

## **EXPERIMENTS WITH BARLEY**

Experiments with barley in 1952 included field plot trials of eleven named varieties and three Dickinson Experiment Station selections, and nursery trials of 63 varieties, strains and selections.

### **VARIETAL EXPERIMENTS**

The five top yielding varieties in the Dickinson Experiment Station varietal field plot trials in 1952 were: Hannchen which averaged 34.7 b.p.a., Tregal which averaged 33.7 b.p.a., Vantage which yielded 33.0 b.p.a., and two selections from Composite Cross 6725 made at the Dickinson Experiment Station in 1945, Ds. 45-15 which averaged 32.8 b.p.a. and Ds. 45-297 which produced a yield of 31.9 b.p.a.

Data from the 1952 field plot trials is presented in table 13.

Long term averages for the barley variety trials are summarized in table 14.

### **DICKTOO - A NEW BARLEY FOR NEBRASKA**

One of the most interesting developments in connection with the barley work at the Dickinson Experiment Station this year was the release of Dicktoo, a new winter barley variety for Nebraska. Dicktoo, (named for Dickinson Selection Two), traces to some early selection work with barley done at this station by Mr. Ralph W. Smith, former agronomist. Selected originally as a spring barley, this strain was not particularly promising and after several years in trials here was dropped. It had, however, apparently been placed in a regional nursery and found its way into Nebraska where it eventually was tested as a winter barley, and found promising. In the hands of the capable Nebraska agronomists, including L.P. Reitz and O.J. Webster, this strain advanced through the various nursery and field plot trials to emerge this year as a new variety considerably more winterhardy than previously recommended varieties. Dicktoo will help to stabilize winter barley production in Nebraska.

The story of Dicktoo - from Dickinson to Nebraska - points up the value of regional cooperation in the small grains testing programs.

Table 13 - Agronomic Data From Barley Variety Trials - 1952

Date Seeded - 4-22

Date Emerged - 5-3

Rate - 1 bpa

Plot Size - 1/66 acre

1952 No.	Variety or Cross	C.I.or N. No.	Yield - Bu. per acre					Test Weight	Dates		Height Inches	Rank
			1	2	3	4	Ave.		First Awns	Ripe		
1	Titan	7055	29.6	33.0	19.2	16.5	24.6	49.0	4-28	8-2	20	13
2	Kindred	6969	34.4	35.7	32.3	23.4	31.4	46.0	5-1	8-6	23	6
3	Feebar	7260	34.4	30.2	22.0	20.6	26.8	44.5	5-1	8-7	21	10
4	Trebi	936	37.8	40.6	23.4	17.9	29.9	45.0	5-1	8-5	19	7
5	Manchuria	244	30.9	33.0	24.1	23.4	27.8	48.0	6-29	8-8	22	9
6	Tregal	6359	39.2	39.2	37.1	19.2	33.7	45.0	6-30	8-6	19	2
7	Hannchen	531	35.7	36.4	44.7	22.0	34.7	50.0	7-5	8-8	20	1
8	Moore	7251	26.8	33.0	34.4	18.6	28.2	46.0	7-4	8-10	21	8
9	Montcalm	7149	26.1	30.9	28.2	15.1	25.1	46.0	5-2	8-7	22	12
10	Vantage	7324	36.4	39.9	35.7	19.9	33.0	45.0	7-3	8-6	22	3
11	Frontier		23.4	22.7	29.6	20.6	24.1	40.0	7-6	8-6	20	14
12	Comp Cross	45-15	28.9	37.8	39.9	24.7	32.8	42.0	7-5	8-5	22	4

	6725											
13	Do	45-297	30.2	35.1	41.2	21.3	31.9	48.0	6-29	8-3	19	5
14		45-435	20.6	34.4	30.2	19.9	26.3	45.0	6-22	8-1	20	11

Table 14 - Comparative Yields - Barley Varietal Trials - 1944-1952 with averages since 1923<sup>a</sup>

Variety	Yields in bushels per acre									1950 to 1952	1949 to 1952	1948 to 1952	1947 to 1952	1946 to 1952	1945 to 1952	1938 to 1952	1929 to 1952	1923 to 1952
	1944	1945	1946	1947	1948	1949	1950	1951	1952									
Manchuria	33.3	40.4	20.1	38.2	52.9	3.9	32.1	34.1	27.8	31.3	24.5	30.2	31.5	29.9	31.2	29.4	24.9	25.1
Kindred		31.5	18.0	35.4 <sup>b</sup>	59.7	6.5	33.2	23.1	31.4	29.2	23.6	30.8	31.6	29.6	29.9			
Montcalm			28.4	31.7	55.4	7.8	30.5	27.9	25.1	27.8	22.8	29.3	29.7	29.5				
Moore					60.1	5.3	31.0	29.8	28.2	29.7	23.6	30.9						
Trebi	40.2	36.3	25.7	47.3	63.7	6.9	37.1	34.8	29.9	33.9	27.2	34.5	36.6	35.1	35.2	34.1	27.5	
Tregal	35.8	28.8	24.7	41.2	62.2	10.7	45.8	40.3	33.7	39.9	32.6	38.5	39.0	36.9	35.9	33.5		
Hannchen (2 row)	36.1	35.6	27.4	39.2	49.8	12.0	34.8	44.7	34.7	38.1	31.6	35.2	35.9	34.7	34.8	31.6	26.0	25.7
Steigum (2 row)	37.8	39.5	29.8	37.6	55.4	10.3	35.8	36.8	---									
Spartan (2 row)	27.3	28.6	18.9	33.3	52.3	7.2	39.0	---	---									
Feebar				45.7	53.8	8.3	30.7	15.6	26.8	24.4	20.4	27.0	30.2					

