

YIELDS OF BARLEY
IN THE UNITED STATES
AND CANADA
1922-1926

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BY

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are early, are characterized by stiff straw, and have yielded better than Manchuria. The smooth-awned barleys have persistent awns under Michigan conditions and seem less desirable on that account. Chatham (C. I. No. 4647) is a smooth-awned selection from Velvet (C. I. No. 4252) made at the Michigan station. Wilk Two-Row (C. I. No. 4648) is a selection made from a field of 6-rowed barley. It is at least seven days later than Manchuria (C. I. No. 1275) at East Lansing.

MINNESOTA

Varietal tests of barley were conducted at six points in Minnesota in each of the five years 1922 to 1926, inclusive. These six stations are as follows: The University Farm at St. Paul, the Northeast Demonstration Farm and Substation at Duluth, the Southeast Demonstration Farm and Substation at Waseca, the North-Central Substation at Grand Rapids, the West-Central Substation at Morris, and the Northwest Substation at Crookston.

The manner of conducting experiments was similar at all points, and with minor exceptions the same list of varieties was grown at all stations. Manchuria has been a prominent commercial variety in Minnesota for many years. Minnesota 184 (Manchuria, C. I. No. 2330) is the best of many selections of Manchuria made at St. Paul. In Table 11, in which the yields at the various points are reported, Manchuria (C. I. No. 2330) is used as a standard of comparison.

TABLE 11.—Acre yields of varieties of barley grown at the Minnesota Agricultural Experiment Station, University Farm, St. Paul; at the Northeast Demonstration Farm and Substation, Duluth; at the Southeast Demonstration Farm and Substation, Waseca; at the North-Central Substation, Grand Rapids; at the West-Central Substation, Morris; and at the Northwest Substation, Crookston, in one or more of the years from 1922 to 1926, inclusive

[Data obtained through the courtesy of the Minnesota Agricultural Experiment Station]

Station and varieties compared	C. I. No.	Minn. No.	Acre yield (bushels)						Number of comparable years and yield in comparison with Man- churia		
			1922	1923	1924	1925	1926	Average, 1922- 1926	Num- ber	Per cent	
St. Paul:											
Glaborn.....	4577	445	67.2	33.8	40.4	52.5	59.5	50.7	5	127.7	
Velvet.....	4252	447	67.2	28.2	25.4	46.3	48.5	43.1	5	108.6	
Manchuria.....	2330	184	48.3	35.4	25.4	46.2	43.2	39.7	5	100	
Minsturdi.....	1556	439	54.1	24.1	41.2	53.5	40.9	42.8	5	107.8	
Oderbrucker.....	1529	454	54.1	31.3	35.8	39.0	39.1	39.9	5	100.5	
Svansota.....	1907	440	74.8	35.2	37.2	48.1	36.4	46.3	5	116.6	
Comfort.....	4578	451	-----	28.9	34.8	43.4	47.1	-----	4	102.7	
Trebi.....	936	448	-----	23.9	43.4	55.2	43.2	-----	4	110.1	
Manchuria X Smooth Awn.....	4668	458	-----	-----	-----	-----	55.9	-----	1	129.4	
Do.....	4667	457	-----	-----	-----	-----	55.4	-----	1	128.2	
Do.....	4669	459	-----	-----	-----	-----	45.8	-----	1	106.0	
Duluth:											
Velvet.....	4252	447	42.5	35.2	37.3	26.3	45.6	37.4	5	113.7	
Glaborn.....	4577	445	36.2	41.1	30.5	26.2	45.1	35.8	5	108.8	
Manchuria.....	2330	184	31.3	44.0	34.8	11.4	43.2	32.9	5	100	
Svansota.....	1907	440	25.8	37.3	37.9	30.7	40.5	34.4	5	104.6	
Trebi.....	936	448	-----	38.7	28.9	46.4	50.6	-----	4	123.4	
Comfort.....	4578	451	-----	41.9	36.0	-----	50.4	-----	3	105.2	
Oderbrucker.....	1529	454	-----	-----	-----	27.6	44.2	-----	2	131.5	
Manchuria X Smooth Awn.....	4668	458	-----	-----	-----	-----	48.5	-----	1	112.3	
Do.....	4667	457	-----	-----	-----	-----	46.0	-----	1	106.5	

