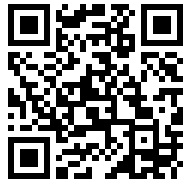

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Yields of Barley Varieties in the United States and Canada

1932–36

By

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UNITED STATES DEPARTMENT OF AGRICULTURE, WASHINGTON, D. C.

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UNITED STATES
DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.

Yields of Barley Varieties in the United States and Canada, 1932–36[1]

By G. A. WIEBE, *agronomist, Division of Cereal Crops and Diseases, Bureau of Plant Industry;* P. R. COWAN, *senior assistant cerealist, barley investigations, Experimental Farms Service, Dominion Department of Agriculture, Canada;* and LUCILLE REINBACH-WELCH, *junior agricultural statistician, Division of Cereal Crops and Diseases, Bureau of Plant Industry*

CONTENTS

INTRODUCTION

GENERAL

This bulletin reports the yields of barley obtained on the testing fields of the United States and Canada during the 5-year period 1932–36. Yields for the 5-year period 1927–31; those for the 5-year period 1922–26; and those prior to and including 1921 have been published.[2]

[1] Submitted for publication February 1940.

[2] HARLAN, HARRY V., MARTINI, MARY L., and POPE, MERRITT N. TESTS OF BARLEY VARIETIES IN AMERICA. U. S. Dept. Agr. Bul. 1334, 219 pp., illus. 1925.
—— NEWMAN, L. H., and MARTINI, MARY L. YIELDS OF BARLEY IN THE UNITED STATES AND CANADA, 1922–1926. U. S. Dept. Agr. Tech. Bul. 96, 84 pp. 1929.
—— COWAN, P. RUSSELL, and REINBACH, LUCILLE. YIELDS OF BARLEY IN THE UNITED STATES AND CANADA, 1927–31. U. S. Dept. Agr. Tech. Bul. 446, 80 pp. 1935.

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The bringing of these results together doubles the value of the tests on both sides of the boundary. Many farmers in the United States are operating farms located in sections better served by nearby Canadian stations than by their own, where these are distant. The converse is also true.

Percentage comparisons have been made to facilitate the use of the data. These percentages are calculated on the total yields of the varieties for the years grown. They are always in terms of some standard variety grown at the station. Although this method is highly accurate, the results are not always identical with those that would have been secured by the use of average yields.

As far as possible, local recommendations have been included as to varieties and rates and dates of seeding. It is thought that this inclusion will add to the value of the bulletin.

As in previous reports, the data are contributions of many agencies, and the Division of Cereal Crops and Diseases has acted only as an agency for compiling and for calculating the averages and percentages. It is believed that nothing has been included in the discussion at any station that has not had the approval of those in charge of that station.

It is freely acknowledged that the real authors of this bulletin are the agronomists at the various stations. It is through their unselfish cooperation that this report is made possible.

CANADA

The bulk of the data from Canada consists of results obtained by the Dominion Experimental Farms. This is, of course, an extensive testing agency, and responsibility for the presentation of the results has been accepted by P. R. Cowan as an author of this bulletin. This, naturally, should not be taken to mean that the material from the independent provincial agencies in Canada is not on an absolutely equal footing in authorship, but only that, due to the number of stations, the task of preparing the material from the Dominion Experimental Farms has been a little more onerous.

Most of the Canadian results have been secured from replicated rows. At the stations under the direction of the Dominion Experimental Farms the plan of four series of five rod-row blocks to a variety was used. These five rod-rows, sown 7 inches apart, are reduced to three at harvesttime, the yields of the three being considered as the yield of a plot.

At the University of Alberta the tests were conducted in four series of three rod-row blocks, with rows 12 inches apart, the center rows of which were harvested. The yield, therefore, represents an average of four center rows.

The tests at MacDonald College were conducted in three different tests with varying numbers of replications and sizes of plots (see note on table) and those at the Ontario Agricultural College in single $\frac{1}{100}$-acre plots.

At the University of Saskatchewan the tests were made in groups of six replicates, consisting of three rod-rows each, of which the center rows in each case were harvested. The arrangement of the three-row groups was usually in accordance with the Latin-square plan, but in one case it was according to the modified Latin-square plan.

RESULTS BY STATIONS

ARIZONA

R. S. HAWKINS, *agronomist, Agricultural Experiment Station,* and A. T. BARTEL, *assistant agronomist, United States Department of Agriculture, Tucson;* and C. J. KING, *senior agronomist and superintendent, United States Field Station, Sacaton*

Varietal tests of barley were conducted at Mesa and Sacaton, Ariz., during the period 1932–36 (table 1). At Mesa, Vaughn has produced the highest yield of grain. This variety was not grown during the previous 5-year period. Vaughn is stiff strawed and, therefore, well adapted for irrigated lands. The commercial variety, Common Six-Row, yielded much less than Vaughn and has a much weaker straw. Other varieties that produced good yields during the period stated are Scarab, Trebi, and Sacramento. The first of these was the highest in yield at the Sacaton station. Vaughn and Common Six-Row are recommended for southern Arizona. Trebi is the recommended variety for elevations above 3,500 feet.

TABLE 1.—*Acre yields of varieties of barley grown at the Salt River Valley Experiment Farm, Mesa, Ariz., and at the United States Field Station, Sacaton, Ariz., in 1 or more of the years 1932–36*

[Data for Mesa obtained in cooperation with the Arizona Agricultural Experiment Station, and for Sacaton through the courtesy of the Division of Cotton and Other Fiber Crops and Diseases]

Station and variety	C. I. No.[1]	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
		1932		1933		1934		1935		1936				
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
			Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Mesa:														
Beardless	4627	3	76.6	3	57.7	3	52.9	3	46.8	3	41.8	55.2	5	60.2
Vaughn [2]	1367	3	117.9	3	98.8	3	77.6	3	101.4	3	62.7	91.7	5	100.0
Common Six-Row	4625	3	97.9	3	58.6	3	79.0	3	75.9	3	64.5	75.2	5	82.0
Scarab	995	3	108.3	3	91.8	3	69.7	3	89.6	3	63.2	84.5	5	92.2
Afghanistan	4125	3	94.0	3	71.0	3	70.7	3	69.6	3	62.8	73.6	5	80.3
Trebi	936	3	112.8	3	72.9	3	80.3	3	86.4	3	70.0	84.5	5	92.1
Sacramento	4108	3	99.1	3	93.4	3	64.9	3	92.8	3	65.2	83.1	5	90.6
Mariout	3577	3	94.0	3	79.9	---	------	---	------	---	------	------	2	80.2
India	4355–1	3	95.6	3	81.3	---	------	---	------	---	------	------	2	81.6
Abyssinia	3909–1	3	72.1	3	58.4	---	------	---	------	---	------	------	2	60.2
Multan	3401	3	83.4	3	52.1	---	------	---	------	---	------	------	2	62.5
Union Beardless	5976	---	------	---	------	3	60.6	2	78.8	3	59.7	------	3	82.4
Sacaton:														
Club Mariout	261	1	75.5	3	42.7	---	------	3	23.9	---	------	------	3	65.3
Vaughn [2]	1367	1	85.8	4	74.6	5	32.0	3	57.2	3	61.0	62.1	5	100.0
Afghanistan	4125	1	79.6	2	54.1	2	34.9	3	45.1	2	32.9	49.3	5	79.4
Multan	3401	1	74.1	1	52.2	---	------	---	------	---	------	------	2	78.7
India	4355–1	1	76.5	3	72.2	---	------	---	------	---	------	------	2	92.7
Scarab	995	1	96.3	4	79.7	5	31.2	3	48.3	3	71.6	65.4	5	105.3
Trebi	936	---	------	1	62.0	2	25.2	3	40.4	3	62.2	------	4	84.4
Abyssinia	3909–1	---	------	4	38.1	4	15.2	---	------	---	------	------	2	50.0
Coast	690	---	------	2	53.3	---	------	---	------	---	------	------	1	71.4
Sacramento	4108	---	------	---	------	4	16.4	---	------	---	------	------	1	51.3
Common Six-Row	4625	---	------	---	------	2	31.0	3	61.2	3	54.9	------	3	97.9
Union Beardless	5976	---	------	---	------	---	------	3	43.2	3	63.3	------	2	90.1

[1] C. I. refers to accession number of the Division of Cereal Crops and Diseases, formerly Office of Cereal Investigations, here and in later tables.
[2] Standard variety with which others are compared.

Much of the barley is used for pasture. The seed should be sown as early in the fall as danger from hot weather is past. This is about early October for the Salt River Valley. For grain, seeding should be done from late November to early January. At the higher elevations (approximately 6,000 feet) the spring barleys should be seeded April 15 to May 15. The rate of seeding for pasture is 90 pounds per acre; for grain, 75 pounds per acre.

The leading varieties at Sacaton are Scarab, Vaughn, and Common Six-Row. The first two of these have also given high yields at the Mesa station. Vaughn and Scarab are the recommended varieties for conditions similar to those at Sacaton.

ARKANSAS

AGRICULTURAL EXPERIMENT STATION, FAYETTEVILLE

C. K. McCLELLAND, *assistant agronomist*

As in the preceding 5-year period at the Arkansas station, Selection 6 (C. I. 4678) from the Kentucky Experiment Station, produced the highest average yield for 1932–36 (table 2). The next best varieties are Tennessee Winter Selection 61 and Orel. Kentucky 36 and Alaska are also promising. The latter strongly resembles Tennessee Winter, and it is thought that both Kentucky 6 and 36 were selections out of Tennessee Winter or Union Winter.

TABLE 2.—*Acre yields of varieties of barley grown at the Arkansas Agricultural Experiment Station, Fayetteville, in 1 or more of the years 1932–36*

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

Station and variety	C. I. No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
		1932		1933		1934		1935		1936				
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Fayetteville:			*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Alaska	4106	1	8.7	1	30.9	1	25.5	1	16.6	1	16.7	19.7	5	97.7
Kentucky Winter	4641	1	9.2	1	26.9	1	18.9	1	17.8	1	11.8	16.9	5	84.0
Tennessee Winter selection 52	3543	1	8.9	1	20.6	1	18.3	1	14.3	1	18.2	16.1	5	79.7
Tennessee Winter selection 57	3544	1	11.0	1	32.1	1	13.1	1	16.0	1	16.7	17.8	5	88.3
Tennessee Winter selection 61	3545	1	11.0	1	35.0	1	19.4	1	17.8	1	17.7	20.2	5	100.2
Tennessee Winter selection 47	3542	1	7.8	1	16.6								2	
Tenkow	646	1	13.1	1	24.1	1	18.9	1	12.0	1	12.8	16.2	5	80.3
Orel [1]	351	1	10.1	1	35.0	1	28.0	1	13.8	1	13.8	20.1	5	100.0
Selection 6	4678	1	16.0	1	36.1	1	21.7	1	18.3	1	14.2	21.3	5	105.6
Beardless 6 (Tennessee Beardless 6)	2746	1	13.8	1	26.9	1	13.7	1	11.5	1	19.6	17.1	5	84.9
Kentucky 36	4677	1	14.9	1	37.8	1	14.3	1	18.9	1	12.8	19.7	5	98.0
Union Winter	583	1	7.1	1	24.1	1	22.9	1	14.3	1	16.2	16.9	5	84.6

[1] Standard variety with which others are compared.

During the last 2 years there has been considerable increase in the acreage of barley in Arkansas, as some farmers think winter barley makes better pasture than winter oats. The variety sown has been a local hooded type. Some of the hooded Missouri Early Beardless has also been grown.

Selection 6 (C. I. 4678) is the recommended variety. Barley should be seeded the first week in October, at the rate of 7 pecks per acre.

CALIFORNIA

UNIVERSITY FARM, DAVIS

B. A. MADSON, *head, Agronomy Division, College of Agriculture,* and C. A. SUNESON, *associate agronomist, United States Department of Agriculture*

During the 5-year period (1932–36) Vaughn produced by far the highest yield of all the varieties grown (table 3). It was also the leading variety in the preceding 5-year period (1927–31). It has been distributed to farmers and should be grown as a feed variety. Atlas ranks next to Vaughn with respect to yield. It is a variety of the Coast type and is recommended for the production of malting barley. Both Vaughn and Atlas are stiff strawed and mature early enough to escape most of the hot dry winds that often occur in the interior valleys of California during the early summer. Club Mariout has also produced good yields and is a satisfactory variety for late seeding. The best time to seed is from late October until mid-January. Some seeding is done as late as March. Where a drill is used, 70 to 90 pounds per acre is sufficient. Where the grain is broadcast, the rate is increased 25 percent.

TABLE 3.—*Acre yields of varieties of barley grown at University Farm, Davis, Calif., in 1 or more of the years 1932–36*

[Data obtained in cooperation with the California Agricultural Experiment Station]

Variety	C. I. No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
		1932		1933		1934		1935		1936				
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
			Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Vaughn [1]	1367	5	129.8	5	87.5	5	88.5	5	116.6	5	101.5	104.8	5	100.0
Atlas	4118	5	124.2	5	92.2	5	81.7	5	87.5	5	92.9	95.7	5	91.3
Club Mariout	261	5	117.6	5	87.5	5	80.6	5	99.4	5	82.5	93.5	5	89.3
Hero	4602	5	113.0	5	81.0	5	81.7	5	91.2	5	83.6	90.1	5	86.0
Coast (Tennessee Winter)	4633	5	99.7	5	79.3	5	73.1	5	103.8	5	75.4	86.3	5	82.3
Blanco (Tennessee Winter × Hero 30–3)	5045	5	110.0	5	81.7	5	85.4	5	104.1	5	91.1	94.7	5	90.3
California Coast	6115	5	116.6	5	87.4	5	72.8	5	92.0	5	81.1	90.0	5	85.9
Coast	690	5	114.9	5	87.0	---	------	---	------	---	------	------	2	92.9
Sacramento	4108	5	117.5	---	------	---	------	---	------	---	------	------	1	90.5
Stewart	6112	---	------	5	92.5	5	81.3	5	72.3	5	51.5	------	4	75.5
C–422	6113	---	------	---	------	5	78.1	5	97.9	5	85.0	------	3	85.1
C–308	6114	---	------	---	------	5	79.6	5	102.5	5	82.3	------	3	86.2

[1] Standard variety with which others are compared.

COLORADO

ALVIN KEZER, *head, Department of Agronomy,* and D. W. ROBERTSON, *agronomist, Agricultural Experiment Station, Fort Collins;* D. W. KOONCE, *associate in agronomy, Fort Lewis Substation, Hesperus;* and J. J. CURTIS, *junior agronomist, United States Department of Agriculture, United States Dry Land Field Station, Akron*

At Fort Collins and Fort Lewis the tests were conducted in three-row blocks with 10 replications for each variety (table 4). The center row only of each three-row block was harvested for yield. In the previous 5-year period Trebi was the highest yielding variety. In the present summary a number of hybrids have produced higher yields than Trebi. At Fort Collins, Lico (Coast × Lion F. C.[3] 1110) and Coast × Lion F. C. 1109 were the highest yielding sorts of those grown during all 5 years. Trebi × Colsess F. C. 1124 showed promise over a shorter period.

At Fort Lewis, Lico (Coast × Lion F. C. 1110) yielded slightly more than Trebi over the 5-year period. Those showing promise over a shorter period are Trebi × Colsess F. C. 1124, Coast × Lion F. C. 1119, and Coast × Lion F. C. 1123. All of the hybrids mentioned are smooth-awned except Trebi × Colsess F. C. 1124, which has rough awns.

For irrigated conditions similar to those at Fort Collins the recommended varieties are Lico, Trebi, Colsess, and Hannchen. If the crop is intended for malting, Wisconsin Barbless (Pedigree 38) and Velvet are recommended. For high altitude conditions similar to those at Fort Lewis, Trebi and Colsess are recommended. Colsess is particularly well suited as a nurse crop for alfalfa and red clover, and for hay production. Under irrigation, a good seeding rate is 2 bushels per acre. Barley is seeded from April 1 to April 20 and progressively later at higher elevations.

Under dry-land conditions at Akron the leading varieties are Blackhull selection (C. I. 6009), Vaughn (C. I. 1367), Club Mariout (C. I. 261), Blackhull selection (C. I. 5679), and Flynn (C. I. 1311). These results are in agreement with those of the previous 5-year period. These varieties have also produced well at other dry-land stations. The yields at Akron were obtained from 1/50-acre plots. The recommended varieties are Club Mariout, Flynn, and Vance (White Smyrna). For dry-land conditions similar to those at Akron barley should be seeded in late March or early April at the rate of 4 pecks per acre.

[3] F. C.=Fort Collins.

TABLE 4.—*Acre yields of varieties of barley grown at the Colorado Agricultural Experiment Station, Fort Collins, at the Fort Lewis Substation, Hesperus, and at the United States Dry Land Field Station, Akron, Colo., in 1 or more of the years 1932–36*

[Data for Fort Collins and Fort Lewis obtained through the courtesy of the Colorado Agricultural Experiment Station, and for Akron in cooperation with the Colorado Agricultural Experiment Station and the Division of Dry Land Agriculture]

