	54.5	30

Variety	C.I. or Mont. No.	1933 Row No.	REPLICATION - BUSHELS PER ACRE I	II	III	Av.	
			Triplicated 3-Row Blocks				
Quinira	8886	152	35.5	62.0	34.7	43.4	57
Kanred x Hd. Fed.	11373	153	28.8	57.5	41.3	42.5	59
Marquis x Kanred	11374	154	37.0	59.0	37.0	44.3	55
Kan. x Bel.xBuf. NN 497	58	155	51.0	67.8	57.3	58.7	18
Wheat x Rye	11503	156	60.6	48.4	43.5	50.8	40
Wheat x Rye	11504	157	45.4	57.8	44.8	49.3	43
Kan.xTurkey NN 511	67	158	53.9	63.0	47.3	54.7	29
Turkey x Minh.	8217	159	62.0	70.8	65.0	65.9	8
Mont. 36	5549	160	50.8	68.0	56.0	58.3	—
Turkey x Bearded Minn. 48	8243	161	35.2	55.8	54.3	48.4	48
Turkey x Minessa	8887	162	77.0	66 .8	81.0	74.9	1
Turkey x Mint. NN 487	56	163	43.7	71.0	54.0	56.2	25
Turkey x Florence	52	164	34.1	64.6	49.1	49.3	44
Turkey x Minessa	8028	168	35.8	60.8	51.1	49.2	45
Kanred x Buffum 17	8030	169	52.3	68.3	64.0	61.5	14
Mont. 36	5549	170	48.1	63.0	58.2	56.4	--
Turkey Sel.	6250	171	55.2	69.0	60.0	61.4	15
Kharkof	6938	172	51.2	56.4	46.4	51.3	38
Kanred x Minh.	10000	173	51.0	57.6	58.9	55.8	26
Turkey 6152 x Minessa NN 48	—	174	58.2	74.3	58.1	63.5	12
Hunter's wheat N.Z.	—	175	43.4	32.8	31.5	35.9	63
Velvet Wheat N.Z.	—	176	30.3	46.4	30.4	35.7	64
Mont. 36	5549	177	55.8	75.2	60.6	63.9	—
Mont. 36 (Av. of 9 checks)		—	53.1	61.4	55.0	56.5	24

Table Agronomic data, individual plot and average yields of varieties and selections of winter wheat grown in four 3-row plots at the Judith Basin Branch Station, Moccasin, Montana in 1933. (Rows 16 feet long - center row harvested for yield).

Date of seeding: September 6&7, 1932 Date of emergence: Sept. 14&15

VARIETY, HYBRID, OR SELECTION	C.I. Nursery No.	% Stand Spring I	II	III	IV	Grams per row I	II	III	IV	avg
Kanred Check	5146				5				30	
Minhardi check	5149				10				46	
Kharkof	1442				5				16	
Nebr. 60	6250				40				74	
Cheyenne	8885				20				28	
Turkey Sel.	10015				15				42	
Do	10016				30				58	
Blackhull	6251				3				13	
Tenmarq Sel.	10089				1				8	
Kanred x Prelude	8886				35				58	
Kanred check	5146				50				79	
Minhardi check	5149				75				97	
Kanred x Hd. Fed.	11373				25				38	
Do	10091				10				37	
P10660 x Burbank	10087				75				82	
Iowin	10017				35				43	
Wisc. Sel.21.25	10018				50				54	
Minturki x Turkey	11500				45				74	
Turkey x Minessa	11505				30				38	
Do	8887				a				20	
Kanred check	5146			30	a			112	58	85.0
Minhardi check	5149			100	a			148	19	83.5
Kanred x Minessa	8045			100	a			168	26	97.0
Turkey	6152			95	a			156	3	79.5
Minturki	6155			95	a			173	24	98.5
Minhardi x Minturki	8215			95	a			146	18	82.0
Minard x Minhardi	8218			100	a			174	16	95.0
Do	8889			75	a			156	52	104.0
Minturki x Marquis	11501			70	a			124	69	96.5
Minturki x Marquis	11502			75	a			144	85	114.5
Kanred check	5146			90	40	65.0		181	66	123.5
Minhardi check	5149			95	75	85.0		167	68	117.5
Wheat x Rye	11503			45	40	42.5		135	62	98.5
Do	11504			5	50	27.5		68	72	70.0
Lutescens	8896			80	95	87.5		104	67	85.5
Fulcaster	6471				5				20	
Oro	8220				40				60	
Minhardi x Minturki	8034				75				100	
Eureka x Minhardi	8036				100				93	
Kanred x Minhardi	8040				60				68	
Kanred check	5146				0				0	
Minhardi check	5149				20				48	
Kanred x Minhardi	8042				25				46	
Minard x Minhardi	8888				45				114	

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Table continued

VARIETY, HYBRID, OR SELECTION	C.I. Nursery No.	% Stand Spring I	II	III	IV	avg.	Grams per Row I	II	III	IV	avg.
Yogo	8033				40					103	
Karmont	6700				5					34	
Newturk	6935				5					56	
Buffum	3330		80		40	60.0		134		90	112.0
Kanred x Minhardi	10000		40		15	27.5		76		96	86.0
Do	NN133		30		15	22.5		82		88	85.0
Kanred check	5146		10		0	5.0		86		10	48.0
Minhardi check	5149		75		25	50.0		136		82	109.0
Kanred x Bel-Buff	NN151		75		10	42.5		164		--	
Minturki x Bel-Buf	NN160		75		20	47.5		110		86	98.0
Minard	6690		75		15	45.0		127		68	97.5
Minessa	6154		75		5	40.0		104		43	73.5
Beloglina x Buffum	5545		75		15	45.0		90		56	73.0
Turkey	1558		50		5	27.5		94		28	61.0
Turkey x Bd.Minn.48	8243		25		1	13.0		74		17	45.5
Rio	10061		10		0	5.0		79		11	45.0
Kanred check	5146		15		0	7.5		68		8	38.0
Minhardi check	5149				30					83	
Hostianum	----				20					106	
Kanred x Marquis IX-3					15					69	
-4					50					153	
-5				25	95	60.0			108	154	131.0
-6				40	60	50.0			123	148	135.5
Minhardi x Eureka BH 11-3				50	20	35.0			118	72	95.0
-5				50					117		
-7				55					115		
Kanred check	5146			25					70		
Minhardi check	5149			40					88		
Kanred x Minturki BH 15-2				50					119		
Minturki x Bacska BH 5-2											
Turkey CI6152 x Kanred BH 25-1											
Do BH 25-3		75					139				
Minturki x Bel-Buf BH 23-2		95					118				
Do -3		95					124				
Turkey x Minturki BH 6-1		95					126				
Kanred x Bel-Buf BH 18-1		95					134				
Kanred check	5146	25					84				
Minhardi check	5149	95					100				
Kanred x Bel-Buf BH 18-6		85					106				
Kanred x Buffum BH 12-1		95		90		92.5	140		200		170.0
-4		95		95		95.0	137		230		183.5
Ukrainka Sel.2		95		90		92.5	98		178		138.0
(Russian) Kans. No.475		100		20		60.0	170		105		137.5
Tuer	7619	95		55		75.0	124		108		116.0
C.I.8034-1		100		75		87.5	152		168		160.0
-3		100		80		90.0	157		173		165.0
Kanred check	5146	100		40		70.0	120		118		119.0
Minhardi check	5149	100		95		97.5	132		122		127.0
C.I.8034-6		100		90		95.0	208		124		166.0
Wheat x Rye(Meister)		80		25		52.5	60		34		47.0

GOVERNMENT PRINTING OFFICE

Table continued

VARIETY, HYBRID, OR SELECTION	Nursery -No.-		Stand Spring	Yield Grams
	Single 16 foot rows			
Montana 36-Newturk x Minhardi-Karmont-Minhardi				
BH 26-75			0	
Kruse (Pubescent)			0	
" (smooth)			0	
Minhardi-Karmont-Minhardi x Kanred-Turkey CI 6152				
BH 28-141			0	
Montana36-Beloglina CI1667 X Minhardi-Karmont-Minhardi				
BH 29-28			0	
-29			0	
-30			0	
-38			0	
-41			0	
-45			0	
-49	Discarded in field		10	
Karmont-Beloglina CI 1667 x Minhardi-Karmont-Minhardi				
BH 30-10	"	" "	15	
-24	"	" "	1	
-28			20	92
Montana 36-Beloglina CI 1667 x Kanred-Turkey CI 6152				
BH 31-12	"	" "	5	
-74	"	" "	1	
-87	"	" "	5	
-90			125	122
-143			30	144
Kanred-(Bel-BufCI 5545)-KarmontX Minhardi-Karmont-Minhardi				
BH 32-15			65	235
-26			65	196
-33			30	104
Karmont-Beloglina CI 1667 x Kanred-(Bel-Buf CI 5545)-Karmont				
BH 34-12			50	160
Kanred-(Bel-BufCI 5545)-Karmont XKarmont-Sherman				
BH 36-10			50	169
-19			55	179
Kanred check			75 60	152
Minhardi check			75	152
BH 36-42			75-	187
-43			75	143
-47			65	140
-51			60	151
-55			75	187
-57	Discarded in field		55	
-74			55	131

GOVERNMENT PRINTING OFFICE

Table continued

VARIETY, HYBRID, OR SELECTION	[illegible] No.		Stand Spring	Yield grams
BH 36-95			50	126
-97			60	132
-103			50	116
-104	Discarded in field		30	
-135	"	" "	25	
-136	"	" "	5	
-142	"	" "	5	
-144	"	" "	0	
Kanred-(Bel-Buf CI5545)-Karmont x Kanred-(Bel-Buf CI5545)-Montana 36-Newturk				
BH 37-12	Discarded in field		10	
Kanred-(Bel-Buf CI5545)-Karmont-Montana-36-NewturkXMinhardi-Karmont-Minhardi				
BH 38-6	Discarded in field		15	
-111			60	180
Kanred check			30	94
Minhardi check			95	164
BH38-156			40	124
Kanred-(Bel-Buf CI5545)-Karmont-Montana 36-NewturkXKarmont-Beloglina CI1667				
BH 39-4	Discarded in field		40	
-9			40	139
-65			35	150
Minhardi x Minturki 12A3B				
BH 43-2			80	198
-4	Discarded in field		60	
-5			60	142
-7			75	168
-13			85	151
-14			95	169
-15			95	220
-16	Discarded in field		75	
Minhardi x Minturki 12A6-B				
BH 44-6			90	144
-10	Discarded in field		90	
-12			100	230
-15			80	142
-18			80	120
-19			100	172
Kanred check			85	136
Minhardi check			100	152
BH 44-21			50	100
-22			50	106

GOVERNMENT PRINTING OFFICE

Table continued

VARIETY, HYBRID, OR SELECTION	Nursery No.				Stand spring	Yield grams
Buffum x Minturki 16A5-B						
	BH 45-1				85	180
	-6				85	136
	-7				75	104
	-8				75	175
	-12	Discarded	in	field	50	
	-15	"	"	"	50	
	-16	"	"	"	25	
	-18	"	"	"	20	
	-20	"	"	"	15	
	-21	"	"	"	30	
	-22	"	"	"	45	
	-27				75	156
Kanred x (Bel-Buf CI 5545) =						
Karmont	BH 54-3				75	178
	-7				75	173
	-17				80	165
	-26	"	"	"	90	
Kanred check					60	130
Minhardi check					100	148
	Bh 54-27				60	161
	-55				85	208
	-58				80	194
	-60				80	174
	-63				90	186
	-64	"	"	"	55	
	-66				60	183
	-67				60	191
	-68	"	"	"	30	
	-75				35	152
	-78	"	"	"	10	
	-83	"	"	"	10	
	-84	"	"	"	10	
	-96	"	"	"	5	
	-97	"	"	"	5	
	-99	"	"	"	1	
	-102	"	"	"	1	
	-107	"	"	"	1	
Kanred check	-	"	"	"	0	
Minhardi check		"	"	"	5	
	BH 54-113	"	"	"	0	
	114	"	"	"	2	
	-122	"	"	"	5	
	-130	"	"	"	10	
	-134	"	"	"	2	
	-135	"	"	"	5	
	-137	"	"	"	5	
	-138	"	"	"	1	
	-139	"	"	"	5	
	-142	"	"	"	5	

GOVERNMENT PRINTING OFFICE

Table continued

VARIETY, HYBRID, OR SELECTION	Nursery No.		Stand spring	Yield grams
BH 54-147		Discarded in field	15	
-149		" " "	15	
-152,		" " "	15	
-156		" " "	20	
-157		" " "	5	
-161			50	128
-162			55	179
-165			75	188
Kanred check			10	68
Minhardi check			100	158
BH 54-166			100	207
-167			100	190
-177			100	186
-182			100	204
-183			100	186
-190			100	166
Karmont x Beloglina CI 1667				
BH 55-1			100	196
-10			100	189
-15			80	
Montana 36 x Beloglina CI 1667				
BH 56-4			100	206
-6			100	200
-7			100	164
-9		Discarded in field	100	
-11			100	147
-14			100	134
-20			100	148
-21			100	150

[a] Covered with a layer of silt which prohibited accurate stand estimates

Note: A number of single rows, including many Russian importations, have been omitted because the stands were destroyed by a layer of silt sic.