TABLE 11.—*Acre yields of varieties of barley grown at the Minnesota Agricultural Experiment Station, University Farm, St. Paul; at the Northeast Demonstration Farm and Substation, Duluth; at the Southeast Demonstration Farm and Substation, Waseca; at the North-Central Substation, Grand Rapids; at the West-Central Substation, Morris; and at the Northwest Substation, Crookston, in one or more of the years from 1922 to 1926, inclusive—Continued*

Station and varieties compared	C. I. No.	Minn. No.	Acre yield (bushels)						Number of comparable years and yield in comparison with Manchuria	
			1922	1923	1924	1925	1926	Average, 1922-1926	Num-ber	Per cent
Waseca:										
Velvet.....	4252	447	65.0	50.9	68.5	60.6	56.1	60.2	5	99.2
Manchuria.....	2330	184	70.4	49.5	70.3	58.2	55.1	60.7	5	100
Svansota.....	1907	440	72.1	53.5	72.5	56.9	52.6	61.5	5	101.3
Glabron.....	4577	445	70.4	47.0	74.2	58.3	46.8	59.3	5	97.7
Minsturdi.....	1556	439	65.6	39.1	53.6	51.9	40.6	50.2	5	82.7
Trebi.....	936	448	-----	62.2	82.5	64.5	60.6	-----	4	115.8
Comfort.....	4578	451	-----	50.9	66.8	58.0	47.9	-----	4	95.9
Oderbrucker.....	1529	454	-----	-----	-----	60.6	49.7	-----	2	97.4
Manchuria X Smooth Awn.....	4667	457	-----	-----	-----	-----	54.2	-----	1	98.4
Do.....	4668	458	-----	-----	-----	-----	52.1	-----	1	94.6
Do.....	4669	459	-----	-----	-----	-----	45.6	-----	1	82.8
Grand Rapids:										
Svansota.....	1907	440	41.0	35.3	22.4	-----	47.0	-----	4	104.0
Manchuria.....	2330	184	41.5	30.5	24.5	17.4	43.5	31.5	5	100
Glabron.....	4577	445	44.2	34.3	27.1	26.7	39.0	34.3	5	108.9
Trebi.....	936	448	-----	31.2	29.7	-----	54.0	-----	3	116.8
Comfort.....	4578	451	-----	37.5	27.6	11.2	32.6	-----	4	93.8
Velvet.....	4252	447	-----	23.2	24.9	14.6	29.0	-----	4	79.0
Oderbrucker.....	1529	454	-----	-----	-----	25.6	32.7	-----	2	95.7
Manchuria X Smooth Awn.....	4667	457	-----	-----	-----	-----	51.0	-----	1	117.2
Colsess.....	2792	-----	-----	-----	-----	-----	45.4	-----	1	104.4
Manchuria X Smooth Awn.....	4668	458	-----	-----	-----	-----	36.8	-----	1	84.6
Morris:										
Glabron.....	4577	445	29.0	36.8	46.6	42.0	30.3	36.9	5	104.5
Svansota.....	1907	440	26.6	43.2	46.5	43.5	26.2	37.2	5	105.4
Velvet.....	4252	447	30.3	39.3	37.4	42.2	25.5	34.9	5	98.9
Manchuria.....	2330	184	31.0	37.5	40.8	43.1	24.1	35.3	5	100
Trebi.....	936	448	-----	38.6	46.8	41.4	32.9	-----	4	109.6
Comfort.....	4578	451	-----	37.6	36.1	44.7	29.5	-----	4	101.6
Oderbrucker.....	1529	454	-----	-----	-----	34.8	23.1	-----	2	86.3
Manchuria X Smooth Awn.....	4667	457	-----	-----	-----	-----	28.8	-----	1	119.5
Do.....	4668	458	-----	-----	-----	-----	27.4	-----	1	113.7
Do.....	4669	459	-----	-----	-----	-----	24.5	-----	1	101.7
Crookston:										
Velvet.....	4252	447	53.0	37.8	31.3	32.2	45.4	39.9	5	99.0
Glabron.....	4577	445	58.2	34.1	45.8	32.3	41.2	42.3	5	105.0
Manchuria.....	2330	184	53.6	34.8	44.1	30.3	38.6	40.3	5	100
Svansota.....	1907	440	56.8	38.7	41.6	39.8	32.4	41.9	5	104.0
Trebi.....	936	448	-----	38.4	47.0	48.6	42.5	-----	4	119.2
Comfort.....	4578	451	-----	42.8	33.0	42.4	36.7	-----	4	104.6
Oderbrucker.....	1529	454	-----	-----	-----	29.7	41.2	-----	2	102.9
Manchuria X Smooth Awn.....	4667	457	-----	-----	-----	-----	39.0	-----	1	101.0
Do.....	4669	459	-----	-----	-----	-----	36.4	-----	1	94.3
Do.....	4668	458	-----	-----	-----	-----	34.5	-----	1	89.4

