

NURSERY TRIALS WITH SMALL GRAIN

Cooperative nursery trials grown at the Dickinson Experiment Station in 1971 included: the Uniform Regional Hard Red Spring Wheat Nursery, the Uniform Durum Nursery, the Uniform Early and Uniform Midseason Oat Nurseries, the Uniform Great Plains Barley Nursery and the Uniform Regional Flax Nursery. In addition to the uniform regional trials, a seed treatment nursery and a leaf rust nursery were seeded for the Department of Plant Pathology, and a triticale nursery was grown.

The Northern Regional Hard Red Winter Wheat Performance Nursery work was taken over by Dr. John Erickson, Agronomy Department, North Dakota State University. This trial was moved from Dickinson to Hettinger because of more favorable growing conditions for winter wheat at the Hettinger location.

Table 31. UNIFORM REGIONAL HARD SPRING WHEAT NURSERY 1971 - DICKINSON

Variety or Treatment	Yield in Bushels per Acre				Test Weight	Heading Date	Ripe	Height Inches	Lodging
	Rep 1	Rep 2	Rep 3	Avg.					
C.I. No. 3461	28.7	29.6	24.4	27.6	59.5	7-8	8-9	34	None
13462	36.2	27.8	21.8	28.6	60.0	7-8	8-11	37	
13100	30.7	30.2	28.3	29.7	59.0	7-8	8-11	34	
13751	34.8	32.7	28.6	32.0	60.5	7-3	8-9	37	
13958	36.6	32.7	32.5	33.9	58.5	7-2	8-9	35	
RL 4200	34.3	34.1	32.6	33.7	60.5	6-30	8-9	37	
ND 491	32.2	36.1	31.8	33.4	61.5	7-1	8-9	36	
ND 506	36.2	42.1	29.7	36.0	61.5	7-2	8-9	35	
ND 501	30.6	36.8	30.5	32.6	61.0	7-2	8-9	35	
13986	41.0	48.7	38.2	42.6	60.0	7-8	8-9	30	
13985	37.1	46.3	36.2	39.9	60.0	7-8	8-12	28	
14077	36.2	43.0	30.8	36.7	61.0	7-2	8-9	28	
WORLD SEEDS 1809	37.5	41.3	35.7	38.2	61.5	6-28	8-8	27	
BOUNTY 208	37.8	38.5	33.2	36.5	61.5	6-28	8-6	28	
ND 499	26.2	38.2	37.6	34.0	60.0	7-4	8-9	30	
ND 497	32.1	33.7	29.5	31.8	60.0	7-4	8-10	29	
WISC. 271	31.8	32.1	27.8	30.6	60.0	7-3	8-9	31	
H 678-1-69	28.4	31.3	26.3	28.7	60.0	6-30	8-8	30	
WORLD SEEDS 1651-E	33.2	26.1	32.7	30.7	59.5	6-29	8-6	30	
NK 70414	38.3	30.3	36.7	35.1	61.0	6-28	8-6	29	
Standard error of a treatment mean = 2.0906 Standard error of a difference among treatment means = 2.9566 The CV = 10.77 per cent. The L.S.D. at 5% is 5.99 bushels per acre.									