Station and variety	C. I. No.	Station No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Fort Collins:				*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Lico	6279	F. C. 1110	10	89.4	10	57.4	10	74.9	10	93.9	10	81.4	79.4	5	106.5
Coast × Lion	6368	F. C. 1109	10	84.2	10	61.5	10	74.7	10	85.9	10	76.0	76.5	5	102.5
Ezond	5064		10	83.6	10	56.4	10	73.8	10	95.8	10	63.9	74.7	5	100.2
Trebi [1]	936		10	81.2	10	66.3	10	78.1	10	88.5	10	58.8	74.6	5	100.0
Hannchen	531		10	77.8	10	59.4	10	67.8	10	73.8	10	61.6	68.1	5	91.3
Velvet	4252		10	60.4	10	50.5	10	64.4	10	76.8	10	63.2	63.1	5	84.6
Colsess	2792		10	73.8	10	45.0	10	57.5	10	76.9	10	56.0	61.8	5	82.9
Coast 23	2791		10	67.4	10	43.3	10	48.8	10	60.5	10	49.7	53.9	5	72.3
Nepal	595		10	55.8	10	38.4	10	52.2	10	41.2	10	35.6	44.6	5	59.9
Coast × Lion	----	F. C. 1108	10	80.9	10	59.5	10	67.8	10	88.1	---	-----	-----	4	94.3
Victory	5077		10	79.2	10	59.8	10	70.2	10	79.6	---	-----	-----	4	91.9
Elfry	2800		10	73.2	10	49.6	10	66.2	10	72.9	---	-----	-----	4	83.4
Atlas	4118		10	76.5	10	42.9	---	-----	---	-----	---	-----	-----	2	80.9
Spartan	5027		10	81.9	10	48.9	---	-----	---	-----	---	-----	-----	2	88.7
Pearl	5678		10	72.4	10	53.0	---	-----	---	-----	---	-----	-----	2	85.0
Glabron	4577		10	75.1	10	46.9	---	-----	---	-----	---	-----	-----	2	82.7
Smooth Awn	5673		10	70.8	10	49.3	---	-----	---	-----	---	-----	-----	2	81.4
Comfort	4578		10	74.4	10	43.4	---	-----	---	-----	---	-----	-----	2	79.9
Hanna	2784		10	68.4	10	47.0	---	-----	---	-----	---	-----	-----	2	78.2
Faust	4579		10	65.0	10	39.3	---	-----	---	-----	---	-----	-----	2	70.7
Trebi × Colsess	6369	F. C. 1124	---	-----	10	66.1	10	71.3	10	91.2	10	65.9	-----	4	101.0
Do	6370	F. C. 1125	---	-----	10	65.9	10	73.4	10	87.0	10	59.9	-----	4	98.1
Wisconsin Barbless (Pedigree 38)	5105		---	-----	10	58.5	10	63.0	10	75.6	10	76.2	-----	4	93.7
New Composite Cross	5461		---	-----	10	45.9	10	61.4	10	78.6	10	62.5	-----	4	85.2
Trebi × Colsess	----	F. C. 1126	---	-----	10	58.3	10	61.8	10	77.6	---	-----	-----	3	84.9
Peatland	5267		---	-----	---	-----	---	-----	---	-----	10	45.3	-----	1	77.0
Fort Lewis:															
Lico	6279	F. C. 1110	10	80.6	10	68.1	10	58.7	10	84.3	10	74.0	73.1	5	101.2
Trebi [1]	936		10	87.0	10	80.9	10	51.0	10	77.9	10	64.4	72.2	5	100.0
Coast 23	2791		10	76.8	10	72.5	10	60.6	10	78.5	10	69.7	71.6	5	99.1
Ezond	5064		10	87.2	10	65.6	10	45.9	10	77.4	10	81.7	71.6	5	99.1
Colsess	2792		10	82.4	10	61.7	10	40.1	10	67.1	10	67.7	63.8	5	88.3
Velvet	4252		10	79.0	10	67.8	10	41.8	10	58.2	10	56.9	60.7	5	84.1
Chevalier II	200		10	71.3	10	75.2	10	55.5	10	39.5	---	-----	-----	4	81.4
Nepal	595		10	65.0	10	49.0	10	35.0	10	44.6	---	-----	-----	4	65.2
Comfort	4578		10	78.3	10	71.7	---	-----	---	-----	---	-----	-----	2	89.3
Glabron	4577		10	81.1	10	67.8	---	-----	---	-----	---	-----	-----	2	88.7
Spartan	5027		10	64.3	10	58.2	---	-----	---	-----	---	-----	-----	2	73.0
Faust	4579		10	70.8	10	57.9	---	-----	---	-----	---	-----	-----	2	76.6
Arequipa	1256		10	87.4	10	60.8	---	-----	---	-----	---	-----	-----	2	88.3
Coast × Lion	----	F. C. 1119	---	-----	10	73.9	10	59.8	10	90.7	10	70.3	-----	4	107.5
Do	----	F. C. 1123	---	-----	10	73.0	10	70.3	10	82.7	10	64.8	-----	4	106.1
Wisconsin Barbless (Pedigree 38)	5105		---	-----	10	72.2	10	40.4	10	69.0	10	81.1	-----	4	95.8
Trebi × Colsess	6369	F. C. 1124	---	-----	---	-----	10	59.2	10	78.3	10	79.8	-----	3	112.4
Do	6370	F. C. 1125	---	-----	---	-----	10	63.3	10	57.4	10	83.7	-----	3	105.7
Coast × Lion	6368	F. C. 1109	---	-----	---	-----	---	-----	---	-----	10	68.0	-----	1	105.6
Hannchen	531		---	-----	---	-----	---	-----	---	-----	10	65.5	-----	1	101.7
Peatland	5267		---	-----	---	-----	---	-----	---	-----	10	60.5	-----	1	93.9

TABLE 4.—*Acre yields of varieties of barley grown at the Colorado Agricultural Experiment Station, Fort Collins, at the Fort Lewis Substation, Hesperus, and at the United States Dry Land Field Station, Akron, Colo., in 1 or more of the years 1932–36*—Continued

Station and variety	C. I. No.	Station No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Akron:				*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Club Mariout	261		4	12.4	4	13.6	4	4.0	4	39.7	4	28.3	19.6	5	113.2
Blackhall selection	6009	1180	4	16.0	4	15.2	4	4.4	4	37.7	4	26.3	19.9	5	115.0
Vaughn	1367		4	9.9	4	14.9	4	4.2	4	43.1	4	26.2	19.7	5	113.5
Blackhull selection	5679	1178	4	12.2	4	13.2	4	3.1	4	41.9	4	25.6	19.2	5	110.9
Flynn	1311		4	12.1	4	15.8	4	4.0	4	41.6	4	22.3	19.2	5	110.6
Blackhull [1]	878		4	9.1	4	12.0	4	3.4	4	40.1	4	22.0	17.3	5	100.0
Coast	690		4	11.5	4	10.3	4	4.5	4	38.1	4	21.6	17.2	5	99.3
Pryor	2359		4	9.1	4	13.0	4	3.5	4	36.9	4	21.5	16.8	5	97.0
Vance (Smyrna)	4585		4	12.2	4	12.0	4	3.5	4	41.9	4	18.8	17.7	5	102.1
Trebi	936		4	8.2	4	5.9	4	1.0	4	32.4	4	17.7	13.0	5	75.3
Himalaya	620		4	7.4	4	8.5	4	2.0	4	32.8	4	13.3	12.8	5	73.9
Moister	2799		4	8.1	4	12.0	4	1.6	4	35.2				4	88.1
Pearl	5678		4	8.6	4	5.1	4	1.6						3	62.4
Malt	5677		4	10.0										1	109.9
Arequipa	1256		4	11.8										1	129.7
Horn	926		4	9.5										1	104.4
Faust	4579		4	7.5										1	82.4
Stavropol selection	5921	KS. 30–752	4		4	10.5	4	4.7	4	33.9				3	88.5
Lico	6279	F. C. 1110							4	33.3	4	21.1		2	87.6
Spartan	5027										4	23.9		1	108.6
Composite Cross selection	5414										4	20.5		1	93.2

[1] Standard variety with which others are compared.

GEORGIA

R. P. BLEDSOE, *agronomist, Georgia Experiment Station, Experiment,* and R. R. CHILDS, *professor of agronomy, Georgia State College of Agriculture, Athens*

Yields of winter barley varieties for Georgia are reported from three stations (table 5). The tests at Experiment were conducted in nursery plots; those at Athens and Tifton were in regular field plots. At Athens and Tifton barley tests were discontinued after the 1933 crop. At Tifton the yields were much lower than at the other two stations.

Greece is probably the most promising variety for Georgia. It produced high yields in the previous 5-year period (1927–31) and in the present summary is first in yield at Athens and second at Experiment and Tifton. Other promising varieties are Texas Winter at Experiment and Tennessee Winter selection 66 at Tifton. Tennessee Winter Hooded selection P900, a hooded sort, was high in yield in a 2-year test at Experiment.

Barley should be seeded by early October in the northwestern part of the State and by October 25 elsewhere. The recommended seeding rate is 6 to 8 pecks per acre.

TABLE 5.—*Acre yields of varieties of barley grown at the Georgia Experiment Station, Experiment; at the Georgia State College of Agriculture, Athens; and at the Georgia Coastal Plain Experiment Station, Tifton, Ga., in 1 or more of the years 1932–36*

[Data for Experiment obtained through the courtesy of the Georgia Experiment Station, and for Athens and Tifton in cooperation with the Georgia State College of Agriculture]

Station and variety	C. I. No.	Station No.	Number of plots and acre yield												Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936		Average yield, 1932–36			
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			Years	Yield
Experiment:				*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*			*Pct.*
Texas Winter	-----	171	6	33.8	6	58.5	6	29.3	6	21.9	6	31.5	35.0		5	107.7
Greece	-----	168	6	27.1	6	56.7	6	25.8	6	22.2	6	32.7	32.9		5	101.2
Wisconsin Winter [1]	-----	172	6	27.0	6	53.2	6	31.8	6	19.3	6	31.2	32.5		5	100.0
Tennessee Winter Hooded	-----	184	6	32.8	6	35.5	6	32.9	6	16.6	6	23.6	28.3		5	87.0
Tennessee Winter	-----	169	6	-----	---	-----	6	22.9	6	17.4	6	29.4	-----		3	84.7
Tennessee Winter Hooded selection	-----	P900	6	-----	---	-----	---	-----	6	20.4	6	33.0	-----		2	105.7
Athens:																
Mammoth	4683	-----	2	38.9	2	31.8	---	-----	---	-----	---	-----	-----		2	84.5
Greece [1]	4593	-----	2	34.6	2	49.1	---	-----	---	-----	---	-----	-----		2	100.0
Argentine	4594	-----	2	33.2	2	47.7	---	-----	---	-----	---	-----	-----		2	96.7
Tennessee Winter	257	-----	2	31.9	2	28.7	---	-----	---	-----	---	-----	-----		2	72.4
Nakano Wase	2164	-----	2	26.7	2	38.1	---	-----	---	-----	---	-----	-----		2	77.4
Tennessee Winter selection 66	3546	-----	2	25.5	2	19.7	---	-----	---	-----	---	-----	-----		2	54.0
Orel	4592	-----	2	22.8	2	33.4	---	-----	---	-----	---	-----	-----		2	67.1
Tennessee Beardless 5 (Beardless 5)	3384	-----	2	22.6	2	28.1	---	-----	---	-----	---	-----	-----		2	60.6
Awnless (South Carolina)	5922	-----	2	9.4	2	38.2	---	-----	---	-----	---	-----	-----		2	56.9
Hull-less	-----	-----	2	8.6	---	-----	---	-----	---	-----	---	-----	-----		1	24.9
Tifton:																
Greece	4593	-----	2	5.5	2	4.6	---	-----	---	-----	---	-----	-----		2	88.6
Tennessee Winter selection 66 [1]	3546	-----	2	5.3	2	6.1	---	-----	---	-----	---	-----	-----		2	100.0
Argentine	4594	-----	2	3.6	2	5.1	---	-----	---	-----	---	-----	-----		2	76.3
Mammoth	4683	-----	2	3.6	---	-----	---	-----	---	-----	---	-----	-----		1	67.9
Tennessee Winter	257	-----	2	2.9	2	3.1	---	-----	---	-----	---	-----	-----		2	52.6
Orel	4592	-----	2	1.6	2	2.1	---	-----	---	-----	---	-----	-----		2	32.5
Nakano Wase	2164	-----	2	1.3	2	4.6	---	-----	---	-----	---	-----	-----		2	51.8
Tennessee Beardless 5 (Beardless 5)	3384	-----	2	.9	2	1.7	---	-----	---	-----	---	-----	-----		2	22.8
Awnless (South Carolina)	5922	-----	2	7.6	2	2.5	---	-----	---	-----	---	-----	-----		2	88.6

[1] Standard variety with which others are compared.

IDAHO

C. A. MICHELS, *assistant agronomist, Agricultural Experiment Station, Moscow;* R. E. KNIGHT, *superintendent, Sandpoint Substation, Sandpoint;* and HARLAND STEVENS, *assistant agronomist, United States Department of Agriculture, Aberdeen Substation, Aberdeen*

The tests in Idaho were conducted under three distinct sets of conditions (table 6). The irrigated area in the southern part of the State is represented by Aberdeen; the Palouse area, by Moscow; and the deforested area, by Sandpoint.

At Aberdeen and Moscow the leading variety is Trebi. This variety has been outstanding in yield at these stations for many years and is the recommended variety. Two barleys from Afghan-

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istan (C. I. 4166 and 6366) have shown promise in a 2-year test at Aberdeen. In the Palouse area, Winter Club is recommended for fall seeding. At Sandpoint, the best varieties are Hannchen, Union Beardless, and Charlottetown 80. No crop was harvested at this station in 1934 owing to a destructive hailstorm. The recommended varieties are Hannchen and Union Beardless. The latter is a hooded variety and is used extensively where barley is cut for hay.

In the irrigated sections barley should be seeded in late March or early April at the rate of 100 pounds per acre. In the nonirrigated sections the time of seeding is about the same and the rate of seeding is 6 pecks per acre, decreasing, however, in the drier areas to 4 pecks.

No yield data were secured from the Felt station, because barley tests were discontinued there with the 1931 crop. The earlier tests showed Trebi and Meloy to be the highest yielding varieties.

TABLE 6.—*Acre yields of varieties of barley grown at the Idaho Agricultural Experiment Station, Moscow, and at the substations at Sandpoint and Aberdeen, Idaho, in 1 or more of the years 1932–36*

[Data for Moscow and Sandpoint obtained through the courtesy of the Idaho Agricultural Experiment Station; data for Aberdeen obtained in cooperation with the Idaho Agricultural Experiment Station]

Station and variety	C. I. No.	Station No.	Number of plots and acre yield										Average yield, 1932-36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.		Pct.
Moscow:															
Trebi [1]	936	2073	3	30.1	3	75.2	3	69.6	3	61.3	3	70.8	61.4	5	100.0
Winter Club	488	2001	3	31.2	3	60.8	3	56.6	3	76.5	3	76.2	60.3	5	98.1
Spartan	5027	2106	3	24.8	3	53.1	3	54.1	3	49.7	3	61.7	48.7	5	79.3
Charlottetown 80	2732	2118	3	32.7	3	49.3	3	47.9	3	55.7	3	58.3	48.8	5	79.4
Colsess	2792	2088	3	26.4	3	50.0	3	45.9	3	40.5	3	64.7	45.5	5	74.1
Hannchen (Sask. 229)	4841	2113	3	40.3	3	66.9	3	50.5	3	64.4	3	68.3	58.1	5	94.6
Peruvian	935	2075	3	43.4	3	71.3	3	60.2						3	100.0
Han River	206	2072	3	27.2	3	58.9	3	43.7						3	74.2
Ezond	5064	2112	3	25.2	3	63.2								2	84.0
White Smyrna	910	2074	3	41.2										1	136.9
Ottawa No. 7	5977	2107	3	39.4										1	130.9
Ace	1853	2109	3	37.8										1	125.6
Union Beardless	5976	2108	3	31.0										1	103.0
Baker selection	975	2114	3	29.4										1	97.7
Velvet	4252	2111	3	27.2										1	90.4
Glabron	4577	2110	3	26.9										1	89.4
Baker	975	2076	3	25.3										1	84.1
Faust	4579	2105	3	21.6										1	71.8
Atlas	4118	2120					3	65.3	3	61.8	3	69.8		3	97.6
Sandpoint: [2]															
Trebi [1]	936	2073	3	16.0	3	19.5			3	20.7	3	21.8	19.5	4	100.0
Beldi Giant	2777		3	15.5	3	21.1			3	20.0	3	25.0	20.4	4	104.6
Winter Club	488	2001	3	14.7	3	13.6			3	21.4	3	22.8	18.1	4	92.9
Charlottetown 80	2732	2118	3	18.9	3	18.2			3	20.5	3	31.0	22.2	4	113.6
Hannchen	531		3	19.7	3	20.4			3	27.1	3	38.4	26.4	4	135.4
Union Beardless	5976	2108	3	14.7	3	18.3			3	22.9	3	41.5	24.4	4	124.9
O. A. C. 21	1470				3	22.1			3	22.0	3	31.6		3	122.1
Aberdeen:															
Trebi [1]	936	2073	2	96.7	3	69.4	3	104.2	3	118.8	3	102.5	98.3	5	100.0
White Smyrna	4580		2	92.9	3	66.9	3	101.7						3	96.7
Ezond	5064		2	93.7	3	63.6	3	93.7						3	92.9
Beldi Giant	2777		2	89.2	3	54.4	3	94.4						3	88.1
Flynn	1311		2	86.9	3	58.9	3	96.9	3	111.4	3	101.1	91.0	5	92.6
Horn	926		2	85.0	3	64.8	3	77.8	3	87.5				4	81.0
Arequipa	1256		2	85.0	3	61.1	3	95.8	3	106.1				4	89.4
Hannchen	531		2	84.2	3	66.4	3	71.2			1	71.7		4	78.7

[1] Standard variety with which others are compared.
[2] Plots were badly damaged by hail in 1934 at Sandpoint, so no yields were recorded.

TABLE 6.—*Acre yields of varieties of barley grown at the Idaho Agricultural Experiment Station, Moscow, and at the substations at Sandpoint and Aberdeen, Idaho, in 1 or more of the years 1932–36*—Continued

Station and variety	C. I. No.	Station No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Aberdeen—Continued.				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.		Pct.
Bonfarik	3393-1		2	81.2	3	63.1	3	86.1	3	99.3				4	84.7
Meloy	1176		2	69.6							1	[3] 57.5		2	63.8
Mechanical Mixture	4115		1	90.0	1	42.5	1	66.7	1	107.6	1	59.2	73.2	5	74.5
Composite Cross	4116		1	76.2	1	49.2	1	68.8	1	99.8	1	68.3	72.5	5	73.7
New Composite Cross	5461		1	75.0	3	55.8	3	69.4	1	114.9	1	85.0	80.0	5	81.4
High Altitude Composite Cross	6006		1	72.5	1	45.0	1	67.7	1	103.3	1	62.5	70.2	5	71.4
Composite Cross selection	5271						1	86.5	3	109.0				2	87.7
Do	5273						1	76.0	3	94.7				2	76.5
Afghanistan	4166								3	138.8	3	97.2		2	106.6
Do	6366								3	130.6	3	89.7		2	99.5
Ezond	6265	[4]							3	120.7	3	91.9		2	96.1
Velvon (Colorado 3063 × Trebi B2–1)	6109										3	96.4		1	94.0
Composite Cross selection	5280										1	93.3		1	91.0
Do	5365										1	88.3		1	86.1
Do	5311										1	70.8		1	69.1

[3] Some damage by sparrows.
[4] Aberdeen selection 324645.

ILLINOIS

AGRICULTURAL EXPERIMENT STATION, URBANA

W. L. BURLISON, *head, Department of Agronomy*, and G. H. DUNGAN, *professor, Crop Production*

Varietal tests of barley in Illinois are conducted at Urbana and De Kalb (table 7). Wisconsin Barbless (Pedigree 38), Trebi, and Spartan have produced high yields. The agreement with the results of the preceding 5-year period (1927–31) is very good. Barley is a minor crop and the acreage fluctuates from year to year. There are three principal hazards to the growing of barley in Illinois: (1) Hot, dry weather during filling time; (2) scab disease; and (3) chinch bugs.

Wisconsin Barbless (Pedigree 38) is recommended for general production for the malting market and for feed. Where Trebi is grown, it should be considered only as a feed barley. Spartan has been found useful because of its stiff straw and its suitability for pearling. On the southern edge of the barley belt early seeding is very important. Around Urbana barley should be in the ground by late February or early March. In the northern part of the State it may be sown somewhat later. The recommended seeding rate is 8 pecks per acre.

Some winter barley is grown in southern Illinois. When it does not winter-kill, it is a very satisfactory crop for pasture or grain. Limited outlying tests show that Purdue 21, Purdue 1101, and Kentucky No. 1 are the best adapted of the varieties tested. Missouri Early Beardless is the winter variety most extensively grown in the State. Winter barley should be seeded in September at a rate of 6 to 8 pecks per acre.

TABLE 7.—*Acre yields of varieties of barley grown at the Illinois Agricultural Experiment Station, Urbana, and at the Crop Experiment Field, De Kalb, Ill., in 1 or more of the years 1932–36*

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

Station and variety	C. I. No.	Number of plots and acre yield										Average yield, 1932-36	Number of years grown and yield in comparison with standard variety for comparable years	
		1932		1933		1934		1935		1936				
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
			Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Urbana:														
Trebi [1]	936	2	69.1	2	52.2	2	3.2	2	58.7	2	65.7	49.8	5	100.0
Spartan	5027	2	45.2	2	46.5	2	9.5	2	53.4	2	53.8	41.7	5	83.7
Wisconsin Barbless (Pedigree 38)	5105	2	64.4	2	30.8	2	1.5	2	57.4	2	45.9	40.0	5	80.4
Lion	923	2	60.2										1	87.1
Velvet	4252	2	51.8	2	44.3	2	1.6	2	52.4	2	45.7	39.2	5	78.7
Glabron [2]	4577	2	47.0	2	38.1	2	2.9	2	43.4	2	43.7	35.0	5	70.3
New Era [3]	5108			2	32.2	2	2.4	2	34.6	2	41.7		4	61.7
Oderbrucker (Wisconsin Pedigree 5)	1272	2	46.2	2	40.0	2	.9	2	47.5	2	42.9	35.5	5	71.3
Manchuria (N. Dak. 2121)	2947							2	46.2	2	36.7		2	66.6
De Kalb: [4]														
Wisconsin Barbless (Pedigree 38)	5105	2	58.5	2	31.7	2	.7			2	35.5		4	102.3
Trebi [1]	936	2	53.4	2	31.6	2	2.0			2	36.5		4	100.0
Spartan	5027			2	25.5	2	3.7			2	33.0		3	88.7
Lion	923	2	46.1										1	86.3
Glabron [2]	4577	2	45.7	2	30.4	2	1.6			2	32.7		4	89.4
Velvet	4252	2	45.4	2	29.9	2	.6			2	30.2		4	85.9
Oderbrucker (Wisconsin Pedigree 5)	1272	2	48.8	2	29.4	2	.5			2	30.8		4	88.7
New Era [3]	5108	2	36.0	2	19.6	2	2.7			2	25.7		4	68.0
Manchuria (N. Dak. 2121)	2947									2	29.1		1	79.7

[1] Standard variety with which others are compared.
[2] Somewhat mixed with other varieties in 1936.
[3] Yields computed at the rate of 48 pounds per bushel, as with hulled varieties.
[4] Barley not seeded at De Kalb in 1935 because of chinch-bug hazard.