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY

Table ___.

AGRONOMIC AND QUALITY DATA

Data obtained by the Division of Cereal Crops and Diseases in cooperation with the State Agricultural Experiment Stations

Lincoln, Nebr., 1932-33.

29 varieties
L.S.D. = 1.7892 bu./A.
P.E. diff. = 1.2068 " "
G.P.E. = 0.8533 " "
= 3.38% of grand X
X = 25.28 bu./A.

DATE OF SEEDING Oct. 3 and 4

DATE OF EMERGENCE October 13

VARIETY	C. I. No.	DATES		DAYS TO MATURITY FROM		STAND	WINTER SURVIVAL	HEIGHT	Replicate ACRE YIELDS					Test weight per bushel	Protein Content Burnt	Supplemental Experiments H. Fly "Flax" per tiller (Fall)
		Headed	Ripe	Emergence	Heading				1	2	3	4 5	Ave.			
						Per ct.	Per ct.	Inches	Per ct.	Per ct.	Per ct.	Bushels	Pounds	Pounds	Per ct.	
Early Blackhull ✓	8856	5/25	6/22				91	35	20.3	27.5	25.1	16.1	22.0	22.2	55.0	29.6	——
Quivira ✓	8886	5/26	6/23				98	36	22.8	25.9	18.1	20.7	23.9	22.3	51.0	23.5	2.10
Blackhull ✓	6251	5/29	6/25				95	37	15.7	30.8	23.3	21.0	24.8	23.1	55.5	23.0	1.23
Tenmarq ✓	6936	5/28	6/25				99	36	22.8	25.8	29.8	23.3	25.3	25.4	51.2	32.0	3.23
Kharkof ✓	1442	5/31	6/25				100	37	20.6	29.5	32.1	23.1	29.0	26.9	53.8	41.0	2.12
Kharkof ✓	6686	5/31	6/26				100	36	20.7	28.6	31.9	25.6	30.5	27.5	54.0	45.0	1.13
Kanred ✓	5146	5/30	6/25				100	37	24.1	29.1	28.7	24.9	31.1	27.6	54.0	32.5	2.69
Cheyenne ✓	8885	5/30	6/25				100	35	25.2	32.1	34.3	28.4	32.2	29.3	55.3		1.70
Cheyenne ✓	8885	5/31	6/25				100	35	30.3	21.9	34.2	27.3	26.8			49.5	
Nebr. 60 ✓	6250	6/1	6/27				100	36	20.9	28.7	30.7	25.7	27.9	26.8	55.2	13.0	1.51
Ore ✓	8220	5/31	6/26				100	36	22.4	23.6	27.9	26.4	30.1	26.1	55.0	2.0	1.65
Minturki ✓	6155	6/1	6/26				100	38	19.5	24.5	24.4	21.2	25.0	22.9	52.8	2.0	1.23
Beloglina sel. ✓	8884	6/1	6/26				100	37	22.9	26.8	30.4	24.6	28.4	26.6	54.1	35.5	1.53
Iowin ✓	10017	5/30	6/26				100	38	20.5	27.3	30.0	20.4	23.9	24.4	53.7	——	1.03
Kruse ✓	11524	6/2	6/27				94	36	19.2	20.7	29.6	20.7	21.1	22.3	53.5	1.5	1.15

(Continued)

U. S. GOVERNMENT PRINTING OFFICE: 1934 8—2503

Table __, continued.

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY

AGRONOMIC AND QUALITY DATA

Data obtained by the Division of Cereal Crops and Diseases in cooperation with the State Agricultural Experiment Station

DATE OF SEEDING Oct. 3 and 4 DATE OF EMERGENCE Oct. 13

VARIETY	C. I. No.	DATES		DAYS TO MATURITY FROM		STAND	WINTER SURVIVAL	HEIGHT	Replicate ACRE YIELDS						Test weight per bushel	Supplemental Experiments: Protein Barley	Supplemental Experiments: H. Fly "Flax" per tiller (Fall)
		Headed	Ripe	Emergence	Heading				1	2	3	4	5	Grain			
						Per ct.	Per ct.	Inches	Per ct.	Per ct.	Per ct.	Bushels	Pounds	Pounds	Pounds	Per ct.	
Crimean	1435	5/31	6/25				100	37	25.5	23.7	29.8	23.7	23.9	25.3	53.4	27.5	1.62
Kawvale	8180	5/29	6/24				100	38	25.3	28.6	34.0	26.6	25.4	28.0	50.4	18.2	.04
Turkey sel.	10015	5/29	6/24				100	36	28.3	21.5	31.3	26.5	24.2	26.4	53.7	.5	1.95
Turkey sel.	10094	5/30	6/25				100	34	22.6	20.1	31.8	24.5	24.5	24.7	53.5	.0	1.41
Turkey sel.	10095	5/30	6/26				100	35	24.3	25.2	30.8	26.4	24.3	26.2	53.9	1.0	1.28
Turkey sel.	11506	5/31	6/26				99	36	26.8	22.2	28.9	22.9	23.5	24.9	54.8	.5	.78
Turkey sel.	10097	5/30	6/25				100	36	24.3	20.1	32.2	24.7	23.7	25.0	53.5	2.2	1.18
Turkey sel.	10016	5/28	6/22				100	35	25.9	26.5	26.2	25.7	24.6	25.8	51.9	.5	1.26
Turkey sel.	10098	5/27	6/22				100	35	28.6	22.4	27.5	25.0	24.9	25.7	52.6	2.0	.74
	Nebr. No.																
Turkey	1011	5/31	6/26				100	34	27.5	22.8	21.9	25.5	22.0	23.9	53.3	.0	1.12
Turkey	1	5/31	6/26				100	36	22.1	28.8	30.3	23.7	28.0	26.6	54.2	8.5	1.15
Seward Co.	1005	5/30	6/24				100	35	19.1	26.8	28.7	24.9	24.4	24.8	53.6	5.0	1.32
Turkey sel.	6	6/1	6/26				100	36	18.2	26.1	22.3	22.2	25.4	22.8	54.2	28.0	1.92
Turkey sel.	312	6/1	6/26				100	35	19.6	26.2	31.9	24.5	24.3	25.3	53.0	——	.97
Crimean sel.	1036	6/1	6/26				100	36	23.6	25.7	27.8	24.2	21.2	24.5	52.2	21.0	1.06

Note: Repl. 1-2-3 = 1/35 Acre; Repl. 4-5 = 1/22 Acre.

C. I. Form No. 158

Iarovization Experiment (Lincoln)

Early in the winter Mr. H. H. McKinney presented general instructions for the conduct of this experiment which were followed as far as possible.

The plan as adopted at Lincoln involved storage following the initiation of germination under (1) cold storage, (2) an unheated and fairly open shed, and (3) a straw stack. Germination was initiated in all cases by a preliminary 4-hour soaking period followed by several sprinklings during a 24-hour storage period under 20°C. greenhouse temperatures. Under this treatment all seeds were very much swelled and a few sprouts had actually broken thru the pericarp. In those cases where lots were to be stored in the shed or stack and when outdoor temperatures were much above freezing, the sample was artificially cooled to arrest germination before being placed in the shed or stack with the usual 6 layer wrapping of burlap for insulation against sudden temperature change. A seed mass of 25 pounds made up each lot.

Representative air and grain temperatures at intervals during the winter under the several storage conditions are reported in Table / for the material treated at Lincoln. No such data are available for the Arlington Farm wheat seeded here. Since no readings were made during severe weather it would seem that storage under conditions other than control chambers gave rise to considerable temperature variability within the sack. On March 28 all Lincoln grain was removed from storage and dried for planting by spreading thin and exposing to air temperatures for 5 days. Moisture content during the winter had been kept fairly constant as determined by "feel," probably 45 to 55% moisture.

Agronomic data for the experiment are given in Table 2. It should be noted that a variable number of plots were grown. The germination reported

Table /. Comparative air and seed mass temperatures (°C) at successive periods during the winter under various conditions of storage. Iarovization experiment at Lincoln, 1932-33.

VARIETY, HYBRID, OR SELECTION	Nursery No.			Stack		Cold storage		Shed				Hardening room	
				Air	Seed	Air	Seed	Air	Seed			Air	Seed
Dec. 19				6	-1		2	6	-1				
26							1½	7	1				3½
Jan. 7							1½	6	2				3½
11				13	7								
13							1½						3
19							1½	3	½				5
25				13	3½			11	4				
Feb. 2				-1	-1½			-1	2				
14							1						4
18								5	0				
21				6	2½	Range = 10 to 0						Range = 0 to 7	
27							0	8	2½				10
Mar. 13				20	11		1½	20	10				29
22				3	½		1½	3	1½				13
28				21	7½		2	18	9				10

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Table 2/. Miscellaneous agronomic data from Iarovization experiments at Lincoln in 1932-33--plats seeded April 4 in 3 row, 16 foot units randomly distributed.

Number. Plat	Storage during chilling in:	VARIETY.	Date germi-nated	No. days chilled	Plats grown	Date emerged	% germi-nation	Condition when seeded	Date headed 10%	50%	80%
	shed	Kanred	12/10	112	4	4/14	27.0	10% sprouts thru; trace of mold	—	—	—
	stack	Kanred	12/10	112	4	4/14	22.5	Tr. sprouts thru; fresh	—	—	—
	cold storage	Kanred	12/10	112	7	4/13	46.5	10% sprouts thru; trace mold	6/13	—	—
	shed	Kanred	12/21	100	4	4/14	23.5	50% sprouts thru; center of sack badly molded	6/13	6/23	—
	stack	Kanred	1/27	65	4	4/15	16.0	Trace sprouts thru; clean, fresh	—	—	—
	stack	Kanred	2/10	50	4	4/13	46.0	10% sprouts thru; clean, fresh	—	—	—
	Stack	Kanred	2/20	40	4	4/13	72.5	10% sprouts thru; clean, fresh	—	—	—
	Wash.	Turkey "L"$_1$	—	67	7	4/14	66.0	99% sprouts thru	6/17	6/21	—
	Wash.	Turkey "L"$_2$	—	67	7	4/14	66.5	99% sprouts thru	6/16	6/21	—
	—	Marquis	4/1	0	3	4/12	98*	15% sprouts thru	6/12	6/14	6/17
	—	Marquis	—	0	3	4/12	98*b	No treatment	6/13	6/15	6/17
	—	Ceres	4/1	0	3	4/12	95*	15% sprouts thru	6/11	6/12	6/14
	cold[a] storage	Kanred	12/10	112	1	4/14	15.0*	50% sprouted; very light, chalky & badly molded	6/17	6/19	6/20

C. I. Form No. 66.

8—5013 GOVERNMENT PRINTING OFFICE

*Estimated, a) Hardening room, b) Thinned to 65% stand on 4/28.

is actual field counted emergence of duplicate spaced plantings of 100 seeds of each seed lot unless otherwise noted.

A pre-planting comparison of the Lincoln and Arlington farm seed suggested that actual sprouting of the Lincoln material was arrested at an earlier stage than at Arlington Farm. The comparative heading data suggest that per cent sprout emergence and per cent heading are positively correlated.

Final heading notes and the possibility of a yield determination was obliterated by a wholesale migration of chinch bugs into this sector of the nursery on June 24. All plants were killed within a day.

In addition to the plots reported, single rows of Kanred, and "L_3" and "L_4" (all comparably sprouted, but now chilled) checks were grown. Stands in these rows were normal and no heading occurred.

A local interpretation of results would suggest that (1) all iarovisation treatments lowered the field germination, the range in this case being from 15 to 73% emergence compared with 95% or more for checks; (2) all iarovized winter wheats grown headed from 4 to 6 days later than Marquis or Ceres spring wheat; (3) the per cent plants heading seems associated with the percentage of seed with sprouts during the storage period; and (4) low temperatures of about 1° C. may be essential in treating winter wheat more to prevent mold and loss of viability than to actually break the winter habit of growth as evidenced by the lot held in storage in the "Hardening Room" where seed temperatures were never below 3° C. and at one time reached 29° C. These high temperatures gave rise to a light, chalky and very moldy seed in the spring with low germination, but it should be noted that the earliest and most complete heading of any iarovized wheat was obtained with this sample.

These experiments would seem to suggest that iarovization of winter wheat might be looked on as an economically unsound practice for this region because

of the poor germination and late maturity of the crop indicated in these experiments.

It is possible that earlier seeding may have had an effect on the winter wheat vs. spring wheat heading relationship, but iarovized seed from Washington was not received until April 3.

Iarovization Experiment (Alliance)

This experiment consisted of four replicates of each of three iarovized samples of winter wheat, one winter wheat check, and sprouted (but not chilled) Marquis from seed lots also planted at Lincoln. All plots were 3 rows, spaced 12 inches apart and 16 feet long. Agronomic data are given in Table 3. For a history of these seed lots and a record of their behavior at Lincoln, see Tables 1 and 2.