Table 32. UNIFORM REGIONAL DURUM NURSERY 1971- - DICKINSON

Variety or Treatment	Yield in Bushels per Acre					Test Weight	Days from Seeding	Height Cent.	Lodging
	Rep 1	Rep 2	Rep 3	Rep 4	Avg.				
MINDUM	20.6	19.7	19.6	26.8	21.7	62.0	58	83.5	None
WELLS	21.7	26.5	27.5	30.6	26.6	62.0	59	86.5	
LEEDS	34.0	22.7	27.8	27.3	28.0	63.0	59	83.5	
HERCULES	22.6	30.7	22.2	24.6	25.0	63.0	58	81.0	
DT 317	25.0	32.1	25.5	32.1	28.7	62.5	58	79.0	
D 6517	23.3	27.6	25.4	33.1	27.4	63.0	60	61.0	
D 6647	34.3	28.1	29.6	33.7	31.4	62.5	63	96.5	
D 6674	26.6	29.1	27.1	27.6	27.6	62.5	59	79.0	
D 6676	31.5	29.1	27.7	28.1	29.1	63.5	57	63.5	
D 6721	30.6	30.0	30.5	31.7	30.7	62.0	58	86.5	
D 6722	25.6	26.1	27.1	34.6	28.4	62.0	59	71.0	
D 6723	28.2	25.1	24.7	36.1	28.5	63.5	59	83.5	
D 6714	28.6	28.6	27.3	29.2	28.4	63.5	58	76.0	
D 6715	39.2	31.4	34.4	28.3	33.3	65.0	61	81.0	
D 6718	29.6	20.6	26.6	35.6	28.1	63.0	61	81.0	
D 6733	30.4	30.4	28.6	25.1	28.6	62.0	57	83.5	
D 6761	20.1	26.6	21.2	28.1	24.0	63.0	56	83.5	
DT 327	24.0	30.0	25.2	25.5	26.2	63.0	58	61.0	
D 6838	22.7	28.4	21.3	29.6	25.5	63.0	59	89.0	
D 6876	28.1	30.4	27.6	32.5	29.7	62.5	56	86.5	
Standard error of a treatment mean = 1.6981 Standard error of a difference among treatment means = 2.4014 The CV = 12.20 per cent. The L.S.D. at 5% is 4.81 bushels per acre.									

Table 33. UNIFORM EARLY OAT PERFORMANCE NURSERY 1971 – DICKINSON

Variety or State Selection No.	Yield Bu/A.	Test Weight lbs/bu	Height in Inches	Lodging	Date 50% Headed	Date Ripe
CLINTFORD (check)	51.9	39.0	30	None	6-28	8-2
DIANA	58.1	36.5	32		6-28	8-4
ILL. 63-1105	63.5	37.0	34		6-29	8-5
ILL. 66-2287A	62.7	37.0	33		6-29	8-4
ILL. 67-1723	65.2	35.5	34		6-28	8-6
ILL. 68-1469	41.4	37.5	32		6-28	8-7
ILL. 68-1639	64.3	38.0	33		6-29	8-7
JAYCEE (check)	59.2	40.0	30		6-28	8-4
MINN. 67113	56.3	37.5	38		7-3	8-8
MO. 05482	56.8	39.0	35		6-28	8-7
MO. 0-205 (check)	69.6	33.5	34		7-3	8-9
S.D. B65PROI-1549	60.3	37.5	32		7-3	8-8
S.D. B65PROI-124	66.8	37.5	35		6-30	8-7
ANDREW (check)	53.6	37.0	36		6-30	8-8
IOWA MULTILINE E72	44.9	39.5	33		6-28	8-5
IOWA C237-98	40.8	40.5	34		6-28	8-3
GRUNDY	58.6	39.0	31		6-29	8-4
The CV = 11.8 per cent. The L.S.D. at 5% is 5.9 bushels per acre.						