IOWA

AGRICULTURAL EXPERIMENT STATION, AMES

L. C. BURNETT, *research professor, Farm Crops*

Barley tests in Iowa are conducted at Ames and Kanawha (table 8). The 1936 tests at Ames were in 1/20-acre field plots. All other tests, both at Ames and Kanawha, were in multiple-row nursery plots. Trebi is the highest yielding variety at both stations, which result is in agreement with its performance in the previous 5-year period, 1927–31. For malting purposes, Velvet and Wisconsin Barbless (Pedigree 38) should be grown. Barley responds favorably to early seeding. It should be sown not later than the middle of April. Seedings made after this date have shown severe losses in yield. Two bushels per acre is a satisfactory rate of seeding.

TABLE 8.—*Acre yields of varieties of barley grown at the Iowa Agricultural Experiment Station, Ames, and at the experiment field at Kanawha, in 1 or more of the years 1932–36*

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

Station and variety	C. I. No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
		1932		1933		1934 [1]		1935 [2]		1936				
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Ames:			*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Velvet	4252	12	31.3	12	49.0	----	0.0	----	------	2	27.1	26.9	4	84.6
Glabron	4577	12	28.7	12	50.4	----	.0	----	------	2	31.0	27.5	4	86.8
Wisconsin Barbless (Pedigree 38)	5105	12	28.3	12	49.3	----	.0	----	------	2	33.8	27.9	4	87.8
Spartan	5027	12	26.3	12	44.2	----	.0	----	------	2	32.9	25.9	4	81.5
Oderbrucker (Wisconsin Pedigree 5)	1272	----	------	----	------	----	------	----	------	2	28.5	------	1	67.1
Trebi [3]	936	12	24.0	12	60.4	----	.0	----	------	2	42.5	31.7	4	100.0
Minsturdi	1556	12	30.9	12	47.1	----	.0	----	------	2	32.1	27.5	4	86.8
Manchuria	241	12	30.0	12	40.8	----	.0	----	------	2	24.6	23.9	4	75.2
O. A. C. 21	1470	12	25.5	12	40.0	----	.0	----	------	----	------	------	3	77.6
Colsess	2792	12	16.6	12	38.9	----	.0	----	------	----	------	------	3	65.8
Peatland	5267	----	------	----	------	----	------	----	------	2	25.4	------	1	59.8
Kanawha:														
Velvet	4252	8	25.4	8	24.6	21	32.4	21	32.6	21	44.4	31.9	5	82.8
Glabron	4577	8	23.8	8	30.4	21	37.4	21	39.6	21	51.3	36.5	5	94.9
Wisconsin Barbless (Pedigree 38)	5105	8	22.6	8	30.8	21	32.6	21	44.5	21	43.5	34.8	5	90.4
Spartan	5027	8	18.1	8	24.2	21	25.1	21	43.7	21	46.1	31.4	5	81.7
Oderbrucker (Wisconsin Pedigree 5)	1272	----	------	----	------	21	19.4	21	34.6	21	39.5	18.7	3	65.5
Trebi [3]	936	8	18.3	8	31.4	21	40.6	21	38.6	21	63.5	38.5	5	100.0
Minsturdi	1556	8	16.9	8	22.7	21	30.1	21	37.9	21	49.9	31.5	5	81.9
Manchuria	241	8	26.2	8	23.8	21	29.4	21	25.8	21	41.8	29.4	5	76.4
O. A. C. 21	1470	8	22.8	8	25.6	----	------	----	------	----	------	------	2	97.4
Colsess	2792	8	13.0	8	24.7	----	------	----	------	----	------	------	2	75.9
Ioglos	6239	----	------	----	------	----	------	----	------	----	61.0	------	1	96.1
Peatland	5267	----	------	----	------	----	------	----	------	----	46.0	------	1	72.4

[1] Crop failure at Ames in 1934 owing to drought and hot weather.
[2] Crop not grown at Ames in 1935 owing to chinch-bug infestation.
[3] Standard variety with which others are compared.

KANSAS

H. H. LAUDE, *agronomist, Kansas Agricultural Experiment Station, Manhattan;* A. F. SWANSON, *associate agronomist, United States Department of Agriculture, Fort Hays Branch Station, Hays;* and E. H. COLES, *associate agronomist, United States Department of Agriculture, Colby Branch Station, Colby*

Barley yields for Kansas are reported from 10 locations (table 9). Drought was the principal cause of the low yields at Hays, Colby, Garden City, and Tribune. The highest yielding varieties are Flynn and Vaughn. Flynn is the recommended variety. It was distributed to farmers in 1933 from the Fort Hays Branch Station. It is a six-rowed variety with smooth awns and matures 2 to 3 days earlier than Stavropol, the commonly grown variety. Barley is grown principally for feed. The best time to seed barley is between March 15 and April 10, at the rate of 5 to 7 pecks per acre. Both time and rate of seeding will vary with locality.

Some winter barley is grown in eastern and central Kansas. It furnishes excellent pasture in the fall and also in the spring, when it does not winter-kill. If it is not pastured too heavily or too late in the spring, it will also produce a grain crop. The best time to seed is between September 15 and 30, at the rate of 2 bushels per acre. Local strains now being grown are recommended as the ones best adapted for Kansas conditions.

TABLE 9.—*Acre yields of varieties of barley grown at the branch experiment stations at Hays, Colby, Garden City, and Tribune, Kans.; at the Kansas Agricultural Experiment Station, Manhattan; and at the South Central, Southeast, and Northeast Experiment Fields, in 1 or more of the years 1932–36*

[Data for Hays obtained in cooperation with the Kansas Agricultural Experiment Station; for Colby through the courtesy of the station and the Division of Dry Land Agriculture; and for Garden City, Tribune, Manhattan, and the experiment fields, through the courtesy of the station.]

Station and variety	C. I. No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
		1932		1933		1934		1935 [1]		1936				
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
			Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Hays:														
White Smyrna	195	2	39.0	2	6.2	2	1.0			2	28.4	18.7	4	100.7
Club Mariout [2]	261	2	35.9	2	8.3	2	1.0			2	28.9	18.5	4	100.0
Ellis (Stavropol)	2107	2	37.0	2	5.7	2	1.0			2	23.2	16.7	4	90.3
Flynn	1311	2	30.7	2	7.3	2	1.6			2	33.9	18.4	4	99.2
Stavropol (H. C. 249)	5913	2	39.0	2	5.7	2	1.0			2	23.2	17.2	4	93.0
Vaughn	1367	2	31.3	2	5.7	2	1.6			2	33.6	18.1	4	97.4
Trebi	936	2	43.2	2	1.0	2	.0			2	13.3	14.4	4	77.6
Franklin Malt	5915	2	37.5	2	1.6	2	1.0			2	14.4	13.6	4	73.5
Colby selection (Kans. 30752)	5921	2	35.9	2	3.6	2	1.0			2	24.5	16.3	4	87.7
Huntington	4110	2	38.5	2	4.7	2	.5						3	96.7
Spartan	5027									2	27.4		1	94.8
Colby: [3]														
Flynn	1311	3	30.7	3	2.7	3	.0			3	7.3	10.2	4	153.6
Trebi	936	3	27.6	3	.0	3	.0			3	.0	6.9	4	104.2
Franklin Malt	5915	3	24.1	3	.0	3	.0			3	.5	6.2	4	92.8
Francis	4109	3	23.9	3	.0								2	104.4
Vaughn	1367	3	23.9	3	2.3	3	.0			3	13.3	9.9	4	149.1
Stavropol (H. C. 249)	5913	3	23.2	3	.0	3	.0			3	1.7	6.2	4	94.0
Huntington	4110	3	23.1	3	.0	3	.0						3	100.9
Club Mariout [2]	261	3	21.7	3	1.2	3	.0			3	3.6	6.6	4	100.0
Colby Local Six-Rowed	5919	3	21.5	3	.0	3	.0			3	1.9	5.9	4	88.3
Flynn selection 13	5916	1	29.7										1	136.9
Composite Cross	4116	1	28.6	1	.0	1	.0						3	124.9
Spartan	5027									3	4.3		1	119.4
Garden City: [3]														
Trebi [2]	936	2	34.7	2	7.6	2	.0	2	0.0	2	.0	8.5	5	100.0
Club Mariout	261	2	20.9										1	60.2
Stavropol (H. C. 249)	5913	2	22.6										1	65.1
Flynn	1311	2	22.4	2	7.9	2	.0	2	.0	2	.0	6.1	5	71.6
Vaughn	1367	2	17.1	2	8.3	2	.0	2	.0	2	.0	5.1	5	60.0
Huntington	4110	2	23.9	2	10.1	2	.0	2	.0	2	.0	6.8	5	80.4
Malt [4]		2	25.7	2	5.0	2	.0	2	.0	2	.0	6.1	5	72.6
Colby Local Six-Rowed	5919			2	4.9	2	.0	2	.0	2	.0		4	64.5

See footnotes at end of table.

TABLE 9.—*Acre yields of varieties of barley grown at the branch experiment stations at Hays, Colby, Garden City, and Tribune, Kans.; at the Kansas Agricultural Experiment Station, Manhattan; and at the South Central, Southeast, and Northeast Experiment Fields, in 1 or more of the years 1932–36*—Continued

Station and variety	C. I. No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
		1932		1933		1934		1935		1936				
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Manhattan:														
Spring barley			Bu.		Bu.		Bu.		Bu.		Bu.	Bu.		Pct.
Vaughn	1367	3	28.1	2	12.3								2	97.8
Flynn	1311	3	31.6	2	13.0								2	108.0
Stavropol (H. C. 249) [2]	5913	3	31.5	2	9.8	3	2.6			3	21.3		4	100.0
Trebi	936	3	34.4	2	11.2								2	110.4
Winter barley														
Wisconsin Winter	2159					1	11.2	1	35.2				2	77.2
Kansas (Southeast strain) [2]						1	19.4	1	40.7	1	43.4		3	100.0
Kansas (South Central strain)						1	18.3	1	44.1	1	48.4		3	107.1
Missouri Early Beardless	6051									1	32.6		1	75.1
Kentucky No. 1 (Kans. 8080)	6050									1	34.9		1	80.4
Kentucky No. 2 (Kans. 8081)	6148									1	41.4		1	95.4
Kentucky Smooth Awn No. 11 (Kans. 8082)	6021									1	40.5		1	93.3
Tribune: [3] [5]														
Stavropol (H. C. 249) [2]	5913			2	.0	2	8.9	2	.0	2	.0	2.2	4	100.0
Flynn	1311			2	.0	2	14.5	2	.0	2	.0	3.6	4	162.9
Trebi	936			2	.0	2	4.6	2	.0	2	.0	1.2	4	51.7
Vaughn	1367			2	.0	2	11.1	2	.0	2	.0	2.8	4	124.7
Malt [4]				2	.0	2	8.6	2	.0	2	.0	2.2	4	96.6
South Central Experiment Field: Wichita:														
Spring barley														
Colby Local Six-Rowed [2]	5919	2	15.7			2	28.2	2	30.7	2	33.1	26.9	4	100.0
Vaughn	1367	2	7.5										1	47.8
Franklin Malt	5915					2	24.1	2	33.3	2	42.3		3	108.4
Winter barley														
Kingman County Local								2	22.0	2	15.3		2	88.2
Kansas (South Central strain) [2]								2	23.3	2	19.0		2	100.0
Kansas (Southeast strain)								2	25.9	2	14.3		2	95.0
Wisconsin Winter	2159							2	19.0				1	81.5
Missouri Early Beardless	6051									2	14.7		1	77.4
Kingman:														
Spring barley														
Colby Local Six-Rowed [2]	5919	2	23.8			2	14.3	2	50.1	2	36.4	31.2	4	100.0
Vaughn	1367	2	23.6										1	99.2
Local Six-Rowed		2	16.6										1	69.7
Franklin Malt	5915					2	15.1						1	105.6
Malt [6]								2	52.7	2	36.5		2	103.1

See footnotes at end of table.

TABLE 9.—*Acre yields of varieties of barley grown at the branch experiment stations at Hays, Colby, Garden City, and Tribune, Kans.; at the Kansas Agricultural Experiment Station, Manhattan; and at the South Central, Southeast, and Northeast Experiment Fields, in 1 or more of the years 1932–36*—Continued

Station and variety	C. I. No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
		1932		1933		1934		1935 [1]		1936				
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
South Central Experiment Field—Con.														
Kingman—Continued.														
Winter barley														
			Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Kingman County Local [2]						2	31.0	2	19.4	2	23.3		3	100.0
Kansas (South Central strain)								2	22.7	2	20.7		2	101.6
Kansas (Southeast strain)								2	22.5	2	19.0		2	97.2
Wisconsin Winter	2159							2	17.8				1	91.8
Missouri Early Beardless	6051									2	14.3		1	61.4
Pratt: [7]														
Trebi	936	2	13.9										1	100.0
Vaughn	1367	2	13.7										1	98.6
Flynn	1311	2	13.5										1	97.1
Colby Local Six-Rowed	5919	2	12.4										1	89.2
Stavropol (H. C. 249)	5913	2	8.3										1	59.7
Southeast Experiment Field:														
Moran:														
Flynn [2]	1311			3	19.7								1	100.0
Colby Local Six-Rowed	5919			3	29.7								1	150.8
Columbus:														
Winter barley														
Kansas (Southeast strain) [2]						3	32.0	2	41.5	2	15.2		3	100.0
Kansas (South Central strain)								2	42.4	2	20.5		2	110.9
Wisconsin Winter	2159							2	35.5				1	85.5
Kentucky No. 2 (Kans. 8081)	6148							1	18.2				1	43.9
Missouri Early Beardless	6051							2	15.1				1	36.4
Northeast Experiment Field:														
McLouth:														
Winter barley														
Kansas (Southeast strain) [2]										3	50.4		1	100.0
Missouri Early Beardless	6051									3	39.4		1	78.2

[1] Crop not sown at Hays and Colby owing to dry spring. Crop failed in territory adjacent to Hays and Colby.
[2] Standard variety with which others are compared.
[3] Zero yields were due to drought at Colby in 1933, 1934, and 1936; at Garden City in 1934, 1935, and 1936; and at Tribune in 1933, 1935, and 1936.
[4] Franklin Malt (C. I. 5915) sown in 1932 and 1933. In 1934–36, a similar type obtained from various sources was used; in 1934 and 1935, one from Jay Sible of Colby; in 1936, one from John Skolout of Beardsley.
[5] No yields available at Tribune in 1932 owing to hail and flood damage at ripening time.
[6] Malt barley similar to Franklin Malt but from other sources.
[7] All varieties of spring barley at Pratt were a failure in 1933 owing to drought.

MARYLAND

AGRICULTURAL EXPERIMENT STATION, COLLEGE PARK

R. G. ROTHGEB, *associate in plant breeding*, and W. B. KEMP, *associate in plant breeding*

Barley yields for Maryland are reported from College Park and are given in table 10. During 1932 and 1933 the yields were secured from nursery plots; in all other years, from field plots. The varieties tested consisted largely of smooth-awned sorts developed at the station. The highest yielding ones are Smooth Awn selection Md. 15–8, Smooth Awn selection Md. 19–8, and Marnobarb Md. 13–6. Barley is used for fall and spring pasture and as a grain crop. Tennessee Winter is the most reliable variety to grow in Maryland, although, where the winters are no more severe than at College Park, some of the newer smooth-awned sorts appear promising. Of these sorts, Marnobarb is the most widely grown. For conditions similar to those at College Park, barley should be seeded the first week in October, but at higher altitudes and in the northern counties, the best time is the latter part of September. The recommended seeding rate is 2 bushels per acre.

TABLE 10.—*Acre yields of varieties of barley grown at the Maryland Agricultural Experiment Station, College Park, in 1 or more of the years 1932–36*

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

Variety	C. I. No.	Station No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield [1]	Plots	Yield [1]	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
				Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Tennessee Winter [2]	257	----	2	25.8	3	35.5	2	39.7	2	52.1	2	49.2	40.5	5	100.0
Marnobarb	6120	13–6	1	23.0	3	46.2	2	53.1	2	58.4	2	50.4	46.2	5	114.2
Smooth Awn selection	6494	19–8	1	24.5	3	51.5	2	52.4	2	52.0	2	52.5	46.6	5	115.1
Smooth Awn selection	----	11–6	1	23.0	3	35.5	2	47.6	2	54.2	2	44.8	41.0	5	101.4
Smooth Awn selection	6495	15–8	1	29.9	3	48.3	2	47.1	2	61.6	2	49.3	47.2	5	116.8
Smooth Awn selection	----	16–6	1	22.2	3	41.9	2	46.9	2	53.1	2	27.6	38.3	5	94.8

[1] Yields for 1932 and 1933 are from nursery rows.
[2] Standard variety with which others are compared.

MICHIGAN

AGRICULTURAL EXPERIMENT STATION, EAST LANSING

E. E. DOWN, *associate professor and research associate in farm crops*, and J. W. THAYER, JR., *research assistant in farm crops*

Since repeal of prohibition there has been a decided shift in the varieties grown in Michigan. The present trend is away from Spartan, a smooth-awned two-rowed type, and toward Wisconsin Barbless (Pedigree 38), a smooth-awned six-rowed type. This change has come about relatively rapidly. The yields reported for the period 1932–36

show that Wisconsin Barbless (Pedigree 38) produced the highest yield (table 11). The next highest yielding variety is Alpha, a two-rowed sort. It was also high in yield in the previous 5-year period, 1927–31.

Wisconsin Barbless (Pedigree 38) is recommended as a market and feed barley for Michigan. Spartan is a good variety where barley is used principally for feed or as a nurse crop. It is particularly suited to this latter use because of its early maturity, stiffness of straw, and sparse foliage. Barley should be seeded as soon as the ground can be properly prepared in the spring, at the rate of 1½ to 2 bushels per acre.