Date of emergence was not observed. Stands were estimated late in July as follows:- Kanred (ck.), 90%; Turkey (I_1), 60%; Marquis, 90%; Turkey (I_2), 60%; and Kanred (C.stor.), 55%.

Heading dates of the "chilled" winter wheats were from 6 to 16 days later than for Marquis--an even greater spread than was observed at Lincoln. Marquis also ripened 8 days ahead of the best "chilled" winter wheat. These differences are far too great to be accounted for by the differences in stand which were obtained.

Yields were secured at Alliance. These were also clearly in favor of Marquis. It may be of interest to note that Kanred wheat grown in the Winter-hardiness Nursery less than 100 yards distance from these plantings yielded 12.8 bushels despite a spring survival of only 2½%. Kanred in this case ripened July 13 (fully ripe). This comparison may suggest that the late comparative maturity of the iarovized winter wheat was of greater moment than the reduction in germination which has been observed.

(Note: Alliance is in northwest Nebraska in an area where winterkilling of wheat is very common, and where spring and winter wheat are on the average grown on about equal acreages because of the winter hazard.)

Table 3. Miscellaneous agronomic data from Iarovization experiment at Alliance in 1933, from plantings made April 11 in four, 3-row plats 16 feet long of each seed lot.

Number. Planting order	C. I.	Variety.	Date germinated	No. days chilled	Date headed 10%	Date headed 50%	Date headed 80%	Date ripe 10%	Date ripe 50%	Date ripe 80%	Plant ht.	Grain yield by replication 1	2	3	4	Av. x .1
											Ins.	gms	gms	gms.	gms.	Bu.
Lincoln seed:-																
1		Kanred	4/1	0	—	—	—	—	—	—	—	(5 heads produced)				
3		Marquis	4/1	0	6-19	6-21	6-25	7-15	7-18	7-21	19	71	23	40	86	5.5
5		Kanred*	12/10	1/2	7-4	—	—	7-27	—	—	12	1	T	T	2	.1
Arlington Farm seed:-																
2		Turkey, "L"	—	67	6-25	6-29	7-2	7-21	7-23	7-29	15	21	30	30	32	2.8
4		Turkey, "L_2"	—	67	6-29	7-2	7-4	7-23	7-24	8-1	16	20	15	5	45	2.1

* Seed held in cold storage, 112 days.

C. I. Form No. 66.

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K. S. Quisenberry

CEREAL DISEASE GARDEN

Manhattan, Kansas

1933

C. O. Johnston

INTRODUCTION

The sowings of winter wheat varieties, hybrids, and selections in a disease garden at Manhattan, Kansas, in 1933 were continued in much the same manner as those made in 1932. The list of wheats was made up largely by Dr. K. S. Quisenberry after consultation with investigators at the various state experiment stations in the hard red winter wheat growing area. It comprises new selections and hybrids as well as many standard varieties and well-known selections which are under agronomic tests in uniform nursery and plot experiments throughout the area. These uniform agronomic tests are being conducted under the supervision of Dr. Quisenberry, and the disease data herein reported are considered as supplementary to his agronomic results.

METHODS

Seed of 50 varieties, hybrids, and selections of winter wheat for sowing in duplicate eight-foot rows was furnished by Dr. Quisenberry. The seed of one complete set of varieties was inoculated with a composite of 7 physiologic forms of bunt which had been isolated from collections made in Kansas in preceding years and carried in pure culture in the bunt nursery of the Department of Botany and Plant Pathology of the Kansas Agricultural Experiment Station. A total of 48 field collections were used in making the composite

inoculum. Care was taken to see that all selections received the same amount of inoculum. The seed was sown on Oct. 25, 1932, in eight-foot rows in the regular bunt nursery, the soil temperature and moisture at that time being favorable for infection. After all varieties were fully headed and bunt infection had reached its full expression, each variety was cut, the normal and bunted heads counted, and percentages of bunt calculated on that basis.

The seed of the second series was not inoculated with bunt and these selections were sown in clean soil in a block adjacent to the bunt nursery. Upon these it was planned to obtain notes on leaf, root, and head diseases, other than bunt, that resulted from natural infection. This series was sown on September 30, 1932.

SEASONAL CONDITIONS

The seed bed was in excellent condition in both the bunted and non-bunted sections of the nursery and very good stands were obtained. Early fall growth was fair, but the plants entered the winter very short on leaf growth because of the absence of fall rains. No winter injury of any consequence was noted until February 10 when a sudden severe blizzard was accompanied by a minimum temperature of -19° F. This resulted in some loss of stand in Early Blackhull and Nebraska No. 28. Other varieties showed very little effect.

The fall and winter of 1932-33 was one of the driest seasons ever recorded at Manhattan. The early spring months of March and April were also extremely dry with two moderate rains in March and one in April. Dust storms

were frequent and severe during this period, and conditions were in general very unfavorable for the development of leaf diseases. Wheat made a fairly satisfactory growth, however, and early varieties began heading on May 14.

After the rain of April 20-22, no moisture of any consequence fell until July 7. Very hot weather accompanied by hot winds occurred on June 4, 5, 6, and 10, the temperature reaching maximums of 106° F. on June 4 and 6, and 109° F. on June 10. The leaves of winter wheat were badly burned during this period and by June 15 were completely dry. Harvest began on that date, which is nearly two weeks earlier than usual.

In general, the winter wheat growing season of 1932-33 can be said to have been marked by a very dry and mild fall and winter with a severe blizzard in February. The spring was extremely dry and hot with severe dust storms in the early part. Winter wheat was injured by drought, high winds, and high temperatures.

RESULTS

The results obtained in the cereal disease garden in 1933 were not so satisfactory as those obtained in 1932, largely because of adverse weather conditions. No infection of stem rust developed and leaf rust infection was not satisfactory. Good results were obtained with bunt, and mildew infection was good despite the dry weather. In fact, mildew infection came so early and was so heavy that it obscured Septoria leaf blotch infections. Scab and basal glume rot were absent, infection being inhibited by the dry hot weather.

In 1933 as in 1932, not one of the 50 selections proved to be highly resistant to all of the diseases upon which readings were made. Sibley No. 81 had low readings for bunt, loose smut, and leaf rust, but was susceptible to mildew. This is a very good showing, however, for mildew is not a major disease of wheat in this area. Iowin and Mediterranean selections C.I. 10085 and C.I. 10086 had low readings for loose smut, leaf rust, and mildew, but high readings for bunt. Turkey Sel. C.I. 10100, Oro, Yogo (Minturki X Bel-Buf.) C.I. 8033, Turkey sels. C.I. 10015, 10016, 10098, 11506, and 11507, Minturki X Bel-Buf. C.I. 10088, Turkey X Bd. Minn. #48, and Kruse appeared to be resistant to bunt and loose smut. Quivira (Prelude X Kanred) C.I. 8886, all of the Kanred X Hard Federation selections, Kanred X Marquis C.I. 11374 and 10090, Kawvale, and all of the Mediterranean selections had low readings for both loose smut and leaf rust. Although there are many selections with high resistance to bunt and an equally large number resistant to leaf rust, it is regrettable that so few of them have resistance to both of these major diseases.

Bunt (Tilletia laevis)

The seed was inoculated with a composite of spores of seven physiologic forms isolated from collections made in Kansas. Some of these forms differ very widely in their host specialization, so that the composite inoculum should have given any variety a very good test for susceptibility. Infection in the bunted section was very good, a maximum of 83.01 per cent being recorded on Kanred X Hard Federation C.I. 10092. All of the Kanred X Hard Federation selections, Iowin, and Early Blackhull proved to be extremely

susceptible. Quivira C.I. 8886, Tenmarq, Kanred X Marquis C.I. 11374, Kanred X Minturki C.I. 10012 and Sibley's No. 62 also proved to be highly susceptible. Quite a large number, such as Kharkof C.I. 6686, Kanred, Blackhull, Cheyenne, Nebraska No. 60, Turkey Sel. C.I. 10083, Kanred X Marquis C.I. 10090, Kawvale, Denton, all of the Mediterranean selections, Tenmarq Sel. 10089, and Fulhard, exhibited a moderate to high susceptibility. A few varieties, including P1066 X Burbank, Nebraska No. 28, Turkey Sel. C.I. 11375, and Enid Strain C.I. 11508, seemed to have a slight degree of resistance. Several varieties, including Turkey selection C.I. 10100, Minturki, Minhardi X Minturki C.I. 8215, and Cooperatorka, were moderately resistant. High resistance to bunt was shown by Oro, Yogo CI. 8033, all of the Nebraska Turkey selections, Minturki X Bel-Buf. C.I. 10088, Turkey X Bearded Minn. #48, Sibley's No. 81, Turkey sels. C.I. 11506 and C.I. 11507, and Kruse. Out of a total of 50 varieties only three, viz., Yogo, Turkey C.I. 11506, and Kruse, were free from infection. It is interesting to note that Oro, the Nebraska Turkey selections, Yogo, Turkey X Bearded Minn. #48, and Sibley's No. 81 showed much the same resistance as in 1932. Cooperatorka and Minturki, on the other hand, showed less resistance in 1933 than in 1932. It is also of interest to note the difference in reaction of the two Sibley selections from Oklahoma. Sibley's No. 62, which the Oklahoma investigators regard as the better selection, does not have the high bunt resistance of Sibley's No. 81.

Loose Smut (*Ustilago tritici*)

Loose smut infection is increasing rapidly in certain parts of the Great Plains and western Mississippi basin areas. It has become a serious factor in ~~moth~~ north central Texas and is increasing in eastern Nebraska. There is also a notable increase in the amount of loose smut in fields of eastern Kansas. The loose smut ~~infection~~ in the 1933 winter wheat disease garden resulted entirely from natural infection, and absence of smut in many of the selections, therefore, does not necessarily mean that those selections are resistant, but that under the conditions of the experiments, they showed no infection. It is very likely that most of them would be highly susceptible under conditions of artificial inoculation. The data in Table 1 indicate quite clearly that certain varieties of red winter wheat are susceptible to loose smut and that seed from certain experiment stations is rather heavily infected. More than one per cent of loose smut in a field of wheat is very objectionable; therefore, it can readily be seen that the high percentages shown by some of the Nebraska Turkey selections is a very serious matter. It seems quite clear that wheats from Nebraska, Oklahoma and Texas contain considerable loose smut infection. When the data for 1933 are compared with those for 1932, it is obvious that loose smut infection is on the increase. The same selections that were infected in 1932 were also infected in 1933 and the order of susceptibility was much the same. Turkey C.I. 10094 was the most susceptible variety in 1932, with 3.4 per cent infection. The same selection was the most susceptible in 1933, with an infection of 8.4 per cent.

Leaf Rust (*Puccinia triticina*)

The leaf rust readings obtained in 1933 are not very reliable on account of the very unfavorable season for leaf rust development. No infection could be found in the nursery until May 25, and its development was very slow thereafter, because of extremely dry hot weather. The heat wave of the first two weeks in June left the leaves completely dried up even to the flag leaves, so that further rust development was impossible. Readings were made on June 9, and the percentages recorded represent infections on the lower and mid plant leaves. This alone shows that leaf rust infection had not reached its maximum when the heat wave intervened. Thus the percentages of infection are probably much too low on susceptible varieties and give some varieties an apparent resistance that they actually do not possess. However, infections were sufficiently high to show clearly the high resistance of Quivira, the Kanred X Hard Federation selections, both Kanred X Marquis selections, Kawvale, Iowin, Sibley's No. 81, Denton, and the Mediterranean selections. It seems obvious that many of the newer selections have high resistance to leaf rust, but that few of them possess resistance to both leaf rust and bunt.

Mildew (*Erysiphe graminis*)

Mildew is not a major disease of wheat in the Great Plains and Western Mississippi basin areas. It occurs in considerable abundance in low spots during wet seasons and frequently is rather abundant in the early spring. It seldom occurs over wide enough an area, in sufficient abundance, or in sufficient persistence to result in much damage.

The amount of mildew infection in the nursery at Manhattan is much greater than that occurring in commercial fields. This is due to the fact that a large amount of inoculum has been built up in the experimental plots by the practice of growing wheat in a restricted area year after year. The past two or three seasons have been very favorable for the production of perithecia, and these, overwintering on wheat refuse in and around the experimental plots, have resulted in a tremendous increase in inoculum, with consequent heavier infections on wheat.

Mildew appeared on the leaves of varieties in the winter wheat disease garden in the fall of 1932 shortly after emergence and survived the winter. These old infections, coupled with fresh infections resulting from germinating ascospores, caused heavy infection to develop on most varieties early in the spring. Despite the hot dry weather, mildew infection continued to develop until the leaves were burned in the heat wave of early June. Infection appeared first on the lowermost leaves and was confined to leaves in the lower half of the plants until early May, when it began to be prevalent on leaves higher up the culms. By the first week in June, infection was beginning to be abundant on the flag leaves of some varieties but had not yet reached its maximum when stopped by hot weather. Infection on the lower leaves of most varieties was very heavy, and perithecial development was abundant.