Table 34. UNIFORM MIDSEASON OAT PERFORMANCE NURSERY 1971 – DICKINSON

Variety or State Selection No.	Yield Bu/A.	Test Weight lbs/bu	Height Inches	Date 50% Headed	Date Ripe	Lodging
GOPHER (check)	67.9	39.5	34	7-4	8-8	None
ILL. 66-2287A	69.9	38.5	35	7-3	8-10	
ILL. 67-1890	85.5	36.0	32	7-3	8-10	
ILL. 68-1718	86.9	39.5	33	6-30	8-8	
N.Y. 5279-105 (Orbit sel)	70.1	33.5	32	7-5	8-11	
N.Y. 6083-1	65.3	34.5	36	7-3	8-10	
ORBIT (check)	63.6	33.5	35	7-3	8-10	
MINN. 67201	61.2	34.5	31	7-3	8-11	
MINN. 67231	75.7	36.5	31	7-3	8-12	
DIANA (check)	54.1	34.5	32	6-30	8-9	
PUR. 5939B1-3-9-3-5	63.4	39.0	34	6-30	8-7	
PUR. 6215A2-1-2	62.7	38.0	31	7-2	8-7	
PUR. 61353B3-9-3	55.7	38.5	29	6-29	8-6	
JAYCEE (check)	72.9	34.5	29	6-30	8-9	
S.D. B65PROI-955	56.0	37.5	32	7-3	8-10	
S.D. B65PROI-1541	58.1	35.5	34	7-3	8-8	
MICH. 60-101-1-20	54.8	35.5	31	7-3	8-8	
MICH. 60-106-1-78	57.3	37.5	29	7-3	8-7	
MICH. 64-151-5-110	57.0	35.0	29	7-3	8-9	
MCIH. 60-104-1-34	58.6	37.5	32	7-3	8-9	
MICH. 64-132-12-20	74.8	35.5	32	7-5	8-10	
LODI (check)	52.6	36.0	34	6-30	8-9	
FROKER	54.0	37.0	31	7-3	8-8	
WISC. X1351-2	56.1	39.5	31	7-3	8-8	
WISC. X1656-1	53.5	36.0	28	7-4	8-9	
WISC. X1289-3	60.6	36.0	31	7-3	8-9	
CLINTLAND (check)	68.2	37.5	32	7-1	8-8	
IOWA MULTILINE M72	60.1	38.0	32	6-29	8-7	
IOWA C649	48.1	39.0	33	7-1	8-7	
PA 68A13	60.1	36.5	36	6-30	8-11	
PA 68A24	54.2	35.0	35	7-8	8-12	

The CV = 13.7 per cent. The L.S.D. at 5% is 7.1 bushels per acre.

Table 35. UNIFORM GREAT PLAINS BARLEY NURSERY 1971 – DICKINSON

Variety or Treatment	Yield in Bushels per Acre				Test Weight	Heading Date	Height Inches	Lodging	
	Rep 1	Rep 2	Rep 3	Avg.					
MUNSING	38.5	46.6	41.8	42.3	50.0	6-29	30	None	
UNITAN	43.5	51.4	38.9	44.6	46.0	6-28	29		
LARKER	39.6	46.6	48.4	44.9	49.0	6-28	33		
GALT	47.1	49.5	45.4	47.3	45.0	7-3	28		
63Ab1434	38.1	40.4	42.3	40.3	50.5	6-29	25		
SD 67640	37.8	36.9	36.6	37.1	48.5	6-30	30		
PRIMUS II	38.0	29.4	43.0	36.8	48.5	6-24	29		
CARIBOU	25.9	31.8	33.1	30.3	52.0	6-25	22		
SD 69-1781	38.4	38.9	43.3	40.2	48.5	7-3	31		
SD 69-1782	39.6	41.9	46.6	42.7	50.5	7-3	37		
63 Ab1434-11	44.6	46.4	44.4	45.1	52.5	6-26	24		
63 Ab 3727	33.3	35.5	49.8	39.5	53.0	6-30	26		
NORDIC	41.0	46.6	55.3	47.6	49.0	6-30	31		
MT. 069931	32.8	38.3	37.9	36.3	50.0	6-25	23		
MT. 069933	36.8	37.3	39.6	37.9	49.5	6-25	22		
MT. 069934	29.3	35.4	39.3	34.7	51.0	6-26	25		
MT. 069935	38.1	43.0	40.8	40.6	49.0	6-29	29		
TITAN	46.5	43.5	39.3	43.1	49.5	6-29	22		
Standard error of a treatment mean = 2.3172 Standard error of a difference among treatment means = 3.2770 The CV = 9.88 per cent. The L.S.D. at 5% is 6.66 bushels per acre.									