Plains				31.7	48.4	4.4	34.6	21.5	---									
Vantage						10.7	36.5	39.8	33.0	36.4	30.0							
Titan						10.5	44.7	34.2	24.6	34.5	28.5							
Frontier							19.0	29.3	24.1	24.1								
Dix. 45-15										32.8								
Dix. 45-297										31.9								
Dix. 45-435										26.3								
Std. error %		15.5	18.8			31.0	12.6											
Sig. dif. bu.		8.0	6.4			4.1	7.0											

<sup>a</sup> Yields in 1941 reduced by hail July 9, not comparable and omitted from averages. Yields not recorded in 1936, crop too poor to harvest.

<sup>b</sup> Est. ten percent loss through shattering in wind.

## BARLEY NURSERIES:

- Uniform Great Plains Nursery - thirteen entries - triplicate
- Station Nursery - fifty entries - triplicate single rows

Vantage, high yielder in 1951, was again on top in the Uniform trial with an average of 37.1 bushels per acre. Utah BC4-68, Harlan and Titan ranked second, third and fourth in the 1952 trial with respective averages of 30.5, 30.3 and 27.3 bushels per acre.

Vantage was top yielder in the station trial also this year averaging 33.2 bushels per acre followed by Rex, Dix. 45-297 and Dix. 45-15 with respective yields of 32.8, 32.1 and 29.8 bushels per acre. Dix. 45-15 from Composite Cross 6725 was also included in this years field plot trial and ranked fourth in the larger trial also, yielding 32.8 bushels per acre. Hannchen, Tregal and Vantage ranked first, second and third in the larger trial with yields of 34.7, 33.7 and 33.0 bushels per acre respectively.

This strain is to be included in the 1953 Uniform Great Plains Barley Nursery.

Data from these barley nurseries is summarized in tables 15 and 16.

Table 15 - Agronomic Data from Uniform Great Plains Barley Nursery - 1952											
Date seeded - 4-17											
Date emerged - 4-29											
Rate - 1 bpa											
Plot size - 1' x 16'											
1952 Key No.	Description	C.I. No.	Yield - Bu. per acre				Test Weight	Dates		Height Inches	Rank
			1	2	3	Ave.		First Awns	Ripe		
1	Beecher	6566	16.2	19.5	15.5	17.1	41.0	6-10	7-28	17	12
2	Flynn I	5911	24.5	26.2	22.0	24.2	43.0	6-10	7-28	16	7
3	Spartan	5027	12.2	21.5	22.0	18.6	48.0	6-14	7-26	21	11
4	Munsing	6009	13.5	32.5	23.2	23.1	51.0	6-13	7-26	14	9
5	Titan	7055	30.7	25.2	26.0	27.3	45.0	6-17	7-26	16	4
6	Gem	7243	25.7	22.0	25.0	24.2	41.0	6-15	7-26	16	8
7	Flynn 37	5918	27.2	21.2	25.5	24.6	40.0	6-12	7-26	15	6
8	Harlan	7008	28.7	27.0	35.2	30.3	38.5	6-15	7-29	16	3

9	Otis	7557	14.0	12.7	17.5	14.7	48.0	6-13	7-28	14	13
10	Custer	8053	21.2	22.2	26.0	22.1	42.5	6-15	7-28	16	10
11	Utah BC4-68	8054	23.0	31.7	36.7	30.5	44.0	6-12	7-28	16	2
12	Wyo. WS 471	8055	24.5	20.7	34.0	26.4	40.5	6-19	7-26	18	5
13	Vantage	7324	33.0	40.7	37.7	37.1	45.5	6-19	7-26	21	1

Table 16 - Agronomic Data from Station Barley Nursery - 1952

Date seeded - 4-23

Date emerged - 4-30

Rate - 1 bpa

Plot size - 1' x 16'

Row Nos.		Description	Yield - Bu. per acre				Test Weight	Dates		Height Inches	Rank
1951	1952		1	2	3	Ave.		First Awns	Ripe		
1	1	SD 384	20.2	25.5	27.0	24.2	40.0	7-1	8-3	22	8
2	2	Ab. 6109	20.2	11.7	21.5	17.8	42.5	6-21	8-1	19	35
3	3	Dix. 44-23	30.2	13.7	22.0	22.0	42.0	6-21	8-1	20	19
4	4	Dix. 45-15	38.7	26.2	24.5	45.5	45.5	6-28	8-4	21	4
5	5	Dix. 45-29	33.0	34.0	29.2	32.1	45.0	6-20	7-31	18	3
6	6	Dix. 45-297	34.2	20.0	16.2	23.5	46.0	6-23	7-31	21	13