Mildew readings were made on June 9, using the same system employed in 1932. Numerical rankings from 0 to 4 were used with the highest numbers representing the greatest degree of susceptibility. Most of the varieties

proved to be very susceptible to mildew, with only Iowin, Denton, and two unnamed Texas Mediterranean selections showing any marked degree of resistance. It is interesting to note that the two latter selections were also resistant in 1932, while Iowin and Denton were susceptible. On the other hand, Early Blackhull, which seemed to be resistant in 1932, showed no resistance in 1933. Apparently that variety escaped infection through its earliness in 1932. In general, resistance of the red winter wheats to mildew is not so frequently encountered as resistance to leaf rust and bunt, and seldom is so strongly expressed. However, some resistance exists and varietal differences can be noted.

Agronomic Data for Winter Wheat Varieties grown on Agronomy Farm, Manhattan, Kansas, 1933.(Cont'd)

Variety	Kans. No.	Stand, No. per A. Plants in fall, 000 omitted	Stand, No. per A. Culms 000 omitted	Winter injury percent	Dates First headed	Dates Fully ripe	Plant ht. inches	Breaking strength straw Lbs. per 10 straws	Breaking strength straw P.E.	Lbs. per plot	Average bu. per acre	Test wt. lbs. per bushel
Varieties grown in Single Plots												
Quivira	2628	896	2629	15	5-17	6-17	41	5.42	±.08	64.8	43.2	59.6
Prelude x Kanred	2689	1012	2963	15	5-18	6-17	41	5.11	±.03	66.2	44.1	58.4
P 1066 x Prelude	2695	989	2694	15	5-16	6-17	41	5.36	±.05	67.4	44.9	57.9
Kanred	2401	1006	2664	15	5-22	6-18	40	5.46	±.10	59.8	39.9	55.4
C.I. 8028 (Turkey x Minessa) x C.I. 8258 (Kanred x Hard Fed.) Sel.Heads	517	956	2700	20	5-19	6-18	40	6.48	±.04	62.7	41.8	57.3
) Plot seed	517	1141	2844	15	5-21	6-20	40	6.04	±.10	55.7	37.1	55.7
C.I. 8036 (Eureka x Minhardi) x C.I. 8258 (Kanred x Hard Fed.) Sel.Heads	518	884	2841	15	5-18	6-18	39	5.80	±.16	70.5	47.0	57.3
) Plot seed	518	1239	2862	15	5-20	6-19	40	5.80	±.06	64.8	43.2	57.2
C.I. 8259 (Prelude x Kanred) x C.I. 8028 (Turkey x Minessa) Sel.Heads	519	1087	2871	15	5-17	6-18	42	5.80	±.13	68.9	45.9	57.9
) Plot seed	519	1222	3486	15	5-18	6-20	42	5.75	±.07	61.4	40.9	57.4
Kanred	2401	902	3148	15	5-22	6-19	41	5.28	±.12	60.6	40.4	55.1
Kanred x Genesee Giant		989	1819	35	5-21	6-16 6-21	42	9.70	±.14	37.2	24.8	52.0
Harvest Queen + Kanred		974	2473	15	HQ 5-21	6-20	47	8.32	±.12			
					K 5-22	6-19	41	5.71	±.09	50.6	33.7	55.3
Currell + Kanred		1090	2641	20	C 5-20	6-17	42	7.07	±.13			
					K 5-22	6-19	40	6.54	±.08	49.6	33.1	54.7

Agronomic Data for Winter Wheat Varieties grown on Agronomy Farm, Manhattan, Kansas, 1933.

Date of seeding, 9-30-32. Rate of seeding, 5 pks. Date of emergence, 10-8. Size of plot, 1/40 A.

Variety	Kans. No.	C.I. No.	Stand, No. per A. Plants in fall, 000 omitted	Stand, No. per A. Culms 000 omitted	Winter injury per-cent	Dates First head-ed	Dates Fully ripe	Plant ht. inches	Breaking strength straw Lbs. per 10 straws	Breaking strength straw P.E.	Grain yield Pounds per plot 1	2	3	Average bu. per acre	Test wt. lbs per bushel
Varieties of Hard Winter Wheat in Triplicate Plots															
Early Blackhull	483	8856	1029	2086	35	5-13	6-14	38	7.83	±.04	60.4	53.1	55.6	37.6	61.1
Quivira	2628	8886	1036	2157	20	5-17	6-15	38	6.94		56.5	45.0	52.7	34.3	57.4
Kanred	2401	5146	1081	2534	15	5-21	6-17	38	6.42	±.16	50.5	36.7	48.8	30.2	53.6
Kanred x Hd.Fed.	2671	11373	843	2157	20	5-16	6-16	36	7.98	±.08	53.5	40.2	46.5	31.8	57.3
Kanred x Hd.Fed.	2672	10091	970	1919	33	5-15	6-15	35	6.78	±.07	49.9	38.5	44.6	29.6	57.1
Kanred x Hd.Fed.	2673	10092	780	2269	17	5-16	6-16	36	7.18	±.12	54.0	42.7	50.8	32.8	57.6
Kanred x Marquis	2690	11589	968	1983	17	5-18	6-15	37	8.72	±.07	51.6	39.7	49.4	31.3	56.5
Kanred x Marquis	2644	10090	960	2113	17	5-20	6-17	38	8.06	±.35	47.2	34.2	46.8	28.5	55.0
Kanred	2401	5146	1086	2183	15	5-21	6-18	39	6.55	±.28	46.7	33.8	50.8	29.2	53.0
Tenmarq	514	6936	961	1887	15	5-20	6-17	38	8.61	±.11	44.3	36.1	49.2	28.8	54.7
Tenmarq	2670	10089	978	1929	15	5-19	6-17	37	9.48	±.09	50.9	35.8	54.7	31.4	54.4
Blackhull	343	6251	966	2293	20	5-19	6-18	38	7.41	±.38	52.1	47.6	60.2	35.5	58.9
Cheyenne	2667	8885	1000	2348	15	5-21	6-20	38	7.48	±.02	44.2	48.7	64.8	35.9	57.2
Kanred	2401	5146	1023	2473	15	5-21	6-19	39	6.18	±.05	47.8	50.2	59.7	35.9	54.5
Turkey	570	1558	1004	2412	15	5-21	6-19	40	6.50	±.14	49.7	51.3	61.5	36.1	56.4
Kharkof	2591	1442	1042	2474	13	5-22	6-19	39	6.84	±.14	48.2	42.2	57.9	33.0	55.4
Hays #2	2659	6686	999	2270	12	5-22	6-20	39	7.92	±.27	44.4	38.9	58.0	31.4	53.9
Nebraska 60	322	6250	1046	2355	15	5-23	6-20	40	7.96	±.22	44.0	36.7	61.0	31.5	54.2
Minturki	2464	6156	1141	2336	15	5-23	6-20	41	7.41	±.07	40.2	35.6	52.1	28.4	53.5
Kanred	2401	5146	1014	2440	15	5-21	6-19	39	5.73	±.08	49.1	41.5	70.0	35.7	54.1
Oro	495	8220	1023	2593	15	5-22	6-21	41	6.34	±.16	52.2	44.4	66.7	36.3	56.4
Cooperatorka	499	8861	963	2582	30	5-21	6-19	41	6.52	±.36	50.8	47.7	63.8	36.1	57.2
Varieties of Soft Winter Wheat in Triplicate Plots															
Kawvale	2593	8180	977	2302	20	5-19	6-18	44	7.01	±.02	70.4	68.6	68.0	46.0	57.6
Fulcaster	317	6471	908	2462	20	5-20	6-20	45	8.32	±.10	68.3	69.2	62.7	44.5	59.4
Kanred	2401	5146	929	2845	15	5-21	6-20	48	5.83	±.07	70.2	66.4	65.2	44.8	57.8
Clark 40	505		792	2226	15	5-20	6-20	49	7.66	±.09	68.8	70.1	67.3	45.8	60.5
Harvest Queen	19	6199	969	2024	25	5-20	6-20	49	7.90	±.09	57.6	56.8	52.6	37.1	57.9

20 varieties
σ diff. = 1.4142 bu./A.
P.E. diff. = 0.9539 " "
G.P.E. = 0.6745 " "
= 10.05% of grand X
X = 6.71 bu./A.

Table Agronomic data, individual plot and average yields of winter varieties grown in four 1/50 acre plots at the Judith Basin Branch Station, Moccasin, Montana in 1933.
Date of Seeding: September 6, 1932 Date of emergence: September 15, 1933

Number.		VARIETY.	Winter Sur- vival	Hght. (in.)	Pounds grain per plot					Acre yield	Test weight
Plat.	C. I.				I	II	III	IV	Ave.	(bu.)	(lbs.)
			P.ct.								
	8215	Minhardi x Minturki	45		11.0	8.5		14.5	11.3	9.4	59.0
	8888	Minard x Minhardi	28		9.5	7.0		17.0	11.2	9.3	59.0
	8034	Minhardi x Minturki	32		10.0	6.5		15.0	10.5	8.7	57.5
	8040	Kanred x Minhardi	28		10.0	6.0		14.0	10.0	8.3	56.5
	8042	Kanred x Minhardi	32		9.5	4.5		16.0	10.0	8.3	57.5
	8887	Turkey CI6152x Minessa	23		14.5	3.5		11.5	9.8	8.2	56.0
	8036	Eureka x Minhardi	27		11.0	4.0		14.0	9.7	8.1	58.5
	8889	Minard x Minhardi	30		8.0	7.0		14.0	9.7	8.1	59.0
	8218	Minard x Minhardi	35		6.0	7.5		14.5	9.3	7.7	58.0
	8033	Yogo	28		8.5	4.5		14.5	9.2	7.7	58.0
	6250	Nebraska No.60	27		7.0	4.5		14.5	8.7	7.2	58.0
	1442	Kharkof	13		6.5	3.0		14.0	7.8	6.5	60.0
	6155	Minturki	17		4.5	4.5		13.0	7.3	6.1	59.0
	8045	Kanred x Minessa	17		4.0	4.5		10.0	6.2	5.2	58.0
	11505	TurkeyCI6152 x Minessa	13		6.5	3.5		7.5	5.8	4.8	55.5

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Table continued

Number.		VARIETY.	Winter Survival	Pounds grain per plot					Acre yield	Test weight
Plat.	C. I.			I	II	III	IV	Ave.	(bu.)	(lbs)
	6935	Newturk	(Pct. 10	1.5	5.5		8.5	5.2	4.3	58.5
	8220	Oro	10	1.5	3.5		11.5	5.2	4.3	59.0
	1558	Turkey	7	2.0	2.0		11.5	5.2	4.3	59.5
	5146	Kanred	5	2.5	3.0		10.5	5.0	4.2	61.0
	6700	Karmont	3	1.0	1.5		9.5	4.0	3.3	59.5

Note: Dates of heading and ripening and height notes were not recorded because of irregular stands.

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Winter Wheat varietal Experiment. 1932-1933

Plots are 1/50 acre in size. Akron

Number. Plat.	C. I.	Variety.	Dates: Sown	Emerged	First Heading	Fully Ripe	% Stand	Height of plant	Yield in Bushels per acre: Cornland ✓ 1st Rep.	2d. Rep	ave	Fallow Rep. 1	Rep 2	ave.	4-Plot Average
1	195	Rosen Rye	9-19	9-29	6-3	7-13	60	41	13.4	8.5	11.0	2.7	0	1.4	6.2
2	8856	Early Blackhull ✓	9-19	9-29	6-5	7-21	30	28	13.6	6.9	10.3	0	0	0	5.1
3	6251	Blackhull ✓	9-19	9-29	6-9	7-24	33	28	14.2	8.3	11.3	0	0	0	5.6
4	8886	Prelude x Kanred ✓	9-19	9-29	6-8	7-24	35	26	12.5	7.5	10.0	0	0	0	5.0
5	6936	Tennarg ✓	9-19	9-29	6-9	7-24	35	28	11.3	5.8	8.6	0	0	0	4.3
6	10016	Turkey Sel ✓	9-19	9-29	6-10	7-24	40	28	13.6	7.5	10.6	0	0	0	5.3
7	5146	Kanred ✓	9-19	9-29	6-12	7-24	40	27	10.8	6.7	8.8	0	0	0	4.4
8	10099	Kanred 0166 ✓	9-19	9-29	6-12	7-24	35	27	11.5	7.3	9.4	0	0	0	4.7
9	10100	Turkey Sel 159 ✓	9-19	9-29	6-11	7-24	33	26	10.4	6.7	8.6	0	0	0	4.3
10	8220	Oro ✓	9-19	9-29	6-12	7-24	35	27	8.8	7.3	8.1	0	0	0	4.0
11	6249	Nebraska No. 6 ✓	9-19	9-29	6-13	7-24	33	26	5.8	6.7	6.3	0	0	0	3.1
12	8266	Pesterboden Sel ✓	9-19	9-29	6-13	7-24	28	26	5.4	5.8	5.6	0	0	0	2.8
13	8033	Yogo ✓	9-19	9-29	6-11	7-24	30	25	5.0	7.5	6.3	0	0	0	3.1
14	8885	Cheyenne ✓	9-19	9-29	6-12	7-24	30	25	4.6	7.3	6.0	0	0	0	3.0
15	6935	Newturk ✓	9-19	9-29	6-14	7-24	30	25	3.8	5.0	4.4	0	0	0	2.2