Table 36. UNIFORM REGIONAL FLAX NURSERY 1971 – DICKINSON

Variety or Treatment	Yield in Bushels per Acre				Test Weight	Bloom Date	Height Inches	Lodging
	Rep 1	Rep 2	Rep 3	Avg.				
BISON	22.0	12.7	9.7	14.8	56.0	7-5	23	None
REDWOOD	15.5	7.7	12.0	11.7	57.0	7-4	22	
BOLLEY	18.0	10.1	7.6	11.9	55.0	7-1	20	
WINDOM	6.4	12.3	8.6	9.1	57.0	7-3	21	
SUMMIT	14.5	11.0	8.7	11.4	56.5	7-2	20	
NORED	20.1	22.0	13.4	18.5	57.0	7-7	22	
WINDOM & 2138	13.6	9.4	.7	7.9	57.0	7-6	22	
B-5128 & BIRIO 2540	12.7	17.0	10.0	13.3	56.0	7-3	21	
BIRIO & BISON M3 2541	3.6	25.4	11.1	13.4	57.0	7-4	21	
BIRIO & BOLLEY 2542	1.6	5.0	2.2	2.9	55.0	7-1	21	
BIRIO & BOLLEY 2543	6.0	10.7	.4	5.7	56.0	7-3	20	
BIRIO & BOLLEY 2544	10.5	8.5	.6	6.5	56.0	7-1	21	
BIRIO & BOLLEY 2545	1.2	6.6	7.3	5.0	56.0	7-2	19	
B-5128 & ROCKET	10.5	13.1	4.0	9.2	55.0	7-8	20	
Standard error of a treatment mean = 2.6779 Standard error of a difference among treatment means = 3.7871 The CV = 45.95 per cent. The L.S.D. at 5% is 7.79 bushels per acre.								

Table 37. TRITICALE YIELD TRIAL 1971 – DICKINSON

Variety or Treatment	Yield in Pounds per Acre				Test Weight	Heading Date	Height Inches
	Rep 1	Rep 2	Rep 3	Avg.			
# 203	2472	2082	2832	2462	49.5	7-14	42
# 204	1638	1404	2172	1738	48.0	7-12	41
# 206	2100	2184	2400	2228	48.5	7-12	41
#208	1422	2226	1422	1690	47.0	7-14	41
# 209	2082	1920	2040	2014	47.5	7-13	40
TRAILBLAZER	2076	2472	1410	1986	50.0	7-11	41
Standard error of a treatment mean = 233.3456 Standard error of a difference among treatment means = 330.0005 The CV = 20.01 per cent. The L.S.D. at 5% is 735 pounds per acre.							

Table 38. Percent Severity and Reaction Types of *Puccinia Recondita* on Adult Plants of Spring and Durum Wheat at Dickinson

Spring Wheat	Dickinson
THATCHER	5S
MANITOU	tMS-tMR
EMPIRE	tS
INIA 66	tS
SELKIRK	tMR
NEEPAWA	tMS
JUSTIN	tS
WAMDUSKA	tS
FLETCHER	tS
FORTUNA	tS-tMR
CHRIS	tS
WORLD SEEDS 1812	tR-tS
BARTON	tS
POLK	tMR
ERA	tMS
BOUNTY 208	tS
WORLD SEEDS 1809	0
RED RIVER 68	0
BONANZA	0
WALDRON	0
EXCHANGE	0
TRANSFER	0
ISOGENIC LINE	
<u>Lr1</u>	0
<u>Lr2</u>	0
<u>Lr2D</u>	tMS
<u>Lr3</u>	tS
DURUM	
LEEDS	0
WELLS	0
HERCULES	0
WASCANA	tMS
GOLDEN BALL	0
A dash indicates a range in severity or reaction on the same plants. S = susceptible; R = resistant; MR = moderately resistant; MS = moderately susceptible; t = trace.	