TABLE 11.—*Acre yields of varieties of barley grown at the Michigan Agricultural Experiment Station, East Lansing, in 1 or more of the years 1932–36*

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

Variety	C. I. No.	Station No.	Number of plots and acre yield [1]										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
				Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Michigan-Two-Rowed (Heil Hanna No. 1)	2782	124	59	53.0	4	31.9	6	17.6	6	51.5	6	41.3	39.1	5	116.9
Spartan [2]	5027	68	2	42.4	83	25.7	107	16.8	101	46.0	94	36.2	33.4	5	100.0
Alpha	959	121	2	58.5	4	29.5	6	16.6	6	57.0	6	41.6	40.6	5	121.6
Wisconsin Barbless (Pedigree 38)	5105	180	2	65.7	4	28.8	6	21.2	6	59.3	6	41.6	43.3	5	129.6
Oderbrucker (Wisconsin Pedigree 9)	1275	101	2	41.1	4	32.4	6	17.1	6	45.1	6	36.9	34.5	5	103.3
Velvet	4252	95	2	50.0	4	28.8	6	17.8	6	53.8	6	39.8	38.0	5	113.8
Glabron	4577	99	2	46.2	4	30.1	6	17.6	6	52.4	6	40.9	37.4	5	112.0
Minnesota 450	4646	100	2	54.7	4	27.0	6	10.7	6	60.3	6	38.0	38.1	5	114.1
Trebi	936	137	2	53.8	4	28.5	6	14.9	6	53.8	6	42.3	38.7	5	115.7

[1] Plots consisted of 5 16-foot rows of which the center 3 were harvested.
[2] Standard variety with which others are compared.

MINNESOTA

MINNESOTA AGRICULTURAL EXPERIMENT STATION, UNIVERSITY FARM, ST. PAUL

F. R. IMMER, *professor of agronomy, geneticist, Division of Agronomy and Plant Genetics*

Yield tests for Minnesota are reported from six stations (table 12). For the State as a whole the highest yielding varieties are Wisconsin Barbless (Pedigree 38) and Trebi. The varieties recommended for all sections of the State are Wisconsin Barbless (Pedigree 38), Velvet, Glabron, Peatland, and Improved Manchuria (C. I. 2330). Peatland is recommended particularly for peat lands or in regions where scab is a serious problem. It has produced high yields at the Grand Rapids station. Minsturdi is grown to a very limited extent on very heavy soil. Where malting barley is grown, the recommended varieties are Wisconsin Barbless (Pedigree 38), Velvet, Improved Manchuria, and Peatland. Glabron is recommended only for feed. Trebi is no longer

TABLE 12.—*Acre yields of varieties of barley grown at the Minnesota Agricultural Experiment Station, University Farm, St. Paul; at the Southeast Experiment Station, Waseca; at the West Central Experiment Station, Morris; at the Northwest Experiment Station, Crookston; at the North Central Experiment Station, Grand Rapids; and at the Northeast Experiment Station, Duluth, in 1 or more of the years 1932–36*

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

Station and variety	C. I. No.	Station No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
St. Paul:				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.		Pct.
Improved Manchuria	2330	184	3	26.9	3	27.1	3	12.7	3	51.9	3	22.7	28.3	5	91.8
Velvet [1]	4252	447	3	26.8	3	38.2	3	15.0	3	57.0	3	17.0	30.8	5	100.0
Wisconsin Barbless (Pedigree 38)	5105	529	3	3.80	3	38.8	3	5.5	3	63.3	3	18.3	32.8	5	106.4
Trebi	936	448	3	29.1	3	45.9	3	14.6	3	62.1	3	25.3	35.4	5	114.9
Minsturdi	1556	439	3	25.8	3	40.4	3	16.3	3	62.1	3	30.9	35.1	5	114.0
Peatland	5267	452	3	28.1	3	31.0	3	5.4	3	51.9	3	11.0	25.5	5	82.7
Svansota	1907	440	3	27.4	3	36.2	3	2.9	3	56.7	---	-----	-----	4	89.9
Spartan	5027	460	3	25.9	3	43.3	3	9.3	3	64.4	---	-----	-----	4	104.3
Smooth Awn × Manchuria	5998	462	3	25.6	3	34.8	3	12.0	3	49.4	---	-----	-----	4	88.9
Manchuria × Smooth Awn	4667	457	3	26.4	3	40.8	3	19.6	3	60.0	---	-----	-----	4	107.2
Svanhals × Lion	5999	474	3	30.9	3	30.9	3	6.6	3	58.9	---	-----	-----	4	92.9
Glabron	4577	445	---	-----	3	34.4	3	13.6	3	46.0	3	24.0	-----	4	92.8
Oderbrucker (Wisconsin Pedigree 5–1)	4666	528	---	-----	3	26.0	3	6.1	3	43.3	3	10.3	-----	4	67.4
Odessa	182	564	---	-----	3	32.9	3	13.8	3	53.6	3	21.7	-----	4	95.9
South Dakota 1340 (Lion × Manchuria)	6001	565	---	-----	3	41.1	3	10.1	3	61.1	3	31.8	-----	4	113.3
Waseca:															
Improved Manchuria	2330	184	3	33.5	3	44.8	3	18.9	3	53.5	3	38.0	37.7	5	91.9
Velvet [1]	4252	447	3	37.4	3	53.5	3	18.5	3	56.5	3	39.4	41.1	5	100.0
Glabron	4577	445	3	37.7	3	59.6	3	22.6	3	59.0	3	42.8	44.3	5	108.0
Wisconsin Barbless (Pedigree 38)	5105	529	3	58.2	3	65.9	3	22.1	3	72.3	3	45.0	52.7	5	128.3
Trebi	936	448	3	49.2	3	62.1	3	25.3	3	66.9	3	55.9	51.9	5	126.4
Minsturdi	1556	439	3	41.0	3	54.7	3	19.9	3	61.3	3	46.6	44.7	5	108.9
Peatland	5267	452	3	36.0	3	59.1	3	11.3	3	47.8	3	38.5	38.5	5	93.9
Svanhals × Lion	5999	474	3	36.7	3	46.9	3	27.7	3	63.7	---	-----	-----	4	105.5
Spartan	5027	460	3	33.2	3	56.8	3	8.8	3	61.3	---	-----	-----	4	96.5
Smooth Awn × Manchuria	5998	462	3	44.7	3	58.4	3	23.0	3	57.8	---	-----	-----	4	100.8
Manchuria × Smooth Awn	4667	457	3	42.2	3	57.8	3	26.8	3	51.1	---	-----	-----	4	107.2
Svansota	1907	440	3	38.5	---	-----	---	-----	---	-----	---	-----	-----	1	102.9
Oderbrucker (Wisconsin Pedigree 5–1)	4666	528	---	-----	3	46.4	3	13.8	3	40.4	3	36.5	-----	4	81.7
Odessa	182	564	---	-----	3	62.0	3	17.4	3	61.2	3	39.3	-----	4	107.1
South Dakota 1340 (Lion × Manchuria)	6001	565	---	-----	3	58.0	3	13.3	3	54.5	3	48.0	-----	4	103.5
Manchuria (N. Dak. 2121)	2947	---	---	-----	---	-----	3	15.8	3	40.7	---	-----	-----	2	75.3
Morris: [2]															
Improved Manchuria	2330	184	3	34.4	---	-----	---	-----	3	34.2	3	23.3	30.6	3	95.1
Velvet	4252	447	3	38.8	---	-----	---	-----	3	36.7	3	21.1	32.2	3	100.0
Glabron	4577	445	3	35.1	---	-----	---	-----	3	33.8	3	23.8	30.9	3	96.0
Wisconsin Barbless (Pedigree 38)	5105	529	3	47.2	---	-----	---	-----	3	55.2	3	20.1	40.8	3	126.8
Trebi	936	448	3	46.6	---	-----	---	-----	3	43.8	3	26.1	38.8	3	120.6
Peatland	5267	452	3	43.2	---	-----	---	-----	3	49.1	3	18.1	36.8	3	114.3
Smooth Awn × Manchuria	5998	462	3	47.0	---	-----	---	-----	3	34.0	---	-----	-----	2	107.3
Manchuria × Smooth Awn	4667	457	3	43.5	---	-----	---	-----	3	31.5	---	-----	-----	2	99.3
Svanhals × Lion	5999	474	3	43.8	---	-----	---	-----	3	48.9	---	-----	-----	2	122.8
Oderbrucker (Wisconsin Pedigree 5–1)	4666	528	---	-----	---	-----	---	-----	3	34.3	3	19.0	-----	2	92.2
Odessa	182	564	---	-----	---	-----	---	-----	3	41.9	3	25.7	-----	2	117.0
South Dakota 1340 (Lion × Manchuria)	6001	565	---	-----	---	-----	---	-----	3	35.1	3	20.1	-----	2	95.5

[1] Standard variety with which others are compared.
[2] No yields are reported at Morris in 1933 and 1934, because of a crop failure owing to drought.

TABLE 12.—*Acre yields of varieties of barley grown at the Minnesota Agricultural Experiment Station, University Farm, St. Paul; at the Southeast Experiment Station, Waseca; at the West Central Experiment Station, Morris; at the Northwest Experiment Station, Crookston; at the North Central Experiment Station, Grand Rapids; and at the Northeast Experiment Station, Duluth, in 1 or more of the years 1932–36*—Continued

Station and variety	C. I. No.	Station No.	Number of plots and acre yield												Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936		Average yield, 1932–36			
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			Years	Yield
Crookston:				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.			Pct.
Improved Manchuria	2330	184	3	33.0	3	26.2	3	49.4	3	40.0	3	8.2	31.4		5	93.5
Velvet [1]	4252	447	3	32.1	3	35.6	3	47.2	3	40.6	3	12.6	33.6		5	100.0
Glabron	4577	445	3	26.2	3	28.4	3	52.1	3	32.9	3	11.5	30.2		5	89.9
Wisconsin Barbless (Pedigree 38)	5105	529	3	35.9	3	44.5	3	51.4	3	45.2	3	8.8	37.2		5	110.5
Trebi	936	448	3	41.8	3	22.8	3	65.1	3	56.5	3	23.1	41.9		5	124.5
Peatland	5267	452	3	25.2	3	35.3	3	44.7	3	52.0	3	6.7	32.8		5	97.5
Smooth Awn × Manchuria	5998	462	3	30.5	3	31.3	3	60.5	3	37.3					4	102.6
Manchuria × Smooth Awn	4667	457	3	34.3	3	27.6	3	57.6	3	43.0					4	104.5
Svanhals × Lion	5999	474	3	32.0	3	36.1	3	51.5	3	40.6					4	103.1
Svansota	1907	440	3	20.6											1	64.2
Oderbrucker (Wisconsin Pedigree 5–1)	4666	528			3	34.7	3	48.2	3	32.5	3	4.1			4	87.9
Odessa	182	564			3	33.3	3	59.3	3	44.0	3	17.2			4	113.1
South Dakota 1340 (Lion × Manchuria)	6001	565			3	8.8	3	56.8	3	42.0	3	13.9			4	89.3
Grand Rapids:																
Improved Manchuria	2330	184	3	22.1	3	10.1	3	29.3	3	28.6	3	18.0	21.6		5	94.6
Velvet [1]	4252	447	3	32.2	3	8.0	3	40.4	3	26.0	3	7.7	22.9		5	100.0
Glabron	4577	445	3	14.4	3	14.2	3	37.3	3	21.4	3	12.8	20.0		5	87.6
Wisconsin Barbless (Pedigree 38)	5105	529	3	20.7	3	10.6	3	43.3	3	25.1	3	9.0	21.7		5	95.1
Trebi	936	448	3	20.7	3	15.5	3	42.6	3	33.5	3	19.0	26.3		5	114.9
Peatland	5267	452	3	26.8	3	14.4	3	43.2	3	35.6	3	16.5	27.3		5	119.4
Smooth Awn × Manchuria	5998	462	3	19.9	3	10.9	3	39.5	3	31.5					4	95.5
Manchuria × Smooth Awn	4667	457	3	19.5	3	12.7	3	35.5	3	29.7					4	91.4
Svanhals × Lion	5999	474	3	18.6	3	9.8	3	44.5	3	24.5					4	91.4
Svansota	1907	440	3	16.6											1	51.6
Oderbrucker (Wisconsin Pedigree 5–1)	4666	528			3	10.1	3	26.7	3	23.8	3	13.0			4	89.6
Odessa	182	564			3	14.0	3	42.5	3	28.0	3	14.4			4	120.5
South Dakota 1340 (Lion × Manchuria)	6001	565					3	31.8	3	25.9	3	15.0			3	98.1
Duluth:																
Improved Manchuria	2330	184	3	22.6	3	38.4	3	55.7	3	24.6	3	12.0	30.7		5	108.6
Velvet [1]	4252	447	3	22.5	3	30.4	3	51.8	3	27.5	3	8.9	28.2		5	100.0
Glabron	4577	445	3	25.9	3	36.3	3	50.3	3	21.4	3	12.9	29.4		5	104.0
Wisconsin Barbless (Pedigree 38)	5105	529	3	29.3	3	60.1	3	73.4	3	40.5	3	10.3	42.7		5	151.4
Trebi	936	448	3	30.6	3	35.8	3	75.5	3	30.5	3	21.2	38.7		5	137.2
Peatland	5267	452	3	31.4	3	41.7	3	50.7	3	33.0	3	17.5	34.9		5	123.5
Svansota	1907	440	3	22.2	3	33.5	3	54.7	3	23.0					4	100.9
Smooth Awn × Manchuria	5998	462	3	22.5	3	34.7	3	64.0	3	17.9					4	105.2
Manchuria × Smooth Awn	4667	457	3	22.7	3	21.6	3	58.0	3	24.5					4	95.9
Oderbrucker (Wisconsin Pedigree 5–1)	4666	528			3	32.9	3	38.8	3	19.2	3	9.2			4	84.4
Odessa	182	564			3	44.1	3	54.5	3	33.0	3	17.4			4	125.6
South Dakota 1340 (Lion × Manchuria)	6001	565					3	51.2	3	27.0	3	14.2			3	104.8
Svanhals × Lion	5999	474			3	34.1	3	48.4	3	24.5					3	97.4

[1] Standard variety with which others are compared.

a recommended variety, primarily because of trade preferences for other types of barley. The Waseca station represents the important barley area of the State more nearly than any of the other stations. Here, Wisconsin Barbless (Pedigree 38) is the best variety.

Barley should be seeded as early as the ground can be prepared. This can usually be done by April 10 in some parts of the State, although in others it may not be possible before April 25. The recommended seeding rate is 2 bushels per acre.

MISSOURI

AGRICULTURAL EXPERIMENT STATION, COLUMBIA

B. M. KING, *assistant professor, Department of Field Crops*

Yield tests for Missouri are reported from two stations (table 13). At Columbia, the yields are from field plot tests in 1932, 1933, and 1934 and from nursery rows in 1935 and 1936; at Elsberry, they are from field plot tests only. At Columbia, the yields are from fall seeding and, of the varieties grown for 4 years, the highest yielding ones are Alaska, Tennessee Winter selection 52, and Wisconsin Winter.

TABLE 13.—*Acre yields of varieties of barley grown at the Missouri Agricultural Experiment Station, Columbia, and at the experiment field at Elsberry in 1 or more of the years 1932–36*

[Data for Columbia obtained through the courtesy of the Missouri Agricultural Experiment Station and for Elsberry in cooperation with the station]

Station and variety	C. I. No.	Station No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Columbia:															
Fall-sown				*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Hooded Winter (Va.)	------	B 210	2	19.8	---	-----	2	14.5	5	29.9	5	15.8	-----	4	101.7
Bearded Winter (Mo.)	------	B 215	2	26.8	2	28.9	2	13.1	5	33.5	5	21.1	24.7	5	112.0
Kentucky No. 1 [1]	6050	B 216	2	17.1	2	30.7	2	17.8	5	26.0	5	17.8	21.9	5	100.0
Kentucky No. 4	------	B 217	2	4.7	---	-----	---	-----	5	25.9	5	13.2	-----	3	71.9
Tennessee Winter selection 52	3543	B 218	---	-----	2	22.5	2	16.1	5	47.6	5	21.1	-----	4	116.3
Tennessee Beardless 5 (Beardless 5)	3384	B 219	---	-----	2	19.4	2	15.0	5	24.2	5	11.2	-----	4	75.6
Hooded Winter (Tenn.)	------	B 232	---	-----	2	20.7	2	8.9	5	26.4	5	15.2	-----	4	77.1
Kentucky No. 5	------	B 269	---	-----	2	17.5	2	33.2	5	19.8	---	-----	-----	3	94.6
Kentucky No. 2	6148	B 285	---	-----	2	16.8	2	39.3	5	25.7	---	-----	-----	3	109.8
Tennessee Beardless 6 (Beardless 6)	2746	B 287	---	-----	2	13.0	2	-----	---	17.8	---	-----	-----	2	63.5
Wisconsin Winter	2159	B 236	---	-----	2	24.7	2	14.0	5	45.7	5	19.1	-----	4	112.1
Alaska	4106	B 237	---	-----	2	27.4	2	10.9	5	52.9	5	20.5	-----	4	121.0
Han River	2163	B 238	---	-----	2	30.9	2	9.3	5	47.1	5	15.1	-----	4	110.9
Hooded Winter (mass selection from B211–212)	------	B 233	---	-----	---	-----	---	-----	5	36.1	5	10.6	-----	2	106.6
Unnamed	4298–1	B 244	---	-----	---	-----	---	-----	5	23.4	---	-----	-----	1	90.0
Do	4299–2	B 245	---	-----	---	-----	---	-----	5	28.1	5	5.9	-----	2	77.6
Hankow	197	B 246	---	-----	---	-----	---	-----	5	25.3	5	10.6	-----	2	82.0
Alaska	534	B 247	---	-----	---	-----	---	-----	5	44.0	5	23.8	-----	2	154.8
Popeline	704	B 249	---	-----	---	-----	---	-----	5	23.2	5	7.9	-----	2	71.0
Black Russian	705	B 250	---	-----	---	-----	---	-----	5	38.1	5	11.2	-----	2	112.6
Venus	736	B 251	---	-----	---	-----	---	-----	5	22.9	5	4.6	-----	2	62.8

See footnotes at end of table.