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Winter Wheat Varietal Experiment 1932-1933

Number. Plat.	Number. C. I.	Variety.	Sown	Emerged	First heading	Fully Ripe	% Stand	Height of Plant	Yield in Bushels Per acre: Cornland Rep. 1	Cornland Rep. 2	Cornland ave.	Fallow Rep. 1	Fallow Rep. 2	Fallow AVE.	4-Plot Average.
16	6250	Nebraska No. 60 ✓	9-19	9-29	6-15	7-24	38	26	5.7	7.1	6.4	0	0	0	3.2
17	1583	Kharkof ✓	9-19	9-29	6-15	7-24	38	25	6.1	6.9	6.5	0	0	0	3.3
18	6686	Kharkof, Hays No. 2 ✓	9-19	9-29	6-15	7-24	38	25	6.0	6.9	6.5	0	0	0	3.2
19	1442	Kharkof ✓	9-19	9-29	6-15	7-24	38	25	5.8	5.7	5.8	0	0	0	2.9
20	1438	Alton ✓	9-19	9-29	6-15	7-24	33	25	4.4	5.7	5.1	0	0	0	2.5
21	8034	Minhardi x Minturki ✓	9-19	9-29	6-17	7-25	40	26	6.1	6.1	6.1	0	0	0	3.1
22	6155	Minturki ✓	9-19	9-29	6-17	7-25	28	26	5.4	3.8	4.6	0	0	0	2.3

all agronomic data based on 2 plots on fallow. Cornland stands were from 1 per cent to 8 percent. They were mowed and no yields or agronomic data was taken.

GOVERNMENT PRINTING OFFICE

Date of Seeding nursery 1932-1933 akron

Plots have 3 rows 16 feet long, the center row of which was harvested for yield.

Number.		Variety.	Dates				Winter survival %	Height Plant inches	Yield per plot in grams.			Ave. Bu. Per acre
Plat.	C. I.		Seeded	Emerged	First Headed	Fully Ripe			Rep. 1	Rep. 2	Rep. 3	
1	8856	Early Blackhull	8-31	9-6	6-6	7-19	39	25	43	85	182	10.3
2	6936	Tennarg	8-31	9-6	6-12	7-19	33	26	47	71	158	9.2
3	5146	Kanred	8-31	9-6	6-15	7-21	43	25	71	134	110	10.5
4	1442	Kharkof	8-31	9-6	6-15	7-20	60	25	124	177	138	14.6
5	6155	Minturki	8-31	9-6	6-17	7-23	53	26	141	149	120	13.7
6	8856	Early Blackhull	9-22	9-30	6-7	7-20	43	25	99	171	164	14.5
7	6936	Tennarg	9-22	9-30	6-14	7-23	33	25	33	118	160	10.4
8	5146	Kanred	9-22	9-30	6-15	7-23	55	26	77	211	202	16.3
9	1442	Kharkof	9-22	9-30	6-15	7-24	52	25	124	118	119	12.0
10	6155	Minturki	9-22	9-30	6-19	7-25	33	24	69	67	81	7.2
11	8856	Early Blackhull	10-12	10-25	6-7	7-18	87	26	133	183	148	15.5
12	6936	Tennarg	10-12	10-25	6-16	7-20	93	25	120	125	150	13.2
13	5146	Kanred	10-12	10-25	6-18	7-20	100	24	91	129	134	11.8
14	1442	Kharkof	10-12	10-25	6-17	7-20	100	23	138	113	100	11.7
15	6155	Minturki	10-12	10-25	6-20	7-21	97	24	104	98	85	9.6

C. I. Form No. 66.

GOVERNMENT PRINTING OFFICE

Individual Yields of Rows of Breeding Winter Wheat
Sheridan Wyo.
1933

1/55 Acre Plots

Number. Plat.	Number. C. I.	Variety.		I	II	III	Total	Ave
5-9-12		Kharkov Cd 2.	9/16	27.5	25.7	25.7	78.9	26.3
6-8-11		"	9/1	24.8	25.7	27.5	78.0	26.0
7-10-6		"	9/16	23.8	24.8	31.2	79.8	26.6
8-11-7		"	10/1	14.7	23.8	30.3	68.8	22.9
9-12-5		" Cd 3	9/16	20.2	27.5	32.1	79.8	26.6
10-6-8		"	10/16	15.6	29.3	31.2	76.1	25.4
11-7-10		"	11/8	15.6	24.8	34.8	75.2	25.1
12-5-9		" Cd 4	9/16	22.9	28.4	26.6	77.9	26.0

C. I. Form No. 66.

8—5013 GOVERNMENT PRINTING OFFICE

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY

AGRONOMIC AND QUALITY DATA

Data obtained by the Division of Cereal Crops and Diseases in cooperation with the State Agricultural Experiment Station

Sheridan Wyo
1933

DATE OF SEEDING Ex DATE OF EMERGENCE

VARIETY	C. I. No.	DATES		DAYS TO MATURITY FROM		STAND	WINTER SURVIVAL	HEIGHT	RUST		LODGING	ACRE YIELD			GRAIN QUALITY		
		Headed	Ripe	Emergence	Heading				Leaf	Stem		Grain		Straw	Test weight per bushel	Protein content	U. S. grade
						Per ct.	Per ct.	Inches	Per ct.	Per ct.	Per ct.	Bushels	Pounds	Pounds	Pounds	Per ct.	
Kharkof Sd 2 (9/16)		6/26-30	7/30-31	10/6	10	76		30				26.3	1595	3465	61		
" 9/1		6/27-30	7/30-31	10/6	10	72		29				26.0	1540	3135	60		
9/16		6/28-7/1	7/30-31	10/3		66		28				26.6	1595	3410	60		
10/1		6/29-7/1	7/30-31	spring		60		29				22.9	1765	3135	60		
" 9/16 Sd 3		6/26-7/1	7/30-31	10/6	10	68		28				26.6	1595	3575	60		
" 10/16		6/29-7/1	8/1	spring		60		29				25.4	1540	3685	60		
11/8		7/1-3	7/31-8/2	spring		73		29				25.1	1485	3915	60		
" 9/16 - Sd 4		6/27-30	7/30-31	10/6	10	72		28				26.0	1540	3685	60		

Land in Fallow 1932

All quad plots sown 9/16

U. S. GOVERNMENT PRINTING OFFICE: 1931 8—2503

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY

AGRONOMIC AND QUALITY DATA

Data obtained by the Division of Cereal Crops and Diseases in cooperation with the State Agricultural Experiment Station

Sheridan Wyo
1933

DATE OF SEEDING 9/17/32 DATE OF EMERGENCE 10/2/32

VARIETY	C. I. No.	DATES		DAYS TO MATURITY FROM		STAND	WINTER SURVIVAL	HEIGHT	RUST		LODGING	ACRE YIELD			GRAIN QUALITY		
		Headed	Ripe	Emergence	Heading				Leaf	Stem		Grain		Straw	Test weight per bushel	Protein content	U. S. grade
						Per ct.	Per ct.	Inches	Per ct.	Per ct.	Per ct.	Bushels	Pounds	Pounds	Pounds	Per ct.	
Kanred ✓	5146	6/17-7/1	7/31			70		28				27.8	1650	3685	60		
Kharkov ✓	1442	6/16-7/2	7/31			62		30			–	22.0	1370	2585	60		
Minturki	6755	6/27-7/3	7/31-8/1			75		29				20.5	1210	3410	60		
Karmont ✓	5700	6/27-7/3	7/31			68		27				23.5	1540	3075	60		
Kharkov Gd 5 ✓	1442	6/16-7/1	7/31			68		27			–	22.6	1375	3300	60		
Turkey	1571	6/16-7/3	7/31-8/1			60		27				19.6	1155	2915	60		
✓	8889	6/16-7/1	7/31-8/1			73		28				25.1	1485	3575	60		
Nebraska # 60 ✓		6/27-7/1	7/31			70		27				25.7	1540	3300	60		
Newturk	6935	6/16-7/1	7/31-8/1			57		28				20.8	1165	2860	60		
Kharkov Gd 6	1442	6/27-7/1	7/31-8/1			68		28			–	21.1	1165	2860	60		
Montana # 36 ✓	5549	6/16-30	7/31			72		30				25.0	1485	3685	60		
Kanred # 2	6686	6/16-7/1	7/31-8/1			70		26				28.1	1705	3575	60		
Ybego ✓	6033	6/27-7/2	7/31			73		27				26.9	1595	3685	60		
✓	8034	6/29-7/3	7/31-8/1			75		32				24.1	1430	3465	60		
	8215	6/18-7/1	7/31-8/1			68		30				21.4	1165	3300	60		
Kharkov Gd 7	1442	6/27-7/3	7/31-8/1			68		27			–	23.8	1430	3465	60		

Land — Fallow 1932

U. S. GOVERNMENT PRINTING OFFICE: 1931 8—2503

Individual Yields of Winter Wheat
Sheridan Wyoming
1933

Bushels per Acre

1/55 acre Plats

Number. Plat.	Number. C. I.	Variety.	Series I	II	III	Total	Ave
13-19-24		Kanred	26.6	32.1	24.8	83.5	27.8
14-20-25		Kharkov -	22.0	20.2	23.8	66.0	22.0
15-21-26		Montana	17.4	21.1	22.9	61.4	20.5
16-23-27		Karmont	21.1	26.6	22.9	70.6	23.5
17-22-28		Kharkov Cd 5 -	21.1	22.0	24.8	67.9	22.6
18-24-13		Turkey	15.6	19.3	23.8	58.7	19.6
19-25-14	8889		24.8	24.8	25.7	75.3	25.1
20-26-15		Nebraska #60	22.9	23.8	30.3	77.0	25.7
21-27-16		Newturk	17.4	20.2	24.8	62.4	20.8
22-28-17		Kharkov Cd 6 -	18.3	22.9	22.0	63.2	21.1
23-13-18		Montana #36	22.9	29.3	22.9	75.1	25.0
24-14-19		Hays #2	21.1	30.3	33.0	84.4	28.1
25-15-20		Ydego	25.7	25.7	29.3	80.7	26.9
26-16-21	8034		20.2	23.8	28.4	72.4	24.1
27-18-23	8215		19.3	22.0	23.9	64.2	21.4
		Kharkov Cd 7	20.2	23.8	27.5	71.5	23.8
17-22			20.4	22.2	24.5		22.4

C. I. Form No. 66.

8—5013 GOVERNMENT PRINTING OFFICE

Luxemburg

Yields of Small Grain- Denton, Texas 1933

Wheat Variety Test

Variety	C.I. No.	Yields of grain per plot-lbs.					Bu. per acre.
		Ln I	Ln II	Ln III	Ln IV	Avg.	
White Mediterranean	10023	29.4	38.2	39.6	36.5	35.9	32.9
Denton	8265					35.4	32.5
(9 plots- 25.4,33.7,36.1,37.7,39.1,36.9,36.6,38.3,34.6)							
Quivira	8886	23.2	41.1	37.9	37.6	35.0	32.1
Tenmarq	6936	29.7	37.3	37.3	32.1	34.1	31.3
Kanred	5146	29.9	32.9	35.6	36.8	33.8	31.0
Mediterranean 5933-32		29.9	37.1	36.4	30.9	33.6	30.8
Kawvale	8180	28.7	35.4	35.3	32.7	33.0	30.3
Mediterranean 5933-34		27.8	34.4	31.6	33.8	31.9	29.2
Mediterranean 5933-20		26.3	34.8	34.3	31.6	31.8	29.2
Mediterranean 5933-23		25.2	36.3	34.8	30.4	31.7	29.1
Fulcaster	6471	26.4	32.1	33.8	33.5	31.5	28.9
Mediterranean 5933-38		28.7	31.9	30.3	31.8	30.7	28.1
Blackhull	6251	24.5	30.1	34.6	32.1	30.3	27.8
Kharkof	1442	24.5	26.3	29.9	33.4	28.5	26.1
Mediterranean 5015-81		20.8	30.3	30.6	29.4	27.8	25.5
Harvest Queen	6199	18.4	27.7	31.8	31.9	27.5	25.2
Mediterranean 3015-72		20.6	28.9	29.4	29.5	27.1	24.8
Nebraska 60	6250	23.4	24.9	28.3	27.3	26.0	23.8
Sutton	10053	18.8	25.3	25.8	29.3	24.8	22.7
Nebraska 28	5247	19.5	22.0	23.3	21.0	21.5	19.7
(Med. 3015-105-1 Clarke #0 Denton, nearest Ja.					35.8		32.8
					39.9		36.6
					34.6		31.7)