UNIVERSITY FARM, ST. PAUL, MINN.

A. C. ARMY, in Charge of Farm Crops

Six varieties of barley were grown in each of the five years reported in Table 11. The highest average yield was produced by Glabron (C. I. No. 4577). For a number of years the breeding work in Minnesota has been centered on the production of smooth-awned varieties. That this work and the production of desirable rough-awned types has proceeded satisfactorily is evidenced by the fact that Manchuria (C. I. No. 2330) produced the lowest comparative yield of all the

varieties tested. Manchuria and Svansota (C. I. No. 1907) are rough-awned varieties of hybrid origin. Both have produced satisfactory yields. Of the varieties tested less than five years the yield of Trebi (C. I. No. 936) is the most surprising. This variety, introduced by the United States Department of Agriculture, is a high producer in the West under irrigation. In Minnesota it is susceptible to leaf diseases which are common in this section. Nevertheless, it produced a high yield at all of the Minnesota stations.

NORTHEAST DEMONSTRATION FARM AND SUBSTATION, DULUTH, MINN.

The results at Duluth were characterized by the high average yield of Velvet (C. I. No. 4252) which at this station was superior to Glabron (C. I. No. 4577), the leading smooth-awned variety elsewhere in the State. (Table 11.) Svansota (C. I. No. 1907) was superior to Manchuria (C. I. No. 2330), its average yield being $1\frac{1}{2}$ bushels less than that of Glabron. Trebi (C. I. No. 936) was again outstanding in the years in which it was grown. In two of the four years Glabron produced slightly more grain than Trebi, but in the other two years the margin of difference was greatly in favor of Trebi. Comfort (C. I. No. 4578) was grown for three years only, but during those years its yields were high. This is a smooth-awned sort, although less smooth than Glabron or Velvet.

SOUTHEAST DEMONSTRATION FARM AND SUBSTATION, WASECA, MINN.

Five varieties were grown at Waseca in all of the five years 1922 to 1926. Of these five varieties Svansota (C. I. No. 1907) produced the highest average yield. (Table 11.) This yield, however, was scarcely more than 2 bushels higher than that of Glabron (C. I. No. 4577), which ranked fourth. The yields of Manchuria (C. I. No. 2330) and Velvet (C. I. No. 4252) were higher than that of Glabron. The yield of Minsturdi (C. I. No. 1556) was significantly less than that of the four leading varieties. Trebi (C. I. No. 936) also produced high yields at Waseca. In each of the four years in which it was grown its yield exceeded that of any other variety.

NORTH-CENTRAL SUBSTATION, GRAND RAPIDS, MINN.