TABLE 13.—*Acre yields of varieties of barley grown at the Missouri Agricultural Experiment Station, Columbia, and at the experiment field at Elsberry in 1 or more of the years 1932–36*—Continued

Station and variety	C. I. No.	Station No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Columbia—Continued.															
Fall-sown—Continued				*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Cusado	895	B 252	---	-----	---	-----	---	-----	5	40.1	5	23.1	-----	2	144.3
Arabel	896	B 253	---	-----	---	-----	---	-----	5	40.7	5	21.1	-----	2	141.1
Pidor	901	B 254	---	-----	---	-----	---	-----	5	44.2	5	14.5	-----	2	134.0
Ghest	979	B 255	---	-----	---	-----	---	-----	5	25.0	5	5.9	-----	2	70.5
Fengsein	1040	B 259	---	-----	---	-----	---	-----	5	20.8	5	7.2	-----	2	63.9
Cadmus	1054	B 261	---	-----	---	-----	---	-----	5	17.2	5	6.6	-----	2	54.3
Cartouch	1107	B 262	---	-----	---	-----	---	-----	5	48.3	5	18.5	-----	2	152.5
Hansee Hull-less	703	B 265	---	-----	---	-----	---	-----	5	32.7	5	15.2	-----	2	109.4
Squarehead Winter	252	B 266	---	-----	---	-----	---	-----	5	34.4	5	15.8	-----	2	114.6
Clancy	1002	B 268	---	-----	---	-----	---	-----	5	24.2	5	13.2	-----	2	85.4
Michigan Winter	2036	B 270	---	-----	---	-----	---	-----	5	47.5	5	26.4	-----	2	168.7
Missouri Early Beardless	6051	B 288	---	-----	---	-----	---	-----	5	25.8	5	19.1	-----	2	102.5
Archias Seed Co	-----	B 289	---	-----	---	-----	---	-----	5	46.8	5	24.4	-----	2	162.6
Michigan Winter	4689	B 290	---	-----	---	-----	---	-----	5	34.3	5	25.7	-----	2	137.0
Sikes Bearded	-----	B 291	---	-----	---	-----	---	-----	5	52.3	5	-----	-----	1	201.2
Missouri selections from	-----	B 294	---	-----	---	-----	---	-----	---	-----	5	13.2	-----	1	74.2
New Composite Cross C. I. 5461	-----	B 295	---	-----	---	-----	---	-----	---	-----	5	15.8	-----	1	88.8
Do	-----	B 296	---	-----	---	-----	---	-----	---	-----	5	15.2	-----	1	85.4
Do	-----	B 297	---	-----	---	-----	---	-----	---	-----	5	9.9	-----	1	55.6
Do	-----	B 298	---	-----	---	-----	---	-----	---	-----	5	9.9	-----	1	55.6
Do	-----	B 299	---	-----	---	-----	---	-----	---	-----	5	13.2	-----	1	74.2
Do	-----	B 300	---	-----	---	-----	---	-----	---	-----	5	15.8	-----	1	88.8
Do	-----	B 301	---	-----	---	-----	---	-----	---	-----	5	15.8	-----	1	88.8
Do	-----	B 302	---	-----	---	-----	---	-----	---	-----	5	13.2	-----	1	74.2
Do	-----	B 303	---	-----	---	-----	---	-----	5	20.5	---	-----	-----	1	78.8
Do	-----	B 304	---	-----	---	-----	---	-----	5	15.8	---	-----	-----	1	60.8
Do	-----	B 305	---	-----	---	-----	---	-----	5	21.1	---	-----	-----	1	81.2
Do	-----	B 306	---	-----	---	-----	---	-----	5	13.9	---	-----	-----	1	53.5
Do	-----	B 307	---	-----	---	-----	---	-----	5	14.5	---	-----	-----	1	55.8
Do	-----	B 308	---	-----	---	-----	---	-----	5	7.9	---	-----	-----	1	30.4
Do	-----	B 309	---	-----	---	-----	---	-----	5	15.2	---	-----	-----	1	58.5
Do	----	B 310	---	-----	---	-----	---	-----	5	15.2	---	-----	-----	1	58.5
Do	-----	B 311	---	-----	---	-----	---	-----	5	21.8	---	-----	-----	1	83.8
Do	-----	B 312	---	-----	---	-----	---	-----	5	11.9	---	-----	-----	1	45.8
Do	-----	B 313	---	-----	---	-----	---	-----	5	15.8	---	-----	-----	1	60.8
Elsberry:															
Spring-sown															
Oderbrucker [1]	-----	-----	4	[2] 43.6	4	[3] 16.3	---	-----	---	-----	---	-----	-----	2	100.0
Trebi	936	-----	4	[2] 38.5	4	[3] 14.5	---	-----	---	-----	---	-----	-----	2	88.5
Velvet	4252	-----	4	[2] 31.5	4	[3] 17.0	---	-----	---	-----	---	-----	-----	2	81.0
Fall-sown															
Missouri Early Beardless	6051	-----	---	-----	---	-----	---	-----	4	44.9	4	55.9	-----	2	70.6
Kentucky No. 1 [1]	6050	-----	---	-----	---	-----	---	-----	4	75.1	4	67.7	-----	2	100.0
Tennessee Beardless 5 (Beardless 5)	3384	-----	---	-----	---	-----	---	-----	4	38.0	---	-----	-----	1	50.6
Tennessee Beardless 6 (Beardless 6)	2746	-----	---	-----	---	-----	---	-----	4	45.1	4	35.9	-----	2	56.7
Michigan Winter	2036	-----	---	-----	---	-----	---	-----	---	-----	4	86.2	-----	1	127.3

[1] Standard variety with which others are compared.

[2] Plots sown Feb. 25, 1932, and 75 percent were killed by freeze in early March. Reseeded Apr. 2 without disking up surviving original plants, resulting in uneven appearance of plots but not materially affecting yield.

[3] Plots sown Mar. 2, 1933. Damaged by excessive moisture in May.

Winter barley is used extensively for fall and spring pasture and for feed. It is an excellent nurse crop for grasses and legumes and is valuable as a soil erosion control crop. For these purposes the hooded variety, Missouri Early Beardless, is generally recommended. It has not produced as much grain as some of the bearded varieties nor is it as winter hardy as some other varieties. It is, however, sufficiently hardy to survive the winters except in the northern edge of the State, where it is frequently killed by cold weather.

At Elsberry, in a 2-year test, Oderbrucker and Kentucky No. 1 gave the highest yields from spring and fall seeding, respectively.

When intended for pasture, winter barley should be seeded in late August or early September at a rate of 8 pecks per acre.

For grain the best results are obtained from seedings made in late September or early October at a rate of 6 or 8 pecks per acre. Where barley is spring-sown, it should be sown in March at the rate of 8 pecks per acre. The use of commercial fertilizer is strongly recommended for barley on most of the upland soils of the State. It is almost essential for the success of the crop on medium to poor soils.

MONTANA

CLYDE MCKEE, *director*, and W. B. NELSON, *assistant in agronomy, Agricultural Experiment Station, Bozeman;* M. A. BELL, *superintendent, Northern Montana Branch Station, Havre;* J. L. SUTHERLAND, formerly *United States Department of Agriculture, Judith Basin Branch Station, Moccasin;* and DAN HANSEN, *United States Department of Agriculture, superintendent, United States Huntley Field Station, Huntley*

In Montana, yield tests were conducted at four stations (table14). At all stations there are some years in which no yields were obtained. Hail and drought were the chief causes for these failures. At Huntley, barley tests were discontinued after the 1934 harvest. The highest yielding varieties at Bozeman were Ezond, Trebi, and Cebada 97 A; at Havre, Meloy, Ezond, and Trebi; at Moccasin, Atlas and Trebi; and at Huntley, Trebi, under irrigation, and Himalaya and Trebi under dry-land conditions. Ezond is a smooth-awned variety of the Trebi type; Meloy is hooded; and Cebada is similar to Trebi. Although Horn did not show exceptional yields in the present 5-year period, it has produced high yields when longer periods are considered.

Several Composite Cross selections show promise at Moccasin for a 2-year test. Smooth Awn × Manchuria (Montana 1618) gave a high yield at Bozeman in 2 years. The yield of Newal at Havre is interesting and would seem to indicate that the variety is worth watching. Varieties of the Manchuria type have given low yields and are unadapted to Montana.

The recommended varieties for Montana are Trebi and Horn. For dry land, seeding should be done as early as the season will permit and preferably on clean summer fallow at the rate of 4 to 5 pecks per acre. For irrigated land, 8 pecks per acre is a good seeding rate and the best time to seed is May 1 to May 15.

TABLE 14.—*Acre yields of varieties of barley grown at the Montana Agricultural Experiment Station, Bozeman; at the Northern Montana Branch Station, Havre; at the Judith Basin Branch Station, Moccasin; and at the United States Huntley Field Station, Huntley (dry land), in 1 or more of the years 1932–36*

[Data for Bozeman obtained through the courtesy of the Montana Agricultural Experiment Station; for Havre, through the courtesy of the Division of Dry Land Agriculture, cooperating with the Montana Agricultural Experiment Station; for Moccasin, in cooperation with the station; and for Huntley, through the courtesy of the Division of Dry Land Agriculture]

Station and variety	C. I. No.	Station No.	Number of plots and acre yield												Number of years grown and yield in comparison with standard variety for comparable years	
			1932 [1]		1933		1934		1935		1936		Average yield, 1932–36			
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			Years	Yield
Bozeman:				*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*			*Pct.*
Ezond	5064	1603			3	115.3	3	119.8	3	100.3					3	103.5
Trebi [2]	936	1500			3	112.4	3	118.8	3	92.9	3	80.5	101.2		4	100.0
Horn	926	1539			3	99.5	3	108.1	3	85.9	3	72.7	91.6		4	90.5
Atlas	4118	1585			3	95.5	3	112.0	3	84.8	3	67.3	89.9		4	88.9
Faust	4579	1573			3	85.0	3	90.4							2	75.9
Cebada 97 A	6352	1601			3	117.5	3	122.1	3	82.8	3	81.7	101.0		4	99.9
Velvet [3]	4252	1580			3	98.4	3	87.3	3	82.4	3	72.0	85.0		4	84.1
Hannchen selection	5462	1613			3	98.0	3	104.8	3	84.4	3	75.1	90.6		4	89.5
Wisconsin Barbless (Pedigree 38)	5105	1614			3	97.2	3	80.5	3	82.8	3	70.4	82.7		4	81.8
Flynn	1311	1582			3	88.1									1	78.4
Oderbrucker		1615			3	75.4	3	50.5							2	54.5
O. A. C. 21	1470	1616			3	69.0	3	65.3							2	58.1
Spartan	5027	1581			3	68.0	3	107.1	3	94.5	3	72.0	85.4		4	84.4
Manchuria (N. Dak. 2121)	2947	1617					3	74.9	3	68.1	3	57.2			3	68.5
Oderbrucker (Wisconsin Pedigree 5)	1272	1620					3	46.8	3	58.3	3	54.1			3	54.5
Smooth Awn × Manchuria	5998	1618							3	96.4	3	86.0			2	105.2
Hokudai No. 1	3194	1619							3	78.9	3	55.3			2	77.4
Trebi × Velvet (selection 4)	6353	1621									3	78.6			1	97.6
Havre: [4] [5]																
Trebi [2]	936	1500	3	77.1	3	23.3			3	22.9	3	1.0	31.1		4	100.0
Ezond	5064	1603	3	75.7	3	20.8			3	26.4	3	1.6	31.1		4	100.2
Meloy	1176		3	72.6	3	22.6			3	28.1	3	2.7	31.5		4	101.4
Beldi Giant [6]	2777		3	72.2	3	24.0			3	22.9	3	1.1	30.1		4	96.7
Velvet [3]	4252	1580	3	71.5	3	14.2			3	23.3	3	.1	27.3		4	87.8
Horn	926	1539	3	69.8	3	22.9			3	20.8	3	.0	28.4		4	91.3
Coast	690		3	68.4	3	23.3									2	91.3
Hannchen	531		2	64.6	3	22.9			3	15.6	3	.0	25.8		4	82.9
White Smyrna	195		2	62.9	3	21.9			3	22.9	3	2.1	27.5		4	88.3
Flynn [6]	1311	1582	2	61.5	3	21.2			3	27.8	3	2.9	28.4		4	91.2
Spartan	5027	1581	2	60.1	3	21.9			3	24.7	3	3.2	27.5		4	88.4
Odessa	182		2	59.0	3	16.0									2	74.7
Alpha	959		2	56.3	3	17.4									2	73.4
Faust	4579	1573	2	56.3	3	16.3			3	17.7	3	.3	22.7		4	72.9
Nepal	595		2	51.0	3	11.1			3	16.7	3	.3	19.8		4	63.6
Horn (Elite)	926	1539			3	23.3			3	22.6	3	.0			3	97.2
Newal	6088								3	27.6	3	.2			2	116.3
Oderbrucker (Wisconsin Pedigree 5-1)	4666								3	14.2	3	.0			2	59.4

[1] 1932 crop destroyed by hail; field notes incomplete and no yield data reported at Bozeman.
[2] Standard variety with which others are compared.
[3] Variety not true to type in 1936 and possibly also in 1935.
[4] Crop destroyed by hail at Havre in 1934.
[5] Yields greatly reduced or crop completely destroyed by drought and grasshoppers at Havre in 1936.
[6] Not true to type so cannot be considered as reliable record of performance of this variety. (In case of Flynn at Havre it was mixed with Club Mariout.)

TABLE 14.—*Acre yields of varieties of barley grown at the Montana Agricultural Experiment Station, Bozeman; at the Northern Montana Branch Station, Havre; at the Judith Basin Branch Station, Moccasin; and at the United States Huntley Field Station, Huntley (dry land), in 1 or more of the years 1932–36*—Cont'd.

Station and variety	C. I. No.	Station No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Moccasin:[7] [8]				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.		Pct.
Atlas	4118	1585	4	28.6	4	22.9	1	19.3	4	14.6	4	8.3	18.6	4	111.7
Composite Cross	4116	.....	1	27.6	1	20.8	...	.....	1	13.5	1	7.8	17.4	4	104.7
Mechanical Mixture	4115	.....	1	26.6	1	19.3	...	.....	1	14.1	1	6.2	16.6	4	99.4
Horn	926	1539	4	25.9	4	16.1	1	15.1	4	10.3	4	5.5	14.5	4	86.8
Trebi [2]	936	1500	4	25.4	4	20.3	1	16.7	4	13.7	4	7.2	16.7	4	100.0
Arequipa	1256	.....	4	25.3	...	.....	...	.....	...	.....	...	.....	.....	1	99.6
Coast	690	.....	4	24.3	4	19.3	1	17.7	4	13.5	4	5.1	15.6	4	93.4
Hannchen selection	5462	1613	4	24.1	4	14.9	1	10.4	...	.....	...	.....	.....	2	85.3
New Composite Cross	5461	.....	4	22.7	4	19.8	1	16.7	1	12.5	1	8.3	15.8	4	95.0
Hannchen	531	.....	4	18.1	4	10.2	1	7.8	4	3.6	4	3.2	8.8	4	52.7
Himalaya	620	.....	4	16.7	4	14.9	1	12.0	4	7.3	4	4.0	10.7	4	64.4
Unnamed (Kashmir)	3842	.....	...	.....	4	12.5	1	9.9	...	.....	...	.....	.....	1	61.6
Unnamed (China)	4197–1	.....	...	.....	...	.....	1	13.0	4	15.6	4	5.5	.....	2	101.0
Composite Cross selection	5431	.....	...	.....	...	.....	...	.....	2	14.6	4	7.1	.....	2	103.8
Do	5438	.....	...	.....	...	.....	...	.....	2	14.4	4	9.2	.....	2	112.9
Do	5414	.....	...	.....	...	.....	...	.....	2	17.0	4	9.3	.....	2	125.8
Do	5429	.....	...	.....	...	.....	...	.....	2	16.5	4	8.8	.....	2	121.1
Huntley:															
Dry land															
Trebi [2]	936	1500	2	3.9	3	7.6	...	.....	...	.....	...	.....	.....	2	100.0
Horn	926	1539	2	4.8	3	3.6	...	.....	...	.....	...	.....	.....	2	73.0
Himalaya	620	.....	2	4.1	3	10.3	...	.....	...	.....	...	.....	.....	2	125.2
Hannchen	531	.....	2	2.8	3	2.4	...	.....	...	.....	...	.....	.....	2	45.2
Oderbrucker	.....	1675	...	.....	3	3.6	...	.....	...	.....	...	.....	.....	1	47.4
Velvet	4252	1580	...	.....	3	2.8	...	.....	...	.....	...	.....	.....	1	36.8
Irrigated land															
Trebi [2]	936	1500	...	.....	2	63.8	2	61.4	...	.....	...	.....	.....	2	100.0
Velvet	4252	1580	...	.....	2	45.5	2	35.6	...	.....	...	.....	.....	2	64.8
Oderbrucker	.....	1615	...	.....	2	47.1	2	34.5	...	.....	...	.....	.....	2	65.2

[2] Standard variety with which others are compared.

[7] 3 of the 4 replications were reseeded due to poor emergence in 1934. No yields from these, as they were too late and were destroyed by drought and grasshoppers. Yield of single plot not reseeded is reported but not included in average at Moccasin.

[8] All yields low in 1936 at Moccasin, as this was third consecutive dry year.

NEBRASKA

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During the 5 years reviewed at Lincoln, yields were obtained in only 3 years (table 15). In the years 1933 and 1934 no crops were harvested because of chinch bugs and drought, respectively. The 3 years' results show Short Comfort and Spartan to be the highest yielding strains tested. For a lesser number of years Wisconsin Barbless (Pedigree 38) and Club Mariout have given high yields. During the preceding 5-year period, when more favorable conditions prevailed, Trebi and Glabron produced high yields.

At Alliance, yields were obtained in all years with the exception of the dry year, 1934. The highest yielding varieties are Vaughn, Spartan, and Flynn. North Platte No. 1 and Ezond, which have had high yields at North Platte, also have produced well at Alliance.

At North Platte, Ezond and North Platte No. 1 were the highest yielding varieties. The first of these is a smooth-awned sort produced by backcrossing the F_1 of Trebi × Lowden on Trebi. These two varieties yielded well in the previous 5-year period and have been among the better yielding varieties at Alliance. No yields are reported for 1934 because of drought.

For the irrigated conditions at Mitchell results are available for 2 years. Trebi is the highest yielding variety and is recommended for irrigated lands in the North Platte Valley.

The recommended varieties are Spartan, Trebi, Glabron, Short Comfort, and Club Mariout. Barley is usually sown at the rate of 2 to 2½ bushels per acre in eastern Nebraska, the rate diminishing materially toward the west under upland conditions.

TABLE 15.—*Acre yields of varieties of barley grown at the Nebraska Agricultural Experiment Station, Lincoln; at the Box Butte Experiment Farm, Alliance; at the North Platte Substation, North Platte; and at the Scotts Bluff Substation, Mitchell, Nebr., in 1 or more of the years 1932–36*

[Data for Lincoln, Alliance, and North Platte obtained through the courtesy of the Nebraska Agricultural Experiment Station, and for Mitchell through the courtesy of the Division of Irrigation Agriculture]

Station and variety	C. I. No.	Number of plots and acre yield [1]								Average yield, 1932-36	Number of years grown and yield in comparison with standard variety for comparable years	
		1932		1933		1935		1936				
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Lincoln:			*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Flynn	1311	6	31.4	---	------	6	27.5	3	6.3	21.7	3	102.0
Spartan	5027	6	38.4	---	------	6	28.0	3	9.6	25.3	3	118.9
Vaughn	1367	6	19.1	---	------	---	------	---	------	------	1	46.1
Short Comfort	5907	6	52.4	---	------	6	21.1	3	5.8	26.4	3	124.1
North Platte No. 1	5266	6	35.5	---	------	6	20.9	3	4.2	20.2	3	94.8
Bonami	4664	6	41.3	---	------	---	------	---	------	------	1	99.8
Peatland	5267	---	------	---	------	6	22.6	3	.3	------	2	101.8
Wisconsin Barbless (Pedigree 38)	5105	---	------	---	------	6	28.7	3	1.6	------	2	134.7
Glabron	4577	6	41.9	---	------	6	17.6	3	2.4	20.6	3	96.9
Velvet	4252	---	------	---	------	6	18.4	3	2.1	------	2	91.1
Horn	926	6	35.6	---	------	---	------	---	------	------	1	86.0
Unnamed (Wisconsin Pedigree 37)	5028	6	39.9	---	------	---	------	3	1.7	------	2	90.0
Trebi [2]	936	6	41.4	---	------	6	17.7	3	4.8	21.3	3	100.0
Odessa	182	6	44.3	---	------	6	16.8	3	4.7	21.9	3	103.0
Improved Manchuria	2330	6	42.1	---	------	6	14.9	3	2.0	19.7	3	92.3
Coast	690	6	31.3	---	------	---	------	---	------	------	1	76.0
Ezond	5064	6	41.6	---	------	6	23.1	3	5.2	23.3	3	109.4
Common Six-Row	4640	6	31.7	---	------	---	------	---	------	------	1	77.0
Colsess	2792	6	39.3	---	------	6	19.5	3	4.8	21.2	3	99.5
Club Mariout	261	---	------	---	------	6	23.3	3	8.0	------	2	139.1
Oderbrucker (Wisconsin Pedigree 5)	1272	---	------	---	------	6	17.7	3	.6	------	2	81.3
Manchuria (N. Dak. 2121)	2947	---	------	---	------	6	13.9	3	.7	------	2	65.0

[1] No yields obtained at Lincoln in 1933 because of chinch bugs, and no yields obtained at Lincoln, Alliance, and North Platte in 1934 owing to drought.

[2] Standard variety with which others are compared.