Spring Planted Oat Variety Test

Variety	C.I. No.	Yields of Grain per Plot-lbs.					Bu. Per Acre.
		1	2	3	4	Avg.	
Nortex	2382	49.2	49.9	52.9	52.9	51.2	88.0
Texas Red Rustproof, T.S.	1415-12	48.0	53.1	48.5	54.9	51.1	87.8
" T.S.	1118-69	48.6	51.3	50.1	52.9	50.7	87.1
" T.S.	2805-43	49.9	46.2	52.7	51.6	50.1	86.1
Fulghum	2498	48.3	52.4	51.1	47.7	49.9	85.8
Appler Rustproof, T.S.	1401-24	47.5	51.3	49.7	49.8	49.6	85.3
Ferguson 922 C.I.	2150	48.1	49.1	51.0	46.5	48.7	83.7
Texas Red Rustproof,	2805-39	45.3	46.2	44.7	43.9	45.0	77.3
Frazier C.I.	2381	41.6	43.7	47.8	46.6	44.9	77.2
Texas Red Rustproof, T.S.	6217-43	44.4	45.0	44.3	43.9	44.4	76.3
Norton Strain 3		44.0	41.7	-	-	42.9	73.7

Barley Variety Test- Fall planted

Finley	C.I. 5901	24.3	27.0	25.0	28.5	26.2	30.0
Tenn. Winter, T.S.	13825	23.8	19.0	20.7	23.3	21.7	24.9
Wisconsin Winter	C.I. 2159	24.1	19.3	18.0	24.3	21.6	24.8
Tenn. Winter, T.S.	18561	19.9	19.1	18.5	20.0	19.4	22.2
Tenn. Winter	T.S. 15826	20.8	15.6	19.3	16.3	18.0	20.6
Spring planted							
Stavropol	C.I. 2105		25.4	23.3	19.8	22.8	26.1
Coast	690	14.7	16.6	16.5	18.3	16.5	18.9
Club Mariout	261	13.1	14.8	14.8		14.2	16.3
Vaughn	1367	12.1	13.3			12.9	14.8
Finley	5901	9.6	6.1	9.3	12.0	9.4	10.8

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY

AGRONOMIC AND QUALITY DATA

Data obtained by the Division of Cereal Crops and Diseases in cooperation with the State Agricultural Experiment Station

Table
Data obtained from winter wheat varieties grown in duplicate 40th acre plots on the Dickinson Substation in 1933 a/

DATE OF SEEDING Sept.21; Rate of seeding, 1 bu. per acre. DATE OF EMERGENCE Emerged Oct.16. Size of plot 7 1/3x150 ft.

VARIETY	C. I. No.	DATES		DAYS TO MATURITY FROM		STAND	WINTER SURVIVAL	HEIGHT	RUST		Pounds None per 1/80 acre	ACRE YIELD			GRAIN QUALITY		
		First Headed	Ripe	Emergence	Heading				Leaf	Stem		Grain		Straw	Test weight per bushel	Protein content	U. S. grade
						Per ct.	Per ct.	Inches	Per ct.	Per ct.	Per ct.	Bushels	Pounds	Pounds	Pounds	Per ct.	
Turkey	1571	6-20	7-24		34	31		24			5.6	7.5	4	1232	62.0		
Minturki	6155	6-20	7-24		34	38		25			5.9	7.9	3	1448	60.5		
Beloglina	1543	6-20	7-24		34	19		24			6.9	9.2	0	1528	61.0		
Kanred x Buffum	8030	6-21	7-25		34	22		25			5.0	6.7	1	880	61.0		
Yogo	8033	6-21	7-25		34	21		25			6.6	8.8	2	832	60.5		
Minhardi x Minturki	8034	6-21	7-25		34	10		26			3.9	5.2	10	888	59.5		
Kanred	5146	6-20	7-23		33	19		24			5.4	7.2	5	688	61.0		
Nebraska No. 60	6250	6-20	7-24		34	23		24			4.8	6.4	1	576	60.5		
Kharkof	1442	6-20	7-24		34	31		23			4.1	5.5	1	952	61.0		
Karmont	6700	6-21	7-25		34	36		23			4.2	5.6	4	784	60.0		

a/ Due to severe winterkilling only a portion of one plot (1/80 acre) of each variety was harvested.

U. S. GOVERNMENT PRINTING OFFICE: 1931 8—2503

Winter Wheat Yields- Sheriday Wyoming.
Bushels per acre

Variety	C.I. No.	1929	1930	1931	1932		Ave. 1925-32	Estimated stand in per cent 1933
Kharkof	1442	30.9	20.7	8.9	42.7	25.8	36.1	60
Turkey	1571	31.3	18.4	6.9	47.3	26.0	35.3	60
Kanred	5164	28.2	23.3	9.5	40.4	25.4	36.4	70
Karmont	6700	31.3	19.1	6.5	45.3	25.6	35.6	70
Montana #36	5549	31.3	19.3	11.3	46.7	27.2	37.6	70
Newturk	6935	28.7	20.0	6.5	45.6	25.2	34.2	60
Hays #2	6686	31.8	19.3	11.1	44.9	26.8		70
Yogo	8033		18.2	7.8	44.9			75
	8034		14.89	6.2	42.7			75
Nebraska #60	6250			6.4	46.4			70
	8215			6.0	42.5			70
Minturki	6155			4.7	39.3			75
	8889			5.8	44.9			75

1933 crop not yet threshed,- yield probably slightly under average, mostly on accout of winter killing, unusual here.

Wheat Winter Year 1932-33 Date Planted 9-7-32 Place Waseca #1

1/40 Acre Plots.

.02963955O

Name	Plot No. (Row No.)	Date Heading	Date Mat.	Per cent Winter Injury	Height Inches	Per cent Lodged	Degree Lodged	Per cent Stem Rust	Per cent Leaf Rust	Other Diseases		Bot. Type	Grain: Color	Grain: Per cent Plump	Grain: Texture	Yield in Grams	Yield Bu. Per Acre	Remarks: Bu. Wght.
Minturki × Bal. Buff. CI 8033	1	6-12	7-13	5	37	0			80				R	85	80	1472	43.6	58.2
	13	10	10	4	39	0										1312	38.9	
	24	11	12	6	38	90	20									1310	38.8	
Av.		6-11	7-12	5	38	30	20										40.4	
Minturki	2	6-10	7-12	3	39	0			70				R	90	70	1454	43.1	59.0
"	14	12	7	T	40	0										1250	37.0	
"	26	8	7	3	39	0										1135	33.6	
Av.		6-10	7-9	2	39	0											37.9	
Karmont	3	6-13	7-13	15	35	0	0		90				R	85	80	1226	36.3	58.0
"	15	10	12	10	33	80	20									1210	35.9	
"	28	11	12	12	35	95	30									1242	36.8	
Av.		6-11	7-12	12	34	58	25										36.3	
Minnardi × Minturki 8034	4	6-13	7-10	10	42	0			75				R	80	80	1214	36.0	57.4
	12	11	10	5	42	0			60							1096	32.5	
	23	10	10	10	39	0										1008	29.9	
Av.		6-11	7-10	8	41	0			68								32.8	
Kanred	5	6-11	7-10	20	38	0			90				R	85	75	1414	41.9	57.5
"	19	8	7	20	33	0										1284	38.1	
"	27	8	10	10	35	50	20									1300	38.5	
Av.		6-9	7-9	17	35	17	20										39.5	

Wheat Winter Year 1932-33 Date Planted 9-7-32 Place Waseca

#2

1/40 Acre Plots.

.02963955O

Name	Plot No.	Date Heading	Date Mat.	Per cent Winter Injury	Height Inches	Per cent Lodged	Degree Lodged	Per cent Stem Rust	Per cent Leaf Rust	Other Diseases		Bot. Type	Grain: Color	Grain: Per cent Plump	Grain: Texture	Yield in Grams	Yield Bu. Per Acre	Remarks: Bu. Weight.
NewTurk	6	6-11	7-17	15	39	95	30		80				R	80	80	1468	43.5	57.6
CI 6935	17	10	10	5	35	0										1344	39.8	
" ✓	27	10	10	20	29	0										976	28.9	
Av.		6-10	7-11	13	34	32	30										37.4	
MinTurki	7	6-9	7-17	16	39	0			60				R	90	80	1295	38.4	59.1
x Marquis ✓	16	9	10	7	39	0										1190	35.3	
II-22-15	21	9	10	5	36	0										1026	30.4	
Av.		6-9	7-11	9	38	0											34.7	
Nebraska	8	6-10	7-10	20	38	0			60				R	85	75	1308	38.8	58.3
#60	11	9	10	20	40	0			60							1254	37.2	
CI 6250 ✓	25	9	11	15	32	0										1127	33.4	
Av.		6-9	7-10	18	37	0											36.5	
Kharkof	9	6-8	7-10	25	37	0			65				R	85	80	1250	37.0	58.4
CI 1442	18	8	8	6	31	0										1245	36.9	
" ✓	30	8	7	10	34	0										1300	38.5	
Av.		6-8	7-8	14	34	0											37.5	
Minard	10	6-9	7-10	3	38	0			60				R	80	80	1235	36.6	58.2
x Minhardi	20	8	10	1	35	0										1170	34.7	
8884 ✓	29	9	10	0	36	0										1304	38.6	
Av.		6-9	7-10	1	36	0											36.6	

Wheat Winter Year 193x-33 Date Planted 9-7-32 Place Waseca

#3

1/40 Acre Plots.

.02963955O

Name	Plot No. Row No.	Date Heading	Date Mat.	Per cent Winter Injury	Height Inches	Per cent Lodged	Degree Lodged	Per cent Stem Rust	Per cent Leaf Rust	Other Diseases		Bot. Type	Grain: Color	Grain: Per cent Plump	Grain: Texture	Yield in Grams	Yield Bu. Per Acre	Remarks: Bu. Weight.
Minturki x Marquis II-22-7	31 11501	6-10	7-10	5	41	0							R	85	75	1193	35.4	58.0
Minturki x Marquis II-22-38	32 11502	6-8	7-7	5	37	0							R	90	75	1306	38.7	59.9
Minturki x Marquis II-22-39	33	6-10	7-10	5	41	0							R	85	75	1282	38.0	58.0
Minturki x Marquis II-22-50	34	6-10	7-10	Tr.	42	0							R	85	75	1191	35.3	58.1
Minhardi x Marquis II 22-17	35	6-8	7-10	6	39	0							R	75	75	1190	35.3	56.6
Minturki	36	6-10	7-12	10	38	10	15									1202	35.6	59.0

CARRIER WHEAT VARIETY TEST 1932-33

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Variety	Plat 1		Plat 2		Plat 3		Plat 4		Plat 5		Plat 6	
Turkey Check	1601	8.55	1626	16.84	1632	15.56	1691	16.81	1719	13.39	1747	17.67
Quivera	1602		1627		1633		1692		1720		1748	
Eagle Chief	1603		1634		1662		1693		1721		1749	
Turkey Check A	1604	20.11	1635	26.79	1663	17.34	1694	21.15	1722	17.35	1750	4.87
Turkey Check B	1604		1635		1663		1694		1723		1726	12.02
Tenmarq	1605		1636		1664		1695		1723		1727	
Blackhull	1606		1637		1665		1696		1724		1728	
Turkey Check A	1607	18.12	1638	22.50	1666	24.26	1697	22.24	1725	9.82	1729	20.31
Turkey Check B	1607		1638		1666		1697		1701	9.20	1729	
Kanred	1608		1639		1667		1698		1702		1730	
Kharkof	1609		1640		1668		1699		1703		1731	
Turkey Check A	1610	18.03	1641	18.72	1669	22.57	1700	8.00	1704	14.79	1732	13.53
Turkey Check B	1610		1641		1669		1676	12.08	1704		1732	
Nebr. 60	1611		1642		1670		1677		1705		1733	
Cheyenne	1612		1643		1671		1678		1706		1734	
Turkey Check	1613	17.95	1644	27.17	1672	24.61	1679	26.88	1707	17.79	1735	17.61
Turkey O.A.M.C. Sel.	1614		1645		1673		1680		1708		1736	
Sibley 81	1615		1646		1674		1681		1709		1737	
Turkey Check A	1616	16.98	1647	20.63	1675	5.40	1682	20.56	1710	22.15	1738	17.77
Turkey Check B	1616		1647		1651	15.40	1682		1710		1738	
Sibley 62	1617		1648		1652		1683		1711		1739	
Nebr. 28	1618		1649		1653		1684		1712		1740	
Turkey Check A	1619	23.81	1650	8.98	1654	23.29	1685	23.71	1713	18.90	1741	17.01
Turkey Check B	1619		1654	23.29	1660	23.70	1685		1713		1741	
Kawvale	1620		1655		1661		1686		1714		1742	
Fulcaster	1621		1628		1656		1687		1715		1743	
Turkey Check	1622	22.88	1629	24.92	1657	17.21	1688	20.70	1716	20.17	1744	19.36
Harvest Queen	1623		1630		1658		1689		1717		1745	
Denton	1624		1631		1659		1690		1718		1746	
Turkey Check	1625	7.73	1632	15.56	1660	23.70	1691	16.81	1719	13.39	1747	17.67

Length of Plats 50 ft.
Width of Plats 70 in.

avg.	17.13	20.54	19.36	18.89	15.70	15.78

1st P.E.
Winter Check
One.