Manchuria (C. I. No. 2330) and Glabron (C. I. No. 4577) were the only two varieties grown in all five years at Grand Rapids. The average yield of Glabron exceeded that of Manchuria by almost 3 bushels. (Table 11.) Of the varieties grown less than five years, Trebi (C. I. No. 936) and Svansota (C. I. No. 1907) were the most promising. Minnesota 457 (C. I. No. 4667), a smooth-awned selection, produced a high yield in the one year in which it was grown.

WEST-CENTRAL SUBSTATION, MORRIS, MINN.

The range of yields of the varieties grown at Morris was less than at St. Paul. Of the varieties carried for the full 5-year period Svansota (C. I. No. 1907) produced the highest yield. This yield, however, was only approximately 2 bushels greater than that of Velvet (C. I. No. 4252), the lowest yielding of the four comparable varieties. (Table 11.) Glabron (C. I. No. 4577) was superior to Velvet. Of the varieties grown less than five years Trebi (C. I. No. 936) was distinctly the best. Three smooth-awned varieties were tested for a single year.

NORTHWEST SUBSTATION, CROOKSTON, MINN.

The results at Crookston were very similar to those at Morris. The same four varieties, Velvet (C. I. No. 4252), Glabron (C. I. No. 4577), Manchuria (C. I. No. 2330), and Svansota (C. I. No. 1907), were grown in all of the five years. Their relative yields were approximately the same, although at this station Glabron produced slightly more grain than Svansota. (Table 11.) Of the varieties grown less than five years Trebi (C. I. No. 936) was again outstanding. Its performance at Crookston was relatively better than at Morris. More grain was produced by Trebi than by Glabron in each of the four years in which they were comparable. Trebi, Glabron, and Svansota were the outstanding varieties tested.

MISSOURI

AGRICULTURAL EXPERIMENT STATION, COLUMBIA, MO.

W. C. ETHERIDGE, *Professor and Chairman of Department of Field Crops*

In the past five years there has been little activity in barley testing in Missouri. During 1922 and 1923 a number of varieties were grown in a rod-row test at Columbia. (Table 12.) In 1922 the varieties were replicated 11 times while 10 replications were grown in 1923. It is probable that essentially the same relative results would have been obtained in plots, and in the absence of plot tests these nursery yields are reported. Manchuria (C. I. No. 956) is used as a basis of comparison. Odessa (C. I. No. 927) has the same average yield as Manchuria. Frankish (C. I. No. 953) was the only variety grown in both years which exceeded Odessa and Manchuria in average yield. Barleys of the Manchuria group were among the better yielding sorts. Horsford (C. I. No. 507) was the only hooded variety grown, and its yield was distinctly less than that of the awned types.

TABLE 12.—*Acre yields of varieties of barley grown at the Missouri Agricultural Experiment Station, Columbia, in one or both of the years 1922 and 1923*

[Data obtained through the courtesy of the Missouri Agricultural Experiment Station]

Variety	C. I. No.	Mo. No.	Acre yield (bushels)			Number of comparable years and yield in comparison with Manchuria	
			1922	1923	2-year average	Num-ber	Per cent
Luth.....	908	B3	3.8	27.4	15.6	2	94.0
Lion.....	923	B8	7.1	23.5	15.3	2	92.2
Odessa.....	927	B11	4.4	28.7	16.6	2	100
Summit.....	929	B12	3.9	25.9	14.9	2	89.8
Trebi.....	936	B16	4.7	24.6	14.7	2	88.6
Sandrel.....	937	B17	6.0	22.0	14.0	2	84.3
Frankish.....	953	B19	4.3	30.6	17.5	2	105.4
Manchuria.....	956	B20	6.1	27.0	16.6	2	100
Featherston.....	1120	B27	8.0			1	131.1
Oderbrucker.....	537	B35	6.0	24.0	15.0	2	90.4
Horsford.....	507	B32	5.3	20.3	12.8	2	77.1
Oderbrucker.....	957	B21		31.4		1	116.3

MONTANA

Barley varieties were compared in Montana at the Montana Agricultural Experiment Station, Bozeman; the Judith Basin Branch Station, Moccasin; the Northern Montana Branch Station, Havre; and the Huntley Field Station, Huntley. At Moccasin and at