TABLE 15.—*Acre yields of varieties of barley grown at the Nebraska Agricultural Experiment Station, Lincoln; at the Box Butte Experiment Farm, Alliance; at the North Platte Substation, North Platte; and at the Scotts Bluff Substation, Mitchell, Nebr., in 1 or more of the years 1932–36*—Continued

Station and variety	C. I. No.	Number of plots and acre yield								Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
		1932		1933		1935		1936				
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
			Bu.		Bu.		Bu.		Bu.	Bu.		Pct.
Alliance:												
Club Mariout	261	---	------	3	20.5	3	11.6	3	10.4	------	3	109.5
Ezond	5064	3	10.9	3	18.6	3	15.0	3	7.2	12.9	4	105.7
Spartan	5027	3	20.6	3	17.1	3	13.1	3	9.2	15.0	4	122.7
Flynn	1311	3	15.3	3	16.8	3	13.8	3	7.3	13.3	4	108.8
North Platte No. 1	5266	3	14.1	3	16.8	3	11.9	3	8.8	12.9	4	105.5
Vaughn	1367	3	16.5	3	16.0	3	19.7	3	8.6	15.2	4	124.3
Trebi [3]	936	3	10.1	3	14.9	3	14.7	3	9.2	12.2	4	100.0
Colsess	2792	3	12.8	3	13.0	3	14.8	3	5.8	11.6	4	94.9
Glabron	4577	3	8.2	3	12.8	3	10.2	3	6.1	9.3	4	76.3
Comfort	4578	3	5.3	3	11.1	3	11.8	3	5.1	8.3	4	68.1
Improved Manchuria	2330	3	3.8	3	10.2	3	10.5	3	5.0	7.4	4	60.3
Wisconsin Barbless (Pedigree 38)	5105	---	------	3	8.5	3	8.0	3	4.7	------	3	54.6
North Platte:												
Trebi [3]	936	4	11.1	4	20.0	---	------	4	11.7	------	3	86.8
Sandrel	937	4	9.0	4	22.5	4	43.5	4	19.2	23.6	4	98.2
McClymont	2126	4	6.9	4	20.4	4	45.4	4	14.3	21.7	4	90.7
Coast	690	4	10.6	4	21.0	4	46.7	4	14.1	23.1	4	96.4
Club Mariout	932	4	3.5	4	16.7	4	42.3	4	20.2	20.7	4	86.2
Common Six-Row	4640	4	8.1	6	17.2	4	41.9	4	15.3	20.6	4	86.0
Glabron	4577	4	6.3	4	22.1	4	36.0	4	14.9	19.8	4	82.7
North Platte No. 1 [3]	5266	4	7.5	8	23.1	4	46.6	4	18.7	24.0	4	100.0
North Platte No. 4	5488	4	10.6	4	18.5	4	42.7	4	15.7	21.9	4	91.2
North Platte No. 5	5510	4	6.7	4	22.1	---	------	---	------	------	2	94.1
Vaughn	1367	4	3.1	4	15.4	4	40.0	4	16.3	18.7	4	78.0
Comfort	4578	4	4.6	4	20.2	4	41.9	4	13.8	20.1	4	83.9
Flynn	1311	4	4.4	4	19.0	---	------	---	------	------	2	76.5
North Platte No. 18	5466	4	6.9	---	------	---	------	---	------	------	1	92.0
Spartan	5027	4	4.8	4	23.5	4	42.7	4	18.8	22.5	4	93.6
Ezond	5064	4	8.1	4	19.2	4	52.3	4	18.1	24.4	4	101.9
Short Comfort	5907	---	5.6	6	20.7	4	47.1	4	17.3	22.7	4	94.6
Mitchell:												
Irrigated land												
Trebi [3]	936	2	61.6	3	40.7	---	------	---	------	------	2	100.0
Short Comfort	5907	2	61.6	3	29.5	---	------	---	------	------	2	89.1
McClymont	2126	2	56.6	---	------	---	------	---	------	------	1	91.9
Comfort	4578	2	51.7	---	------	---	------	---	------	------	1	83.9
Glabron	4577	2	45.3	---	------	---	------	---	------	------	1	73.5
Flynn	1311	2	43.2	---	------	---	------	---	------	------	1	70.1
Spartan	5027	2	42.6	3	25.4	---	------	---	------	------	2	66.5
Ezond	5064	2	39.9	---	------	---	------	---	------	------	1	64.8
Vaughn	1367	2	35.3	---	------	---	------	---	------	------	1	57.3
Improved Manchuria	2330	2	35.3	---	------	---	------	---	------	------	1	57.3
Club Mariout	261	---	------	3	27.8	---	------	---	------	------	1	68.3
Oderbrucker	---	---	------	3	22.2	---	------	---	------	------	1	54.5
Velvet	4252	---	------	3	18.2	---	------	---	------	------	1	44.7
Wisconsin Barbless (Pedigree 38)	5105	---	------	3	18.2	---	------	---	------	------	1	44.7

[3] Variety somewhat mixed prior to 1936.

NEW JERSEY

AGRICULTURAL EXPERIMENT STATION, NEW BRUNSWICK

HOWARD B. SPRAGUE, *agronomist*

The yields reported from New Jersey are from nursery plots 16 feet long and 5 rows wide (table 16). Trebi, Comfort, and Alpha are the highest yielding varieties among the spring-sown sorts. These varieties were also high in yield for the previous 5-year period, 1927–31. The yield of Velvet is somewhat less than that of the three varieties mentioned above. Velvet and Comfort are the recommended varieties for spring seeding. Spring barley should be seeded about April 15 at a rate of 8 to 10 pecks per acre.

The tests with winter barley have not been carried for the entire 5-year period. Kentucky No. 1 and a local Burlington County sort gave the highest yields. Marnobarb is the recommended variety for New Jersey. Winter barley should be sown between September 20 and October 1. The recommended rate is 6 to 8 pecks per acre.

TABLE 16.—*Acre yields of varieties of barley grown at the New Jersey Agricultural Experiment Station, New Brunswick, in 1 or more of the years 1932–36*

[Data obtained through the courtesy of the New Jersey Agricultural Experiment Station. Tests were made in nursery plots 16 feet long and 5 rows wide]

Variety	C. I. No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
		1932		1933		1934		1935		1936				
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
			Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Spring-sown:														
Spartan	5027	10	21.3	10	23.6	10	42.4	10	33.9	10	24.4	29.1	5	105.7
Alpha	959	10	22.8	10	22.3	10	41.6	10	45.2	10	18.4	30.1	5	109.1
Velvet [1]	4252	10	20.4	10	26.5	10	38.4	10	35.5	10	17.0	27.6	5	100.0
Trebi	936	10	31.4	10	30.6	10	43.0	10	37.5	10	20.5	32.6	5	118.3
Glabron	4577	10	20.8	10	24.0	10	32.5	10	36.6				4	94.3
Comfort	4578	10	26.7	10	28.1	10	39.5	10	39.3	10	19.2	30.6	5	110.9
Bonami	4664	10	24.8	10	22.8	10	25.7	10	27.2	10	12.7	22.6	5	82.1
Wisconsin Barbless (Pedigree 38)	5105			10	22.6	10	31.2	10	41.2	10	21.3		4	99.1
Fall-sown: [2]														
Michigan Winter	2036			10	40.5	3	39.6	10	60.4	10	53.6	48.5	4	104.5
Beardless Winter (Va.)				1	45.6			10	59.1	10	43.6		3	95.1
Bearded Winter [3] (Va.)				2	66.5	10	30.6	10	63.4	10	37.6	49.5	4	106.6
Tennessee Winter [1]	257			1	59.8	3	29.9	10	51.8	10	44.3	46.5	4	100.0
Wisconsin Winter	2159			2	53.8	3	36.5	10	47.4	10	41.9	44.9	4	96.7
Burlington County						3	35.7	10	62.9	10	48.3		3	116.6
Tennessee Winter selection 52	3543							10	29.2	10	43.4		2	75.5
Union Winter	583							10	20.8				1	40.2
Marnobarb	6120							10	44.5				1	85.9
Kentucky No. 1	6050							10	66.2	10	47.5		2	118.3
Tennessee Beardless 5 (Beardless 5)	3384							10	32.5	10	41.9		2	77.4
Missouri Early Beardless	6051									10	41.9		1	94.6

[1] Standard variety with which others are compared.
[2] No tests carried in 1932.
[3] Spring type.

New Mexico

AGRICULTURAL EXPERIMENT STATION, STATE COLLEGE

J. C. Overpeck, *professor of agronomy*

Yields from New Mexico are reported from State College, where the crop is irrigated, and from Capulin, where it is grown under dry-farmed conditions (table 17).

At State College, Club Mariout, Trebi, and Type A are the high-yielding varieties. Type A was grown for a shorter period, but it appears promising. It was selected from a field of Club Mariout. Trebi and Club Mariout are the recommended varieties for growing under irrigation in the Rio Grande Valley near El Paso and Albuquerque and in the Pecos Valley from Roswell to Carlsbad. Seeding should be done February 1 to 15. The recommended rate is 90 to 100 pounds per acre.

At Capulin, under dry-land conditions, White Smyrna, Stavropol, and Wisconsin Barbless (Pedigree 38) produced high yields. The first two of these varieties have been found well adapted to dry land at other stations. The high yield of Wisconsin Barbless (Pedigree 38) is surprising. It should be given further tests. The recommended varieties for dry land are White Smyrna and Stavropol. Barley should be seeded late in May or early in June at the rate of 1 bushel per acre.

TABLE 17.—*Acre yields of varieties of barley grown at the New Mexico Agricultural Experiment Station, State College, and at the Capulin field, in 1 or more of the years 1932–36*

[Data obtained through the courtesy of the New Mexico Agricultural Experiment Station]

Station and variety	C. I. No.	Number of plots and acre yield										Average yield, 1932-36	Number of years grown and yield in comparison with standard variety for comparable years	
		1932		1933		1934		1935		1936				
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
			Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
State College (irrigated):														
Club Mariout [1]	261	3	43.0	4	75.1	3	59.0	3	43.1	4	62.5	56.5	5	100.0
Colsess	2792	3	25.8	4	59.6	3	49.0	3	31.4	---	------	------	4	75.3
Trebi	936	3	36.0	4	78.8	3	60.3	3	42.3	4	61.5	55.8	5	98.7
Wisconsin Barbless (Pedigree 38)	5105	3	38.4	4	64.6	3	51.9	3	36.3	4	46.7	47.6	5	84.2
Type A	6095	---	------	---	------	3	68.7	3	41.8	4	64.6	------	3	106.4
Type B	6096	---	------	---	------	---	------	3	32.4	4	46.6	------	2	74.8
Vaughn	1367	---	------	---	------	---	------	---	------	4	56.4	------	1	90.2
Capulin (dry farmed): [2]														
Stavropol (H. C. 249)	5913	2	12.9	2	6.0	2	.0	2	13.2	2	4.2	7.3	5	116.0
Odessa	182	2	8.3	2	4.0	2	.0	2	8.8	2	6.3	5.5	5	87.5
White Smyrna	195	2	12.0	2	9.6	2	.0	2	14.1	2	4.9	8.1	5	129.7
Colsess	2792	2	6.5	2	3.8	2	.0	2	11.4	2	3.7	5.1	5	81.2
Club Mariout [1]	261	2	11.6	2	4.6	2	.0	2	7.7	2	7.4	6.3	5	100.0
Wisconsin Barbless (Pedigree 38)	5105	---	------	2	8.1	2	.0	2	10.9	2	4.9	------	4	121.3

[1] Standard variety with which others are compared.
[2] Crop failure at Capulin in 1934 owing to drought.

NEW YORK

NEW YORK AGRICULTURAL EXPERIMENT STATION, CORNELL UNIVERSITY, ITHACA

H. H. LOVE, *professor of plant breeding*, and W. T. CRAIG, *experimentalist in plant breeding*

Barley tests for New York are reported from Ithaca and are given in table 18. The varieties tested consisted mostly of hybrids and were grown in rod rows, replicated ten times. The varieties used in making the hybrids were Manchuria, Leiorrhynchum, Alpha, Arlington Awnless, Wild, and Russian 02. Three and four varieties were used in making some of the hybrids. The highest yielding varieties for the 5-year period, 1932–36, were Hybrid 220al–29–50 (smooth-awned, six-rowed), Swiss Spring selection No. 87 (rough-awned, six-rowed), and Wisconsin Barbless (Pedigree 38) (smooth-awned, six-rowed). During the 5-year period considered tests were conducted in several important barley counties of the State. In these tests Wisconsin Barbless (Pedigree 38) was the highest yielding variety. The recommended varieties for New York are: Alpha for feed, either grown alone or mixed with oats, and Wisconsin Barbless (Pedigree 38) for malting purposes. Barley should be sown in April at the rate of 2 bushels per acre.

TABLE 18.—*Acre yields of varieties of barley grown at the New York Agricultural Experiment Station at Cornell University, Ithaca, in 1 or more of the years 1932–36*

[Data obtained in cooperation with the New York Agricultural Experiment Station. The yields of ten 1-rod rows were taken as the basis of each test]

Variety	C. I. No.	Number of plots and acre yield											Number of years grown and yield in comparison with standard variety for comparable years	
		1932		1933		1934		1935		1936		Average yield, 1932–36		
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
			Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Alpha [1]	959	10	28.0	10	36.4	10	34.8	10	22.6	10	12.7	26.9	5	100.0
Swiss Spring selection No. 87	-----	10	28.6	10	40.5	10	38.7	10	32.2	10	18.0	31.6	5	117.5
Hybrid 220al–29–50 [2]	-----	10	30.9	10	50.1	10	40.5	10	24.0	10	22.7	33.6	5	125.1
Wisconsin Barbless (Pedigree 38)	5105	10	29.3	10	42.9	10	40.6	10	25.6	10	16.9	31.1	5	115.5
Hybrid 221al–30–681 [3]	-----	10	29.1	10	51.0	10	34.3	10	25.0	10	14.1	30.7	5	114.1
Hybrid 222al–29–302 [4]	-----	10	29.3	10	47.1	10	34.9	10	26.2	10	15.7	30.6	5	113.9
Hybrid 222al–29–312 [4]	-----	10	27.7	10	45.3	10	34.0	10	26.1	10	14.2	29.5	5	109.5
Hybrid 225al–29–410 [5]	-----	10	26.0	10	48.0	10	35.9	10	23.7	10	20.1	30.7	5	114.3
Hybrid 220al–30–461 [2]	-----	10	29.9	10	41.3	10	33.4	10	22.5	10	17.3	28.9	5	107.4
Hybrid 2a–147 [6]	-----	10	29.2	10	44.1	10	30.4	10	25.1	10	10.3	27.8	5	103.4
Hybrid 204al–27–243 [7]	-----	10	25.5	10	43.9	10	33.6	10	23.0	10	20.5	29.3	5	108.9
Hybrid 2a–22–86–2 [6]	-----	10	28.6	10	46.5	10	30.3	10	24.6	10	9.3	27.9	5	103.6
Hybrid 220al–29–181 [2]	-----	10	24.9	10	41.3	10	33.2	10	22.3	10	17.6	27.9	5	103.6
Hybrid 220al–29–184 [2]	-----	10	25.3	10	41.1	10	33.0	10	21.1	10	17.1	27.5	5	102.3
Hybrid 220al–29–78 [2]	-----	10	27.0	10	42.4	10	33.7	10	22.3	10	14.7	28.0	5	104.2
Hybrid 220al–29–176 [2]	-----	10	23.3	10	38.3	10	31.4	10	20.9	10	17.3	26.2	5	97.5
Hybrid 220al–29–174 [2]	-----	10	24.9	10	37.8	10	31.1	10	19.8	10	17.1	26.1	5	97.2
Goldfoil	928	10	27.0	10	42.4	10	29.2	10	16.4	10	18.1	26.6	5	99.0

[1] Standard variety with which others are compared.
[2] Hybrid series 220 is: Manchuria × Leiorrhynchum ×× Alpha.
[3] Hybrid series 221 is: Manchuria × Leiorrhynchum ×× Arlington Awnless × Wild.
[4] Hybrid series 222 is: Manchuria × Leiorrhynchum ×× Russian 02.
[5] Hybrid series 225 is: Manchuria × Leiorrhynchum ×× Russian 02.
[6] Hybrid series 2 is: Manchuria × Leiorrhynchum.
[7] Hybrid series 204 is: Manchuria × Leiorrhynchum ×× Alpha.

NORTH CAROLINA

AGRICULTURAL EXPERIMENT STATION, STATE COLLEGE STATION, RALEIGH

G. K. MIDDLETON, *agronomist in plant breeding*

The yield data reported from North Carolina are from fall-sown tests conducted at Statesville (table 19). All yields are from nursery plots. The selections listed under North Carolina numbers are from local farmers' fields or from a composite hybrid mixture (C. I. 5461) furnished by the United States Department of Agriculture. There is considerable interest in types of barley that do not have rough awns. Among the newer varieties, Selection I–26, a hooded sort, appears very promising, and in the bearded group Selection I–68 and Selection II–15 are outstanding in yield and other agronomic characters. The variety recommended for growing in North Carolina is Tennessee Beardless No. 6. Barley should be sown in October at the rate of 2 bushels per acre.

TABLE 19.—*Acre yields of fall-sown varieties of barley grown at the Piedmont Branch Station, Statesville, N. C., in 1 or more of the years 1932–36*

[Data obtained through the courtesy of the North Carolina Agricultural Experiment Station]

Variety	C. I. No.	Station No.[1]	Number of plots and acre yield												Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936		Average yield, 1932–36			
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			Years	Yield
				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.			Pct.
Tennessee Beardless 6	2746		48	19.4	21	24.8	21	12.6	21	34.6	21	23.9	23.1		5	78.0
Hooded selection		I–23	3	23.2	5	27.0	10	15.8	10	36.9	10	34.0	27.4		5	92.6
Do		I–26	3	21.6	5	28.5	10	16.6	10	32.3	10	37.3	27.3		5	92.2
Do		I–42	3	25.4	5	26.5	10	17.4	10	29.2	10	34.8	26.7		5	90.1
Do		I–43	3	25.0	5	27.0	10	14.6	10	32.6	10	34.0	26.6		5	90.1
Do		I–16	3	21.7	5	26.0	10	17.8	10	27.2					4	74.0
Do		I–55	3	24.6	5	25.7	10	15.0	10	29.7					4	75.9
Do		I–56	3	26.3	5	22.5	10	17.5	10	23.9					4	72.0
Do		I–8	3	21.1	5	25.5	10	13.5							3	61.9
Tennessee Winter [2]	257		3	58.6	5	22.8	10	15.7	10	28.1	10	22.7	29.6		5	100.0
Bearded selection	6372	I–68	3	47.4	5	33.2	10	18.1	10	34.9	10	38.2	34.4		5	116.2
Do		I–70	3	49.5	5	34.3	10	17.4	10	32.7	10	32.3	33.2		5	112.4
Do		I–83	3	51.0	5	37.8	10	16.4	10	31.2	10	29.2	33.1		5	112.0
Do		II–3	3	56.5	5	34.0	10	21.5	10	39.7	10	31.4	36.6		5	123.8
Do		II–8	3	55.4	5	33.4	10	14.9	10	37.7	10	28.3	33.9		5	114.7
Do		II–11	3	53.4	5	39.3	10	17.7	10	40.1	10	33.2	36.7		5	124.2
Do	6373	II–15	3	58.6	5	40.3	10	18.8	10	37.8	10	31.4	37.4		5	126.4
Do		II–24	3	44.6	5	31.6	10	19.7	10	37.6	10	20.6	30.8		5	104.2
Do		II–30	3	43.6	5	32.9	10	22.2	10	42.3	10	25.3	33.3		5	112.4
Unnamed	3836		3	54.3	5	39.9	10	17.8	10	40.1	10	25.5	35.5		5	120.1
Do	4298–1		3	51.1	5	43.7	10	17.2	10	36.1	10	28.9	35.4		5	119.7
Bearded selection		I–63	3	44.5	5	33.2	10	15.9	10	35.1					4	102.8
Do		I–72	3	42.8	5	30.9	10	16.6	10	32.7					4	98.2
Do		I–73	3	46.9	5	28.8	10	17.8	10	34.8					4	102.5
Do		I–81	3	47.3	5	29.3	10	16.4	10	38.6					4	105.1
Do		I–82	3	44.6	5	30.8	10	16.2	10	36.6					4	102.4
Do		II–32	3	48.6	5	29.3	10	19.3	10	26.1					4	98.5
Do		II–38	3	44.2	5	33.8	10	16.0	10	30.4					4	99.4
Unnamed	3198		3	37.3	5	38.5	10	19.7	10	25.9					4	97.0
Do	3357		3	51.8	5	37.8	10	15.5	10	24.6					4	103.6
Do	3514		3	49.8	5	33.5	10	13.3	10	26.6					4	98.4

[1] Selections designated I are from local farmers' fields; selections designated II are from New Composite Cross (C. I. 5461).