CARRIER WHEAT VARIETY TEST 1932-33

Plat No.	Variety	Bu. Per Acre	Total Straw From Shock	Lbs. Straw Per Acre	Test Wt.
1601	Turkey Check	8.55	17.13	2386	54.0
1626	"	16.84	20.54	2621	56.8
1632	"	15.56	19.36	2621	55.7
1691	"	16.81	18.89	2651	56.4
1719	"	13.39	15.70	3300	54.0
1747	"	17.67	15.78	3697	56.0
Aver. Yield		14.80	17.90	2889	55.5
1602	Quivira	14.76		1780	53.0
1627	"	16.83		3695	55.0
1633	"	24.58		4008	57.0
1692	"	18.95		2627	56.5
1720	"	16.55		2561	56.5
1748	"	26.18		4022	55.0
Aver.		19.64		3116	55.5
1603	Eagle Chief	19.76		2369	55.7
1634	"	19.93		2777	57.9
1662	"	23.81		3459	57.7
1693	"	21.17		2676	55.8
1721	"	18.45		3022	55.8
1749	"	15.36		3498	55.0
Aver.		19.75		2697	56.3
1604	Check	20.11		2714	56.7
1635	"	26.79		2784	58.5
1663	"	17.34		3141	56.5
1694	"	21.15		2834	57.1
1722	"	17.35		3114	56.6
1750 A	"	4.87		1537	52.0
1726 B	"	12.02		2672	56.5
Aver. A		A 17.94		2687	56.2
Aver. B		B 19.13		2877	57.0
1605	Tenmarq	19.65		3711	54.0
1636	"	27.69		4861	57.5
1664	"	24.03		4025	56.4
1695	"	17.86		4103	52.4
1723	"	21.79		4156	54.0
1727	"	13.09		4286	51.0
Aver.		20.69		4190	54.2

Carrier Wheat Variety Test 1932-33

Plat No.	Variety	Bu. Per Acre	Total Straw From Shock	Lbs. Straw Per Acre	Test Wt.
1606	Blackhull	21.35		2430	60.4
1637	"	24.42		2900	62.3
1665	"	27.04		3526	61.3
1696	"	22.29		2923	61.0
1724		20.89		3190	60.8
1728	"	20.41		3480	60.2
Aver.		22.73		3075	61.0
1607	Check	18.12		2374	56.4
1638	"	22.50		2832	58.2
1666	"	24.26		3484	57.6
1697	"	22.24		3318	56.9
1725 A	"	9.82		1711	56.0
1701 B	"	9.20		1774	54.4
1729	"	20.31		2833	55.6
Aver. A		19.54		2759	56.8
Aver. B		19.44		2769	56.5
1608	Kanred	16.43		2334	56.0
1639	"	20.20		2500	57.0
1667	"	20.08		3526	57.0
1698	"	19.00		3277	56.0
1702	"	11.77		3031	52.0
1730	"	13.92		3033	54.0
Aver.		16.90		2950	55.3
1609	Kharkof	18.72		2666	57.0
1640	"	19.27		2947	57.0
1668	"	21.57		3306	56/0
1699	"	17/19		3385	55.5
1703	"	17.38		2799	55.0
1731	"	16.05		3010	55.0
Aver.		18.36		2950	55.9
1610	Check	18.03		2891	56.6
1641	"	18.72		3137	57.0
1669	"	22.51		3615	56.0
1700 A	"	8.00		1402	55.4
1676 B	"	12.08		2384	56.7
1704	"	14.79		3504	56.5
1732	"	13.53		3187	56.0
Aver. A.		15.93		2956	56.3
Aver. B.		~~16.61~~ 16.61		3120	56.5

Carrier Wheat Variety Test 1932-33

Plat No.	Variety	Bu. Per Acre	Total Straw From Shock	Lbs. Straw Per Acre	Test Wt.
1611	Nebr. 60	19.50		2750	56.8
1642	"	25.45		3700	58.9
1670	"	22.85		3647	57.7
1677	"	13.46		3609	56.0
1705	"	16.72		2891	56.6
1733	"	15.34		3575	56.0
Aver.		18.89		3362	57.0
1612	Cheyenne	22.93		3119	59.0
1643	"	20.57		3418	58.2
1671	"	23.60		3837	57.8
1678	"	22.71		3655	57.6
1706	"	15.25		3267	57.0
1734	"	20.70		3044	56.9
Aver.		20.96		3390	57.7
1613	Check	17.95		3836	57.9
1644	"	27.17		3179	58.6
1672	"	24.61		3986	58.2
1679	"	26.88		4215	58.5
1707	"	17.79		3533	57.1
1735	"	17.61		2759	56.2
Aver.		22.00		3585	57.8
1614	Turkey O.A.M.C. Sel	26.03		3273	56.7
1645	"	21.08		3021	57.7
1673	"	17.86		3790	55.2
1680	"	18.75		3920	56.6
1708		1849			
1736	"	13.73		3071	54.0
Aver.		19.49		3415	56.0
1615	Sibley 81	23.44		2540	59.6
1646	"	21.28		2513	60.1
1674	"	9.20		3658	56.5
1681	"	2698		3896	59.2
1709	"	20.32		2884	59.2
1737	"	20.97		2924	58.3
Aver.		20.37		3069	58.8
1616	Check	16.98		3294	53.5
1647	"	20.63		3336	57.2
1675 A	"	5.40		1297	56.0
1651 B	"	15.40		2709	56.7

Carrier Wheat Variety Test 1932-33

Plat No.	Variety	Bu. Per Acre	Total Straw From Shock	Lbs. Straw Per Acre	Test Wt.
1682	Check	20.56		3392	57.9
1710	"	22.15		1484	56.9
1738	"	17.77		1472	55.1
Aver. A.		17.25		2379	56.1
Aver. B		18.92		2615	56.2
1617	Sibley 62	21.82		3029	56.7
1648	"	18.21		3038	55.3
1652	"	12.50		3459	54.0
1683	"	22.65		2848	56.8
1711	"	18.75		3421	55.3
1739	"	16.76		3359	53.9
Aver.		18.45		3192	55.3
1618	Nebr. 28	23.10		2718	59.8
1649	"	17.50		2085	59.0
1653	"	21.80		2350	59.3
1684	"	18.82		2711	58.7
1712	"	22.77		2841	59.4
1740	"	25.94		2652	58.9
Aver.		21.66		2560	59.2
1619	Check	23.81		2401	58.2
1650 A	"	8.98		1682	55.2
1654 B	"	23.29		4065	55.8
1654 A	"	23.29		4065	55.8
1660 B	"	23.70		3152	58.2
1685	"	23.71		2471	57.8
1713	"	18.90		3232	55.8
1741	"	17.01		3553	55.0
Aver. A.		19.28		2916	56.3
Aver. B.		21.74		3161	56.8
1620	Kawvale	24.20		3174	56.0
1655	"	23.11		2586	57.0
1661	"	18.04		4040	56.0
1686	"	22.94		3013	57.0
1714	"	25.21		2513	57.5
1742	"	13.68		3961	53.0
Aver.		21.20		3214	56.1

Carrier Wheat Variety Test 1932-33

Plat No.	Variety	Bu. Per Acre	Total Straw From Shock	Lbs. Straw Per Acre	Test Wt.
1621	Fulcaster				
1628	"				
1656	"				
1687	"	No Data.	Not True To Type		
1715	"				
1743	"				
Aver.					
1622	Check	22.88		2861	55.7
1629	"	24.92		3470	57.1
1657	"	17.21		3254	55.0
1688	"	20.70		2469	56.0
1716	"	20.17		3154	55.7
1744	"	19.36		3752	55.5
Aver.		20.87		3161	55.8
1623	Harvest Queen	21.90		2894	56.1
1630	"	19.70		3470	56.3
1658	"	22.14		3011	56.4
1689	"	20.57		2738	55.8
1717	"	26.51		2903	56.1
1745	"	21.02		3835	55.3
Aver		21.97		3141	56.0
1624	Denton	19.25		2923	57.9
1631	"	22.77		2894	57.6
1658	"	21.33		2954	56.6
1690	"	21.07		2943	57.3
1718	"	17.85		3712	55.8
1746	"	20.02		3765	54.0
Aver.		20.38		3198	56.5
1625	Check	7.73		1105	56.5
1632	"	15.56		2621	55.7
1660	"	23.70		3152	58.2
1691	"	16.81		2651	56.4
1719	"	15.39		3300	54.0
1747	"	17.67		3697	56.0
Aver.		15.81		2754	56.1

UNITED STATES DEPARTMENT OF AGRICULTURE
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AGRONOMIC AND QUALITY DATA
DATA OBTAINED BY THE DIVISION OF CEREAL CROPS AND DISEASES
IN COOPERATION WITH THE OKLA. A. & M. EXP. STA.

CARRIER WHEAT VARIETY 1932-33

Date of Seeding 10/5/32

Date of Emergence 10/10/32

Variety	C.I. No.	Date Headed	Days to Maturity from Emergence	Days to Maturity from Heading	Stand	Winter Survival	Height	Rust Leaf	Rust Stem	Lodging	Acre Yield Grain Bushels	Acre Yield Grain Pounds	Acre Yield Straw Lbs	Test Wt/ Per Bu.	Protein Content	U. S. Grade
Turkey Check	1558										14.80	8,880	2,889	55.5		
Quivira	8886										19.64	11,784	3,116	55.5		
Quivira	8886										19.75	11,850	2,697	56.3		
Eagle Chief	8868										A17.94	10,764	2.687	53.2		
											B19.13	11,478	2,877	57.0		
Turkey Check	1558										20.69	12,414	4,190	54.2		
Tenmarq	6936										22.73	13,638	3,075	61.0		
Blackhull	6251										A19.54	11,724	2,759	56.8		
Turkey Check	1558										B19.44	11,664	2,769	56.5		
Kanred	5146										16.9	10,140	2,950	55.3		
Kharkof	1442										18.36	11,016	2,950	55.9		
Turkey Check	1558										A15.93	9,558	2,956	56.3		
											B16.61	9,966	3.120	56.5		
Nebr. 60	6250										18.89	11,334	3,362	57.0		
Cheyenne	8885										20.96	12,576	3,390	57.7		
Turkey Check	1558										22.0	13,200	3,585	57.8		
Turkey Sel. O.A.M.C.	10083										19.49	11,694	3,415	56.0		
Sibley 81	10084										20.37	12,322	30.69	58.8		
Turkey Check	1558										A17.25	10,350	2,379	56.1		
											B18.92	11,352	2,615	56.2		
Sibley 62	11523										18.45	11,070	3192	55.3		
Nebr. 28	5147										21.66	12,996	2,560	59.2		
Turkey Check	1558										A19.28	11,568	2,916	56.3		
											B21.74	13,044	3,161	56.8		

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CARRIER WHEAT VARIETY 1932-33

Date of Seeding 10/5/32

Variety	C.I. No.	Date Headed	Days to Maturity from Emergence	Days to Maturity from Heading	Stand	Winter Survival	Height	Rust Leaf	Rust Stem	Lodging	Acre Yield Grain Bushels	Acre Yield Grain Pounds	Acre Yield Straw Lbs	Test Wt. Per Bu.	Protein Content	U.S. Grade
Kawvale	8180 ✓										21.20	12,720	3,214	56.1		
Fulcaster	(No Data-Not true to type)															
Turkey Check	1558 ✓										20.87	12,522	3,161	55.8		
Harvest Queen	6199 ✓										21.97	13,182	3,141	56.0		
Denton	8265 ✓										20.38	12,228	3,198	56.5		
Turkey Check	1558 ✓										15.81	9.486	2,754	56.1		

(No Data Other than yields were secured.)

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UNITED STATES DEPARTMENT OF AGRICULTURE
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AGRONOMIC AND QUALITY DATA
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IN COOPERATION WITH THE OKLA. A. & M. EXP. STA.