7	7	Dix. 45-435	22.0	17.0	20.5	19.8	42.0	6-23	7-30	17	27
8	8	Dix. 45-452	15.2	18.7	22.5	18.8	42.0	6-23	7-30	19	32
9	9	Dix. 45-517	21.0	16.2	18.5	18.6	48.0	6-17	7-30	17	33
10	10	Dix. 45-563	21.7	18.5	21.0	20.4	40.5	6-23	8-1	18	24
11	11	Rex	35.0	32.7	30.7	32.8	50.0	6-28	8-3	24	2
12	12	Velvon	30.2	9.2	19.5	19.6	43.5	6-23	8-1	21	29
13	13	Trebi	21.7	22.0	30.0	24.6	44.5	6-23	8-1	20	7
14	14	Glacier	13.7	23.2	8.7	15.2	45.0	6-16	7-31	19	42
15	15	Kindred	22.5	25.5	21.2	23.1	46.0	6-26	8-1	25	15
16	16	Manchuria	16.5	15.2	15.0	15.6	46.0	6-25	8-2	21	41
17	17	Steigum	21.5	19.5	18.7	19.9	51.0	6-23	7-30	24	28
18	18	Spartan	28.5	17.5	17.0	21.0	49.5	6-18	8-2	21	21
19	19	Feebar	25.7	22.5	21.7	23.3	40.0	7-1	8-3	20	14
20	20	Moore	29.7	23.5	18.2	23.8	45.0	7-3	8-3	24	11
21	21	Plains	15.0	12.2	15.5	14.2	44.0	7-16	8-3	16	48
22	22	Montcalm	20.5	26.7	24.5	23.9	47.5	7-3	8-6	27	10
23	23	Titan	28.7	12.5	10.7	17.3	46.5	7-22	8-4	21	36
24	24	Munsing	10.0	12.5	21.7	14.7	51.0	7-24	8-2	15	45

25	25	Tregal	25.0	25.5	20.2	23.6	49.5	7-1	8-3	19	12
26	26	Hannchen	20.5	17.0	23.5	20.3	49.5	6-29	8-3	22	26
27	27	Vantage	38.5	30.0	31.2	33.2	45.0	6-29	8-3	21	1
28	28	Frontier	17.7	24.2	19.5	20.5	40.0	7-4	8-3	20	23
29	29	Otis	19.0	20.5	21.7	20.4	51.0	7-17	8-1	19	25
30	30	Utah BC4-68	18.5	20.2	19.0	19.2	45.0	7-22	8-2	17	30
31	31	OAC (Peatland- Newal) 43- 856-49	28.0	22.7	21.7	24.1	46.0	7-3	8-3	26	9
32	32	Do 43-856-5	22.0	24.5	16.2	20.9	46.0	7-4	8-3	23	22
33	33	Kindred x Titan T-55- 3-5	18.7	24.7	36.2	26.5	50.0	7-1	8-2	24	5
34	34	Do T-55-3-7	25.5	28.5	20.0	24.7	47.5	7-1	8-5	20	6
36	35	Do T-127-3-2	17.5	9.7	16.2	14.5	46.5	6-30	8-6	19	47
37	36	Do T-127-3-3	17.0	20.2	18.5	18.6	49.0	6-30	8-5	21	34
38	37	Do T-127-3-4	13.7	19.2	31.2	21.4	49.5	6-30	8-3	22	20
New	38	Do T-127-3-7	15.0	20.0	7.5	14.2	50.0	6-29	8-2	21	49



49	39	Do T-126-1-3	18.5	17.5	32.5	22.8	49.5	6-22	8-3	20	16
41	40	Do T-126-2-2	12.5	19.5	24.7	18.9	49.0	6-21	8-3	22	31
42	41	Do T-136-2-5	19.7	23.7	23.0	22.1	49.0	6-21	8-3	19	18
43	42	Do T-136-4-5	16.7	11.2	16.7	14.9	48.0	6-21	8-3	21	43
44	43	Do T-136-5-4	21.7	25.7	20.7	22.7	48.0	6-21	8-3	22	17
45	44	Do T-136-5-5	19.0	11.5	13.5	14.7	46.5	6-21	8-3	20	46
New	45	Do T-28-2-5	21.2	14.2	15.0	16.8	44.5	6-17	7-31	18	37
New	46	Do T-28-2-8	10.0	20.0	20.0	16.7	43.5	6-18	7-31	20	38
New	47	Do T-28-2-9	18.7	14.5	16.0	16.4	45.0	6-18	7-31	16	40
New	48	Do T-28-3-5	14.2	16.7	19.5	16.8	46.0	6-18	7-31	17	39
New	49	Do T-72-6-2	18.2	19.2	17.0	14.8	44.0	6-19	8-1	14	44
New	50	Do T-72-6-4	13.0	15.0	14.7	14.2	44.0	6-19	8-1	17	50

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