[2] Standard variety with which others are compared.

TABLE 19.—*Acre yields of fall-sown varieties of barley grown at the Piedmont Branch Station, Statesville, N. C., in 1 or more of the years 1932–36*—Continued

Variety	C. I. No.	Station No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
				Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Bearded selection	------	II–2	3	57.9	5	31.3	10	12.4	---	-----	---	-----	-----	3	104.6
Do	------	II–22	3	49.2	5	34.1	10	12.9	---	-----	---	-----	-----	3	99.1
Do	------	II–52	3	40.2	5	31.2	10	12.0	---	-----	---	-----	-----	3	85.9
Do	------	II–53	3	46.6	5	24.3	10	11.7	---	-----	---	-----	-----	3	85.1
Wisconsin Winter	2159	------	3	32.1	5	31.2	10	19.3	---	-----	---	-----	-----	3	85.1
Tennessee Winter selection 52	3543	------	3	29.5	5	25.1	10	17.4	---	-----	---	-----	-----	3	74.2
Moravian × Chevalier	2598	------	3	32.6	5	26.0	10	3.7	---	-----	---	-----	-----	3	64.2
Unnamed	3350	------	3	36.3	5	33.5	10	14.1	---	-----	---	-----	-----	3	86.4
Do	3513–2	------	3	43.2	5	38.4	10	6.9	---	-----	---	-----	-----	3	91.1
Do	4297–1	------	3	50.1	5	22.7	10	7.9	---	-----	---	-----	-----	3	83.1
Essary (Beardless 6)	2556	------	3	27.9	5	19.5	---	-----	---	-----	---	-----	-----	2	58.2
Hybrid Smooth Awn (Lion × Manchuria)	2570	------	3	27.8	5	22.0	---	-----	---	-----	---	-----	-----	2	61.2
Early Black Turkestan	3093	------	3	36.4	5	28.4	---	-----	---	-----	---	-----	-----	2	79.6
Six-Rowed Polders	3213	------	3	34.7	5	27.5	---	-----	---	-----	---	-----	-----	2	76.4
Sefra	3238	------	3	42.0	5	28.7	---	-----	---	-----	---	-----	-----	2	86.9
Australian Early	3436	------	3	44.4	5	30.0	---	-----	---	-----	---	-----	-----	2	91.4
Hanna	3471	------	---	31.7	5	24.2	---	-----	---	-----	---	-----	-----	2	68.7
Unnamed	3882	------	3	35.8	5	27.1	---	-----	---	-----	---	-----	-----	2	77.3
Do	3884	------	3	45.1	5	26.0	---	-----	---	-----	---	-----	-----	2	87.3
Do	3887	------	3	40.7	5	25.4	---	-----	---	-----	---	-----	-----	2	81.2
Do	4299–2	------	3	44.4	5	20.2	---	-----	---	-----	---	-----	-----	2	79.4
Do	4313	------	3	47.4	5	20.7	---	-----	---	-----	---	-----	-----	2	83.7
Do	4324	------	3	43.2	5	24.4	---	-----	---	-----	---	-----	-----	2	83.0
Do	4330	------	3	42.8	5	30.1	---	-----	---	-----	---	-----	-----	2	89.6
Do	4335–2	------	3	47.9	5	21.5	---	-----	---	-----	---	-----	-----	2	85.3
Do	4338	------	3	54.2	5	19.8	---	-----	---	-----	---	-----	-----	2	90.9
Englawnless	2505	------	3	14.2	---	-----	---	-----	---	-----	---	-----	-----	1	24.2
Abyssinian Winter	2513	------	3	27.6	---	-----	---	-----	---	-----	---	-----	-----	1	47.1
Peacock	3108	------	3	27.6	---	-----	---	-----	---	-----	---	-----	-----	1	47.1
Engledow	3120	------	3	3.2	---	-----	---	-----	---	-----	---	-----	-----	1	5.5
Black and White	3214	------	3	33.7	---	-----	---	-----	---	-----	---	-----	-----	1	57.5
Unnamed	3273	------	3	17.4	---	-----	---	-----	---	-----	---	-----	-----	1	29.7
Do	3346	------	3	34.0	---	-----	---	-----	---	-----	---	-----	-----	1	58.0
Utah Winter	3420	------	3	20.6	---	-----	---	-----	---	-----	---	-----	-----	1	35.2
Primus	3422	------	3	23.4	---	-----	---	-----	---	-----	---	-----	-----	1	39.9
Bavarian	3479	------	3	31.7	---	-----	---	-----	---	-----	---	-----	-----	1	54.1
Novo Belmanovko	3499	------	3	28.0	---	-----	---	-----	---	-----	---	-----	-----	1	47.8
Unnamed	3517	------	3	36.4	---	-----	---	-----	---	-----	---	-----	-----	1	62.1
Do	3524	------	3	43.2	---	-----	---	-----	---	-----	---	-----	-----	1	73.7
Do	3829	------	3	34.8	---	-----	---	-----	---	-----	---	-----	-----	1	59.4
Do	3850	------	3	29.1	---	-----	---	-----	---	-----	---	-----	-----	1	49.7
Do	3869	------	3	33.5	---	-----	---	-----	---	-----	---	-----	-----	1	57.2
Do	3879	------	3	35.6	---	-----	---	-----	---	-----	---	-----	-----	1	60.8
Vavilov	3975–3	------	3	17.3	---	-----	---	-----	---	-----	---	-----	-----	1	29.5
Unnamed	4326–2	------	3	37.3	---	-----	---	-----	---	-----	---	-----	-----	1	63.7
Do	4325	------	3	40.5	---	-----	---	-----	---	-----	---	-----	-----	1	69.1

NORTH DAKOTA

T. E. STOA, *head, department of agronomy, Agricultural Experiment Station, State College Station, Fargo;* RALPH W. SMITH, *associate agronomist, United States Department of Agriculture, Dickinson Substation, Dickinson;* and JOHN C. BRINSMADE, JR., *assistant agronomist, United States Department of Agriculture, United States Northern Great Plains Field Station, Mandan*

Yields from North Dakota are reported from seven locations. At three of these (Hettinger, Williston, and Edgeley) tests were discontinued after the 1932 crop, and at Langdon, after 1934 (table 20). Drought caused serious damage in several of the years reported.

For the State as a whole, Trebi continues to be the highest yielding variety. It is the recommended variety for feed production. In some years considerable quantities of barley are sold for malting. On farms that grow barley for this market, the recommended varieties are Manchuria, Velvet, and Wisconsin Barbless (Pedigree 38). Odessa, a variety popular in South Dakota, has given relatively high yields and has been increased for distribution.

At Dickinson, Steigum and Horn, two-rowed sorts, outyielded Trebi. This was also the case in the previous 5-year period, 1927–31.

In eastern North Dakota, Manchuria and Velvet should be seeded at the rate of 6 pecks per acre. Five or six pecks are sufficient farther west. For Trebi and other large-seeded types the rate should be somewhat higher. Barley should be seeded in late April or early May.

TABLE 20.—*Acre yields of varieties of barley grown at the North Dakota Agricultural Experiment Station, Fargo; at the Langdon, Dickinson, Edgeley, Hettinger, and Williston substations; and at the United States Northern Great Plains Field Station, Mandan, in 1 or more of the years 1932–36*

[Data for Fargo, Langdon, Edgeley, Hettinger, and Williston obtained through the courtesy of the North Dakota Agricultural Experiment Station; for Dickinson, in cooperation with the station; and for Mandan in cooperation with the Division of Dry Land Agriculture]

Station and variety	C. I. No.	Station No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.		Pct.
Fargo:															
Manchuria	2947	2121	3	54.8	3	18.8	3	29.6	3	46.4	3	2.0	30.3	5	76.7
Do	244	871	3	47.0	3	10.4	3	25.7	3	41.5	3	2.2	25.4	5	64.2
Odessa	182	30014	3	59.4	3	22.3	3	36.9	3	61.1	3	10.5	38.0	5	96.3
Trebi [1]	936	30013	3	61.0	3	28.0	3	38.0	3	61.9	3	8.7	39.5	5	100.0
Velvet	4252	30015	3	48.6	3	13.7	3	30.0	3	42.3	3	3.8	27.7	5	70.0
Wisconsin Barbless (Pedigree 38)	5105	30019	3	54.0	3	14.4	3	31.1	3	48.7	3	1.5	29.9	5	75.8
Glabron	4577	------	3	53.3	---	-----	---	-----	---	-----	---	-----	-----	1	87.4
Lion	923	------	3	61.8	---	-----	---	-----	---	-----	---	-----	-----	1	101.3
Hannchen	531	32003	3	46.9	3	18.8	3	30.2	3	43.5	3	4.6	28.8	5	72.9
Steigum	907	32006	3	56.5	3	17.9	3	32.0	3	42.1	3	9.2	31.5	5	79.8
Svansota	1907	32004	3	51.8	3	20.6	3	29.7	3	45.5	3	1.2	29.8	5	75.3
Spartan	5027	32005	3	49.6	3	15.5	3	31.2	3	64.5	3	10.2	34.2	5	86.5
Oderbrucker (Wisconsin Pedigree 5)	1272	30021	---	-----	---	-----	3	21.5	3	25.0	3	.4	-----	3	43.2
Peatland	5267	------	---	-----	---	-----	---	-----	---	-----	3	1.2	-----	1	13.8
Langdon: [2]															
Manchuria	2947	2121	3	26.1	3	11.3	3	19.3	---	-----	---	-----	18.9	3	85.4
Trebi [1]	936	30013	3	28.8	3	12.1	3	25.5	---	-----	---	-----	22.1	3	100.0
Velvet	4252	30015	3	28.0	3	7.6	3	17.5	---	-----	---	-----	17.7	3	80.0
Wisconsin Barbless (Pedigree 38)	5105	30019	3	28.8	3	9.1	3	19.0	---	-----	---	-----	19.0	3	85.7
Glabron	4577	------	3	22.3	---	-----	---	-----	---	-----	---	-----	-----	1	77.4
Odessa	182	30014	---	-----	---	-----	3	28.6	---	-----	---	-----	-----	1	112.2
Hannchen	531	32003	3	26.7	3	8.6	3	23.8	---	-----	---	-----	19.7	3	89.0
Svansota	1907	32004	3	26.7	3	9.6	3	20.6	---	-----	---	-----	19.0	3	85.7
Steigum	907	32006	3	17.7	3	7.8	3	27.1	---	-----	---	-----	17.5	3	79.2
Spartan	5027	32005	3	9.4	---	-----	---	-----	---	-----	---	-----	-----	1	32.6
Dickinson: [3]															
White Smyrna	658		4	30.1	---	-----	---	-----	---	-----	---	-----	-----	1	71.5
Steigum	907	32006	4	42.9	4	7.2	4	6.0	4	28.6	4	.0	16.9	5	103.5
Hannchen	531	32003	4	38.4	4	6.9	4	8.0	4	24.6	4	.0	15.6	5	95.2
Hanna	203	------	4	35.6	---	-----	---	-----	---	-----	---	-----	-----	1	84.6
Svansota	1907	32004	4	39.0	4	6.2	4	7.6	4	18.4	4	.0	14.2	5	87.0
Horn	926	------	4	41.8	4	10.0	4	7.2	4	25.7	4	.0	16.9	5	103.5

[1] Standard variety with which others are compared.
[2] Tests discontinued at Langdon after 1934.
[3] Zero yields at Dickinson in 1936 and at Mandan in 1933 and 1936 were because of drought.

TABLE 20.—*Acre yields of varieties of barley grown at the North Dakota Agricultural Experiment Station, Fargo; at the Langdon, Dickinson, Edgeley, Hettinger, and Williston substations; and at the United States Northern Great Plains Field Station, Mandan, in 1 or more of the years 1932–36*—Continued

Station and variety	C. I. No.	Station No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Dickinson—Continued.				*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Regal	5030	------	4	36.0	4	6.8	4	5.9	4	21.5	---	-----	-----	4	85.8
Velvet	4252	30015	4	32.6	4	4.8	4	3.8	4	17.5	4	.0	11.7	5	71.8
Glabron	4577	------	4	37.8	4	6.4	4	5.2	4	23.0	4	.0	14.5	5	88.5
Wisconsin Barbless (Pedigree 38)	5105	30019	4	17.0	4	8.4	4	3.7	4	19.8	4	.0	9.8	5	59.8
Lion	923	------	4	42.5	4	7.4	4	4.5	4	25.4	4	.0	16.0	5	97.6
Trebi [1]	936	30013	4	42.1	4	6.9	4	4.7	4	28.1	4	.0	16.4	5	100.0
Manchuria	244	871	4	35.5	4	7.6	4	5.1	4	25.8	4	.0	14.8	5	90.5
Odessa	182	30014	4	38.5	4	7.0	4	5.0	4	24.2	4	.0	14.9	5	91.3
New Composite Cross	5461	------	4	31.1	4	3.3	4	3.0	4	18.3	4	.0	11.1	5	68.1
Nepal	262	------	4	23.2	---	-----	---	-----	---	-----	---	-----	-----	1	55.1
Colsess	2792	------	---	-----	---	-----	4	5.8	4	19.0	4	.0	-----	3	75.6
Mandan: [3] [5]															
Vaughn	1367	------	3	26.0	3	.0	3	.8	3	24.8	3	.0	10.3	5	63.8
Glabron	4577	------	3	44.8	3	.0	3	4.6	3	28.5	3	.0	15.6	5	96.3
Featherston	1120	------	3	37.8	3	.0	3	2.5	3	24.1	3	.0	12.9	5	79.6
Odessa	182	30014	3	42.7	3	.0	3	3.2	3	32.3	3	.0	15.6	5	96.7
Trebi [1]	936	30013	3	43.8	3	.0	3	3.2	3	33.9	3	.0	16.2	5	100.0
Alpha	959	------	3	39.8	3	.0	3	2.1	3	24.1	3	.0	13.2	5	81.6
Horn	926	------	3	43.7	3	.0	3	2.2	3	29.5	3	.0	15.1	5	93.2
Hannchen	531	32003	3	35.9	3	.0	3	1.5	3	26.2	3	.0	12.7	5	78.6
Hettinger: [6]															
Manchuria	2947	2121	3	25.5	---	-----	---	-----	---	-----	---	-----	-----	1	61.4
Trebi [1]	936	30013	3	41.5	---	-----	---	-----	---	-----	---	-----	-----	1	100.0
Velvet	4252	30015	3	38.9	---	-----	---	-----	---	-----	---	-----	-----	1	93.7
Glabron	4577	------	3	35.8	---	-----	---	-----	---	-----	---	-----	-----	1	86.3
Wisconsin Barbless (Pedigree 38)	5105	30019	3	38.4	---	-----	---	-----	---	-----	---	-----	-----	1	92.5
Odessa	182	30014	3	30.5	---	-----	---	-----	---	-----	---	-----	-----	1	73.5
Dryland	5673	------	3	27.3	---	-----	---	-----	---	-----	---	-----	-----	1	65.8
Nepal	262	------	3	32.7	---	-----	---	-----	---	-----	---	-----	-----	1	78.8
Hannchen	531	32003	3	42.0	---	-----	---	-----	---	-----	---	-----	-----	1	101.2
Svansota	1907	32004	3	48.4	---	-----	---	-----	---	-----	---	-----	-----	1	116.6
Steigum	907	32006	3	42.9	---	-----	---	-----	---	-----	---	-----	-----	1	103.4
Williston: [6]															
Manchuria	2947	2121	3	35.5	---	-----	---	-----	---	-----	---	-----	-----	1	65.5
Trebi [1]	936	30013	3	54.2	---	-----	---	-----	---	-----	---	-----	-----	1	100.0
Velvet	4252	30015	3	52.2	---	-----	---	-----	---	-----	---	-----	-----	1	96.3
Glabron	4577	------	3	45.5	---	-----	---	-----	---	-----	---	-----	-----	1	83.9
Wisconsin Barbless (Pedigree 38)	5105	30019	3	49.3	---	-----	---	-----	---	-----	---	-----	-----	1	91.0
Hannchen	531	32003	3	51.7	---	-----	---	-----	---	-----	---	-----	-----	1	95.4
Svansota	1907	32004	3	58.5	---	-----	---	-----	---	-----	---	-----	-----	1	107.9
Steigum	907	32006	3	62.7	---	-----	---	-----	---	-----	---	-----	-----	1	115.7
Horn	926	------	3	56.4	---	-----	---	-----	---	-----	---	-----	-----	1	104.1
Edgeley: [6]															
Manchuria	2947	2121	3	33.5	---	-----	---	-----	---	-----	---	-----	-----	1	72.7
Trebi [1]	936	30013	3	46.1	---	-----	---	-----	---	-----	---	-----	-----	1	100.0
Velvet	4252	30015	3	35.5	---	-----	---	-----	---	-----	---	-----	-----	1	77.0
Glabron	4577	------	3	35.0	---	-----	---	-----	---	-----	---	-----	-----	1	75.9
Wisconsin Barbless (Pedigree 38)	5105	30019	3	42.0	---	-----	---	-----	---	-----	---	-----	-----	1	91.1
Odessa	182	30014	3	49.4	---	-----	---	-----	---	-----	---	-----	-----	1	107.2
Hannchen	531	32003	3	32.5	---	-----	---	-----	---	-----	---	-----	-----	1	70.5
Svansota	1907	32004	3	33.3	---	-----	---	-----	---	-----	---	-----	-----	1	72.2
Steigum	907	32006	3	39.7	---	-----	---	-----	---	-----	---	-----	-----	1	86.1
Spartan	5027	32005	3	28.8	---	-----	---	-----	---	-----	---	-----	-----	1	62.5

[1] Standard variety with which others are compared.
[3] Zero yields at Dickinson in 1936 and at Mandan in 1933 and 1936 were because of drought.
[4] Stand very thin, possibly because of poor germination and frost in late April.
[5] In 1934 drought and high temperatures reduced yields, and, therefore, an estimated average based on the average of nine 1/2000-acre squares, three from each series, is used. Due to shortness of straw, a binder could not be used.
[6] Tests were discontinued at Hettinger, Williston, and Edgeley after 1932.