STILLWATER WHEAT VARIETY 1933-35

Date of Seeding 10/5/32

Date of Emergence 10/10/32

Variety	C.I. No.	Date Headed	Date Ripe	Days to Maturity from Emergence	Days to Maturity from Heading	Stand	Winter Survival	Height	Rust Leaf	Rust Stem	Lodging	Acre Yield Grain Bushels	Acre Yield Grain Pounds	Acre Yield Straw Lbs	Test Wt. Per Bu.	Protein Content	U.S. Grade
Turkey Check	1558	5/3	6/5	238	33			33				28.66		4454	58.5		
Early Blackhull	8856	4/17	5/30	232	43			34				32.92		4256	61.3		
Quivira	8886	4/26	6/1	234	36			35				27.38		3914	58.3		
Turkey Check	1558	5/2	6/5	238	34			33				24.57		4315	57.7		
Eagle Chief	8868	5/2	6/4	237	33			33				27.15		4269	56.8		
Tenmarq	6936	4/29	6/4	237	36			33				28.59		3511	55.8		
Turkey Check	1558	5/2	6/4	237	33			33				26.83		4168	57.9		
Blackhull	6251	5/1	6/4	237	34			36				31.91		4670	60.9		
Redhull	11534	5/2	6/4	237	33			35				26.75		4545	58.4		
Turkey Check	1558	5/2	6/4	237	33			33				28.60		3967	58.3		
Kanred	5146	5/2	6/4	237	33			33				26.27		4356	56.6		
Kharkof	1442	5/3	6/4	237	32			33				26.61		4596	56.7		
Turkey Check	1558	5/3	6/5	238	33			34			A	29.42		4737	58.3		
"	1558	5/3	6/5	238	33			34			B	29.76		4675	58.4		
Nebr. 60	6250	5/4	6/5	238	32			32				22.93		3629	58.2		
Ioturk	11388	5/6	6/5	238	30			34				23.03		4236	58.5		
Turkey Check	1558	5/2	6/4	237	33			33			A	27.71		4369	58.5		
"	1558	5/2	6/4	237	33			33			B	26.72		4238	58.3		
Cheyenne	8885	5/3	6/4	237	32			33				29.68		4362	58.2		
Turkey Sel. O. A. M. C.	10083	5/4	6/5	238	32			33				24.16		3762	57.8		
Turkey Check	1558	5/2	6/4	237	33			34				26.11		4152	58.5		
Sibley 81	10084	5/3	6/4	237	32			34				30.57		4561	59.6		
Sibley 62	11523	5/4	6/5	238	32			33				24.16		3920	57.2		
Turkey Check	1158	5/3	6/4	237	32			33			A	27.78		4172	58.9		

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IN COOPERATION WITH THE OKLA. A. & M. EXP. STA.

STILLWATER WHEAT VARIETY 1933

Variety	C.I. No.	Date Headed	Date Ripe	Days to Maturity from Emergence	Days to Maturity from Heading	Stand	Winter Survival	Height	Rust Leaf	Rust Stem	Lodging	Acre Yield Grain Bushels	Acre Yield Grain Pounds	Acre Yield Straw Lbs	Test Wt. Per Bu	Protein Content	U. S. Grade
Turkey Check	1558	5/3	6/4	237	32			33				B. 25.75		3865	58.8		
Nebr. 28	5147	4/16	5/27	229	41			29				25.29		3251	59.5		
Kawvale	8180	5/1	6/3	236	33			31				26.38		3443	57.7		
Turkey Check	1558	5/3	6/5	238	33			31				30.29		3224	58.7		
Fulcaster (Not true to type)																	
Harvest Queen	6199	5/2	6/5	238	34			35				21.84		3715	56.8		
Turkey Check	1558	5/3	6/5	238	33			33			A	25.83		3517	58.8		
"	1558	5/3	6/5	238	33			33			B	24.88		3814	58.6		
Denton	8265	5/3	6/4	237	32			36				26.50		4336	58.6		
Purkof	8381	5/4	6/4	237	31			35				23.49		4075	56.0		
Turkey Check	1558	5/3	6/5	238	33			33			A	26.75		3588	58.4		
"	1558	5/3	6/5	238	33			33			B	27.91		3928	58.8		
Penquite	5948	5/1	6/3	236	33			35				30.05		4517	59.5		
Nittany	5962	5/3	6/4	237	32			38				23.34		4222	54.7		
Turkey Check	1558	5/3	6/5	238	33			38				23.18		4135	58.6		

U.S.D.A. UNIFORM YIELD TEST NURSERY-STILLWATER, OKLAHOMA. 1932-33

AGRONOMY FARM WEST 8300

Variety	C. I. No.	Oklahoma N. S. N.	Height	First Headed	Ripe	Spring Survival	Yields Grain in Bushels Per Acre Plat 1	Plat 2	Plat 3	Plat 4	Ave. Yield Grain Bu. Per Acre	Test Wt.
Turkey Check			37	4/30	6/4		39.0	32.5	40.8	33.0	36.3	
Kharkof	1442	III-32-1	35	5/2	6/4		33.4	24.0	36.2	32.8	31.6	58.0
Nebr. 60	6250	III-32-2	37	5/2	6/5		39.8	30.4	39.0	32.0	35.3	58.5
Blackhull	6251	III-32-3	38	4/30	6/4		37.2	38.0	33.2	30.0	34.6	61.0
Fulhard	8257	III-32-4	38	4/29	6/4		40.8	34.0	40.7	33.0	37.1	60.8
Turkey Check			37	5/1	6/4		38.4	31.8	37.0	33.0	35.1	
Early Blackhull	8856	III-32-5	36	4/15	6/3		39.0	41.0	35.4	34.2	37.4	60.6
Beloglina Sel.	8884	III-32-6	36	5/1	6/4		44.6	38.0	34.0	29.0	36.4	58.0
Kanred X Minturki	10,012	III-32-7	37	5/1	6/5		33.4	28.6	26.2	27.8	29.0	55.0
Turkey Sel.	10,015	III-32-8	36	4/30	6/4		41.4	38.6	38.2	36.2	38.6	60.8
Turkey Check			36	4/30	6/4		41.0	35.0	38.4	31.8	36.6	57.0
Turkey Sel.	10,016	III-32-9	36	4/27	6/3		38.6	37.2	37.0	32.2	36.3	59.0
Turkey Sel.	10,083	III-32-10	38	5/1	6/4		40.2	38.2	33.4	33.6	36.4	58.0
Sibley 81	10,084	III-32-11	40	5/1	6/4		43.8	36.6	36.2	33.6	37.6	60.9
Miditerranean Sel.	10,085	III-32-12	38	4/27	6/3		36.6	34.8	31.8	31.0	33.6	59.3
Turkey Check			38	5/1	6/5		43.0	39.4	37.8	39.5	39.9	
Miditerranean Sel.	10,086	III-32-13	37	4/30	6/4		33.0	32.5	18.4	27.0	27.7	60.0
P 1066 X Burbank	10,087	III-32-14	37	4/27	6/3		43.6	44.0	37.6	35.8	40.3	60.5
Minturki X Bel. Buf.	10,088	III-32-15	37	5/3	6/4		31.4	27.2	27.6	20.2	26.6	56.0
Tenmarq Sel.	10,089	III-32-16	38	4/27	6/4		39.0	42.6	33.4	36.0	37.8	59.0
Turkey Check			37	4/30	6/4		43.5	33.0	36.0	38.8	37.8	59.0
Kanred X Marquis	10,090	III-32-17	39	4/29	6/3		42.6	43.0	40.6	34.8	40.3	54.0
Kanred X Hard Fed.	10,091	III-32-18	36	4/22	6/2		43.6	41.6	33.0	44.4	40.7	60.2
Kanred X Hard Fed.	10,092	III-32-19	37	4/24	6/2		42.0	48.0	41.0	47.0	44.5	60.0
Kanred X Hard Fed.	10,093	III-32-20	35	4/22	6/2		43.0	46.8	37.2	43.2	42.6	60.0
Turkey Check			37	4/30	6/4		39.8	45.0	39.5	35.0	39.8	58.0
Turkey Sel.	10,094	III-32-21	37	4/27	6/3		39.6	40.4	36.4	31.8	37.1	60.2
Turkey Sel.	10,095	III-32-22	35	5/1	6/4		36.0	40.2	32.0	34.8	35.8	60.0
Turkey Sel.	10,096	III-32-23	35	4/27	6/3		41.6	33.2	32.0	34.8	35.2	60.6
Turkey Sel.	10,097	III-32-24	36	4/29	6/3		42.4	40.6	35.2	35.6	38.5	59.8
Turkey Check			36	4/30	6/4		43.5	38.8	35.6	37.5	38.9	59.0
Turkey Sel.	10,098	III-32-25	36	4/27	6/3		39.6	37.0	27.8	33.2	34.4	59.0
Kanred Sel.	10,099	III-32-26	38	4/30	6/3		46.0	35.0	29.8	33.6	36.1	58.7
Turkey Sel.	10,100	III-32-27	36	4/29	6/3		45.4	38.8	33.8	30.2	37.1	58.0
Kanred X Hard Fed.	11,373	III-32-28	35	4/23	6/2		43.0	47.0	37.6	43.4	42.8	60.0
Turkey Check			36	4/30	6/3		45.5	43.4	30.5	39.5	39.7	60.0
Kanred X Marquis	11,374	III-32-29	35	4/24	6/2		32.6	35.6	19.6	27.8	28.9	58.6
Turkey Sel.	11,375	III-32-30	35	5/1	6/4		40.0	38.2	18.2	38.0	33.6	59.0

Manhattan NYN - 1933

Name	CI No.	I				II				III				Ave.	
		1	2	3	ave	1	2	3	ave	1	2	3	ave		
K Larkof	1442	165	134	173	157.3	204	224	184	204.0	206	212	175	197.6	18.6 ± 0.99	186.3
Blackhull	6251	213	213	261	229.0	228	200	231	219.7	232	263	296	263.7	23.7 ± 0.92	237.4
Nebr. #60	6250	196	199	200	198.3	196	239	236	223.7	230	230	242	234.0	21.9 ± 0.72	218.7
Early Blackhull	8856	264	266	207	245.7	253	276	263	264.0	271	294	238	267.7	25.9 ± 0.45	259.1
Turkey sel.	10083	248	241	242	243.7	296	243	292	277.0	269	230	286	261.7	26.1 ± 0.64	260.8
Sibley No. 81	10084	224	203	208	211.7	222	199	208	209.7	157	184	196	179.0	20.0 ± 0.71	200.1
Med.	10085	241	222	203	222.0	215	246	268	243.0	198	158	190	182.0	21.6 ± 1.21	215.7
do	10086	89	100	95	94.7	135	125	123	127.7	88	100	92	93.3	10.5 ± 0.74	105.2
Kamed x Marquis	11374	160	156	142	152.7	212	192	145	183.0	156	152	108	138.7	15.8 ± 0.87	158.1
P1066-1 x Burbank	10087	191	171	223	195.0	330	289	207	275.3	316	233	262	270.3	24.7 ± 1.74	246.9
Beloglina sel.	8884	170	224	138	177.3	180	191	248	206.3	178	182	210	190.0	19.1 ± 0.56	15.9 191.2
Kamed x Mintuhs	10012	149	108	122	126.3	148	170	164	160.7	176	192	200	189.3	15.8 ± 1.23	156.8
Mintuhs x Bel-Boff.	10088	124	95	119	112.7	153	160	141	151.3	124	164	165	151.0	13.8 ± 0.85	136.3
Jennag sel.	10089	169	139	212	173.3	218	158	150	175.3	304	264	278	282.0	21.0 ± 2.43	210.2
Fulhard	8257	363	300	313	325.3	211	218	272	233.7	338	268	195	267.0	27.5 ± 1.79	275.3
Kamed x Marquis.	10090	233	254	249	245.3	232	269	218	239.7	155	186	197	179.3	22.1 ± 1.43	221.4
Kamed x Hd. Fed.	11373	282	260	165	235.7	279	345	375	333.0	239	215	241	231.7	26.7 ± 2.22	266.8
do	10091	186	201	167	184.7	288	328	270	295.3	167	185	192	181.3	22.0 ± 2.52	220.4
do.	10092	279	234	84	199.0	342	298	318	319.3	226	272	228	242.0	25.3 ± 2.37	253.4
do	10093	266	212	195	224.3	228	244	238	236.7	224	210	205	213.0	22.5 ± 0.47	224.7
Turkey sel.	10015	322	277	80	226.3	280	294	291	288.3	272	259	232	254.3	25.6 ± 1.21	256.3
do	10016	253	252	232	245.7	277	280	273	276.7	253	234	193	226.7	25.0 ± 0.98	249.7
do	10094	272	299	271	280.7	253	285	304	280.7	200	222	206	209.3	25.7 ± 1.62	256.9
do	10095	328	336	291	318.3	315	295	292	300.7	267	209	234	236.7	28.5 ± 1.66	285.2
do	10096	262	236	251	249.7	269	286	253	269.3	198	229	186	204.3	24.1 ± 1.30	241.1
do	10097	249	259	218	242.0	287	264	274	275.0	218	253	234	235.0	25.1 ± 0.83	250.7
do	10098	278	264	253	265.0	250	267	288	268.3	263	273	206	247.3	26.0 ± 0.44	260.2
Kamed sel. 0166	10099	247	250	244	247.0	208	225	232	221.7	176	202	187	188.3	21.9 ± 1.15	219.0
Turkey sel. Colo. 159	10100	308	282	286	292.0	283	269	240	264.0	177	207	162	182.0	24.6 ± 2.22	246.0
do " 351	11375	231	223	285	246.3	242	235	246	241.0	176	154	183	171.0	21.9 ± 1.63	219.4
Sibley #62	11623	278	264	254	265.3	244	197	195	212.0	206	166	147	173.0	21.7 ± 1.80	216.8

Yield in Grms

Subs Sibley 62