OKLAHOMA

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Yields from two stations in Oklahoma are reported in table 21. At Woodward, the results are from both spring and fall seeding. The tests were grown in nursery plots. Atlas and White Smyrna

TABLE 21.—*Acre yields of varieties of barley grown at the United States Southern Great Plains Field Station, Woodward, Okla., and at the United States Dry Land Field Station, Lawton, Okla., in 1 or more of the years 1931–36*

[Data for Woodward obtained in cooperation with the Division of Dry Land Agriculture and the Oklahoma Agricultural Experiment Station; for Lawton, through the courtesy of the Division of Dry Land Agriculture]

Station and variety	C. I. No.	Number of plots and acre yield														Number of years grown and yield in comparison with standard variety for comparable years	
		1931		1932		1933		1934		1935		1936		Average yield, 1931–36			
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			Years	Yield
Woodward:																	
Spring-sown			Bu.		Bu.		Bu.		Bu.		Bu.		Bu.	Bu.			Pct.
Sandrel	937	3	43.3	3	38.2	3	13.3	3	14.8	3	44.5	3	6.6	26.8		6	100.5
Vaughn [1]	1367	3	34.9	3	37.8	3	17.4	3	29.5	3	33.7	3	6.6	26.7		6	100.0
White Smyrna	910	3	49.1	3	35.8	3	16.5	3	20.0	3	44.6	3	5.5	28.6		6	107.3
Meloy	1176	3	47.8	3	34.9	3	15.0	3	15.8	3	35.8	2	3.0	25.4		6	95.2
Club Mariout	261	3	44.9	3	34.6	3	15.8	3	18.8	3	33.3	1	1.6	24.8		6	93.2
Atlas	4118	3	58.8	3	34.1	3	18.0	3	23.3	3	34.9	3	5.2	29.1		6	109.0
Improved Manchuria	2330	3	36.5	3	33.6	3	10.6	3	17.5	3	38.6	3	4.2	23.5		6	88.2
California Mariout	1455	3	31.3	3	32.6	3	16.3	3	21.9	3	32.0	2	12.0	24.4		6	91.4
Trebi	936	3	49.5	3	28.9	3	11.7	3	17.3	3	42.9	3	4.4	25.8		6	96.7
Glabron	4577	3	36.3	3	24.6	3	9.5	3	11.5	3	31.3	3	4.1	19.6		6	73.4
Hannchen	531	3	28.8	3	18.9	3	8.6	---	-----	---	-----	---	-----	-----		3	62.5
Velvet	4252	3	27.5	3	12.8	3	7.8	---	-----	---	-----	---	-----	-----		3	53.4
Flynn selection 1	5911	---	-----	---	-----	---	-----	3	29.3	3	35.3	3	6.7	-----		3	102.1
Stavropol H. C. 249	5913	---	-----	---	-----	---	-----	3	19.5	3	33.4	1	9.9	-----		3	90.0
Franklin Malt	5915	---	-----	---	-----	---	-----	3	18.3	3	32.1	3	9.0	-----		3	85.1
Danne selection 113	6140	---	-----	---	-----	---	-----	---	-----	2	44.2	3	9.2	-----		2	132.5
Fall-sown																	
Ward [1]	6007	---	-----	2	51.1	---	-----	2	20.3	3	13.5	3	24.1	-----		4	100.0
Woodward Composite	-----	---	-----	---	-----	---	-----	---	-----	---	-----	3	24.8	-----		1	102.9
Wisconsin Winter	2159	---	-----	---	-----	---	-----	---	-----	---	-----	3	34.8	-----		1	144.4
Tennessee Winter selection 66	3546	---	-----	---	-----	---	-----	---	-----	---	-----	3	24.2	-----		1	100.4
Michigan Winter	2036	---	-----	---	-----	---	-----	---	-----	3	14.5	3	22.2	-----		2	97.6
Missouri Early Beardless	6051	---	-----	---	-----	---	-----	---	-----	---	-----	3	21.0	-----		1	87.1
Lawton:																	
Fall-sown																	
Tennessee Winter selection 66 [1]	3546	---	-----	3	44.5	3	4.8	---	-----	3	0	4	13.4	15.7		4	100.0
Michigan	-----	---	-----	3	45.2	3	10.2	---	-----	3	0	4	16.4	18.0		4	114.5
Han River	2163	---	-----	3	45.6	3	6.8	---	-----	3	0	4	11.2	15.9		4	101.4
Pidor	901	---	-----	3	43.9	3	7.9	---	-----	3	0	---	-----	-----		3	105.1
Orel	351	---	-----	3	36.6	3	0.0	---	-----	3	0	---	-----	-----		3	74.2
Wisconsin Winter	519	---	-----	3	51.2	3	6.0	---	-----	3	0	4	12.0	17.3		4	110.4
Missouri Early Beardless	6051	---	-----	---	-----	---	-----	---	-----	---	-----	4	11.6	-----		1	86.6
Esaw	4690	---	-----	---	-----	---	-----	---	-----	---	-----	4	10.9	-----		1	81.3

[1] Standard variety with which others are compared.

are the highest yielding spring varieties of those grown for the entire period. Of the fall-sown varieties, Ward, a variety obtained from a local source near Woodward, is the most dependable variety. It is recommended for the Panhandle and the northern tier of counties, whereas in other parts of northwestern Oklahoma, Wisconsin Winter and Tennessee Winter selection 66 are recommended.

At Lawton, the results are from fall-sown varieties grown in field plots. In 1935 no results were obtained due to winter-killing. Michigan and Wisconsin Winter are the highest yielding varieties. These, or locally adapted bearded sorts, are recommended for general use.

Fall-sown varieties should be seeded by October 15. Where barley is pastured, it is desirable to seed earlier. Spring varieties should be sown February 10 to March 1. Two bushels per acre is a desirable rate for fall seeding, but for spring seeding the rate varies from 5 pecks in the western area to 8 pecks on the better lands where the rainfall is heavier.

OREGON

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Barley yields for Oregon are reported from five stations. The climatic and soil conditions at each station are very different (table 22).

In western Oregon, under abundant rainfall, both spring and winter barleys are grown. Among the spring sorts, Peruvian selection No. 1, Trebi, and Hannchen are the highest yielding varieties at Corvallis. Hannchen is the recommended variety for this section. It is suitable for the malting trade. Union Beardless, a hooded stiff-strawed variety, is suggested for fertile soils. A new variety, Santiam, looks very promising and is being distributed. Where winter barley is grown, Santiam, O. A. C. No. 1, and O. A. C. No. 6 are recommended. Fall-sown barley should be seeded October 10 to 30; spring-sown barley, March 15 to April 15. The rate varies from 1½ to 2¼ bushels per acre.

At Pendleton, Trebi has produced the highest yield except in seasons of short rainfall, when earlier maturing varieties such as Flynn are superior. It should be sown March 1 to 15, if possible, at the rate of 2 bushels per acre. Meloy is recommended where a hooded variety is desired for hay.

At Moro, under limited rainfall, Peruvian, Club Mariout, and Flynn (C. I. 5911) are the highest yielding varieties. Club Mariout is the most widely grown. Flynn, a smooth-awned sort, and Meloy, a hooded variety, are favored by farmers in this section, especially when cut for hay. For the Moro district, barley should be seeded as early in the spring as the ground can be prepared, at the rate of 1¼ to 1¾ bushels per acre.

At Union, Trebi has produced the highest yield, and this agrees with its previous performance. It is the recommended variety for the Union district. Union Beardless, a hooded sort, is an outstanding variety where barley is cut for hay, or on rich soil where stiffness of straw is a desirable factor. Barley, in this section, should be sown March 15 to April 15 at the rate of 1½ to 2 bushels per acre.

TABLE 22.—*Acre yields of varieties of barley grown at the Oregon Agricultural Experiment Station, Corvallis; at the Sherman County Branch Experiment Station, Moro; at the Pendleton Field Station, Pendleton; at the Eastern Oregon Branch Livestock Experiment Station, Union; and at the Harney Branch Experiment Station, Burns, in 1 or more of the years 1932–36*

[Data for Corvallis, Union, and Burns furnished through the courtesy of the Oregon Agricultural Experiment Station; those for Moro and Pendleton obtained in cooperation with the station]

Station and variety	C. I. No.	Station No.	Number of plots and acre yield											Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936		Average yield, 1932–36		
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Corvallis:															
Spring-sown				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.		Pct.
Hannchen [1]	531	-------	9	27.0	11	58.0	7	28.7	8	24.3	8	31.6	33.9	5	100.0
Victory	5077	-------	3	20.1	3	67.3	3	26.7	3	20.3	3	33.7	33.6	5	99.1
Peruvian	935	-------	3	18.9	3	60.8	3	33.0	3	23.1	3	31.1	33.4	5	98.4
O. A. C. No. 7	2814	-------	3	16.8	3	67.5	3	23.4	3	15.3	3	24.7	29.5	5	87.1
Trebi	936	-------	3	21.5	3	68.6	3	28.6	3	19.6	3	31.7	34.0	5	100.2
Union Beardless	5976	-------	3	22.3	3	64.0	2	28.7	3	19.0	3	18.1	30.4	5	89.7
Flynn selection 1	5911	-------	3	14.0	3	51.1	3	27.9	3	16.1	3	28.8	27.6	5	81.3
Unnamed	-----	H–256	3	11.0	3	60.6	3	19.3	---	-----	---	-----	-----	3	80.0
Do	-----	H–390	3	15.7	3	57.8	3	27.8	---	-----	---	-----	-----	3	89.2
Do	-----	H–88	3	14.2	3	64.3	3	25.4	3	22.3	3	34.8	32.2	5	94.9
Peatland	5267	-------	1	24.2	3	53.3	3	20.5	3	14.7	---	-----	-----	4	83.3
Peruvian selection 1	5912	-------	1	32.5	3	62.6	3	33.2	3	23.1	3	31.6	36.6	5	107.9
Wisconsin Barbless (Pedigree 38)	5105	-------	---	-----	3	50.5	3	23.3	3	17.4	3	30.1	-----	4	85.1
Union Beardless selection 4	-----	-------	---	-----	---	-----	---	-----	---	-----	1	21.6	-----	1	68.3
Union Beardless selection 6	-----	-------	---	-----	---	-----	---	-----	---	-----	1	18.0	-----	1	57.0
Unnamed	-----	32602	---	-----	---	-----	---	-----	---	-----	1	30.0	-----	1	93.0
Do	-----	32673	---	-----	---	-----	---	-----	---	-----	1	31.6	-----	1	100.0
Fall-sown															
O. A. C. No. 7	2814	-------	7	37.1	---	[2] 0	3	39.5	3	67.1	3	34.4	35.6	5	86.0
Winter Club (Utah Winter)	592	-------	3	39.4	3	62.2	3	24.7	3	74.4	3	39.3	48.0	5	115.8
Kroph	-----	-------	3	43.1	3	20.1	---	-----	---	-----	---	-----	-----	2	79.8
O. A. C. selection 6	5954	-------	3	30.3	3	36.2	3	36.9	3	60.2	3	32.8	39.3	5	94.8
O. A. C. selection 1 [1]	5953	-------	3	31.6	3	47.6	9	34.9	6	61.0	9	32.1	41.4	5	100.0
Orel	351	-------	3	30.8	3	28.1	3	36.1	3	53.4	3	32.0	36.1	5	87.1
Tennessee Winter selection	5955	-------	3	33.4	3	40.0	3	40.6	3	62.9	3	30.1	41.4	5	99.9
Tennessee Winter	257	-------	3	38.3	3	38.4	3	36.1	3	56.6	3	26.7	39.2	5	94.6
Wisconsin Winter	2159	-------	3	38.6	---	-----	---	-----	---	-----	---	-----	-----	1	124.0
Alaska	4106	-------	3	40.2	3	40.4	3	34.4	3	61.6	3	24.8	40.3	5	97.2
Pidor	901	-------	3	37.8	3	37.9	3	37.7	---	-----	---	-----	-----	3	99.4
Santiam	6367	36	---	-----	---	-----	3	38.2	3	72.0	4	34.7	-----	3	113.2
Unnamed	-----	32529	---	-----	---	-----	---	-----	---	-----	1	32.5	-----	1	101.2
Do	-----	32539	---	-----	---	-----	---	-----	---	-----	1	30.5	-----	1	95.0
Do	-----	32549	---	-----	---	-----	---	-----	---	-----	1	33.5	-----	1	104.4
Do	-----	322554	---	-----	---	-----	---	-----	---	-----	1	28.0	-----	1	87.2
Do	-----	324529	---	-----	---	-----	---	-----	---	-----	1	40.5	-----	1	126.2
Do	-----	31192	---	-----	---	-----	---	-----	---	-----	1	25.0	-----	1	77.9
Utah Winter selection 8	-----	-------	---	-----	---	-----	---	-----	---	-----	1	23.5	-----	1	73.2
Moro: [3]															
Peruvian [1]	935	-------	4	34.3	---	-----	2	34.8	3	28.8	3	47.5	36.4	4	100.0
Arequipa	1256	-------	4	31.8	---	-----	2	30.5	3	26.5	---	-----	-----	3	90.7
Flynn selection 1	5911	-------	4	31.8	---	-----	2	31.1	3	26.0	3	45.3	33.6	4	92.3
Pryor	1429	-------	4	31.3	---	-----	---	-----	---	-----	---	-----	-----	1	91.3
Club Mariout	261	-------	4	31.0	---	-----	2	34.8	3	27.6	3	43.4	34.2	4	94.1
Atlas	4118	-------	4	29.9	---	-----	---	-----	---	-----	---	-----	-----	1	87.2
Chevalier	1419	-------	4	29.3	---	-----	---	-----	---	-----	---	-----	-----	1	85.4
Trebi	936	-------	4	28.9	---	-----	2	27.5	3	23.6	3	39.1	29.8	4	81.9
Meloy selection 3	4656	-------	4	28.1	---	-----	2	26.9	3	27.8	3	42.4	31.3	4	86.1
Flynn selection 37	5918	-------	---	-----	---	-----	2	34.2	3	28.4	3	45.0	-----	3	96.8

[1] Standard variety with which others are compared.
[2] Winter-killed.
[3] Seed injury due to smut treatment caused poor stand in 1933. No yields recorded.

TABLE 22.—*Acre yields of varieties of barley grown at the Oregon Agricultural Experiment Station, Corvallis; at the Sherman County Branch Experiment Station, Moro; at the Pendleton Field Station, Pendleton; at the Eastern Oregon Branch Livestock Experiment Station, Union; and at the Harney Branch Experiment Station, Burns, in 1 or more of the years 1932–36*—Continued

Station and variety	C. I. No.	Station No.	Number of plots and acre yield										Average yield, 1932-36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Pendleton:				*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Club Mariout	261		4	45.3	4	64.9	4	42.8	4	43.6	4	55.2	50.4	5	89.9
Flynn selection 1	5911		4	49.5	4	71.0	4	47.4	4	49.2	4	57.5	54.9	5	98.0
Peruvian selection 1	5912		4	50.3	4	71.2	4	49.1	4	47.5	4	55.5	54.7	5	97.7
Ezond	5064		4	47.6	4	67.7	4	39.6	---	---	---	---	---	3	89.6
Arequipa	1256		4	48.9	4	63.5	4	49.5	4	43.1	4	42.6	49.5	5	88.4
Meloy selection 3	4656		4	44.0	4	56.3	4	36.4	4	39.6	4	45.4	44.3	5	79.2
Trebi [1]	936		4	49.1	4	74.5	4	49.2	4	44.3	4	63.0	56.0	5	100.0
Flynn selection 37	5918		---	---	---	---	4	46.8	4	48.6	4	56.8	---	3	97.3
Composite Cross selection	5449		---	---	---	---	---	---	---	---	4	47.4	---	1	75.2
Union:															
Trebi	936		3	76.7	3	58.7	3	72.6	3	75.0	3	68.8	70.4	5	100.0
Hannchen	531		3	70.1	3	68.1	3	61.4	3	65.3	3	60.7	65.1	5	92.6
O. A. C. No. 7	2814		3	50.0	3	44.1	3	69.4	3	56.6	3	68.1	57.6	5	81.9
Union Beardless	5976		3	43.4	3	63.9	3	57.3	3	60.4	3	56.2	56.2	5	79.9
Ezond	5064		3	63.9	3	42.0	3	63.2	3	48.6	3	55.6	54.7	5	77.7
Coast	2301		---	---	3	46.8	---	---	---	---	---	---	---	1	79.7
Colsess	2792		---	---	3	54.1	3	45.5	---	---	---	---	---	2	75.9
Blue	1247		3	58.0	---	---	---	---	---	---	---	---	---	1	75.6
Success Beardless	5997		---	---	3	43.0	3	50.4	---	---	---	---	---	2	71.1
Meloy	1176		3	50.3	---	---	---	---	---	---	---	---	---	1	65.6
Beardless No. 3	5992		3	44.8	---	---	---	---	---	---	---	---	---	1	58.4
Winter Club	592		---	---	3	32.3	3	38.6	---	---	---	---	---	2	54.0
Bald Barley			---	---	3	30.8	---	---	---	---	---	---	---	1	52.5
O. A. C. No. 21	1470		---	---	---	---	---	---	3	29.2	3	39.9	---	2	48.1
Faust	4579		---	---	---	---	3	37.8	3	25.8	3	29.2	---	3	42.9
Burns:															
Trebi [1]	936		2	54.6	2	77.9	2	123.1	2	89.8	2	58.6	80.8	5	100.0
O. A. C. No. 7	2814		2	58.1	2	72.5	2	119.6	2	87.7	2	66.7	80.9	5	100.1
Union Beardless	5976		---	---	2	70.4	2	88.5	2	85.6	2	46.5	---	4	83.3

At the station at Burns, under irrigation, Trebi and O. A. C. No. 7 have been the highest yielding varieties for the past several years. Union Beardless is an excellent barley for hay. These varieties are well adapted to central Oregon conditions, under irrigation, and should be sown about the first of May at 2 to 2¼ bushels per acre.

PENNSYLVANIA

AGRICULTURAL EXPERIMENT STATION, STATE COLLEGE

CHARLES F. NOLL, *head, department of agronomy*

Tests with both spring-sown and fall-sown varieties are reported from Pennsylvania (table 23). The highest yielding spring-sown varieties are Alpha, a two-rowed sort; Oderbrucker (Wisconsin Pedigree 5), a variety belonging to the Manchuria-Oderbrucker group; and Wisconsin Barbless (Pedigree 38), a variety with smooth awns. In the two preceding years, 1930 and 1931, the latter also produced

high yields. Wisconsin Barbless (Pedigree 38) and Alpha are the recommended varieties, and the former is now replacing Comfort, a variety recommended earlier.

The tests with fall-sown barleys have been conducted only a short time. In 1934 all varieties winter-killed. Many of the varieties tested are local strains and their exact identity is not known. Promising varieties are Kentucky No. 1, Michigan Winter, and a local strain from Cumberland County.

The average date for spring seeding in the vicinity of State College is about April 24. In southeastern Pennsylvania the most favorable time is about 2 weeks earlier, and, in the northern counties, about 2 weeks later. The usual rate of seeding is 2 bushels per acre. Fall-sown barley should be seeded at State College the first week in September and 2 to 3 weeks later in the southeastern counties. Winter barley is an uncertain crop north of the center of the State, although it has been grown successfully in a few places.

TABLE 23.—*Acre yields of varieties of barley grown at the Pennsylvania Agricultural Experiment Station, State College, in 1 or more of the years 1932–36*

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

Variety	C. I. No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
		1932		1933		1934		1935		1936				
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Spring-sown:			*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Oderbrucker (Wisconsin Pedigree 5)	1272	1	14.8	5	24.8	5	37.8	5	36.1	5	20.4	26.8	5	101.6
Oderbrucker	836	1	10.0	---	------	---	------	---	------	---	------	------	1	54.6
Alpha	959	1	17.1	5	26.8	5	33.0	5	38.4	5	21.3	27.3	5	103.6
Glabron	4577	1	12.4	5	20.9	5	29.5	5	30.3	---	------	------	4	86.1
Comfort	4578	1	13.4	5	23.3	5	33.0	5	31.9	5	23.0	24.9	5	94.5
Velvet	4252	1	13.8	5	20.9	5	30.4	5	35.1	5	20.1	24.1	5	91.3
Swiss Spring	5900	1	11.7	---	------	---	------	---	------	---	------	------	1	63.9
Wisconsin Barbless (Pedigree 38)[1]	5105	1	18.3	5	15.9	5	36.5	5	37.4	5	23.7	26.4	5	100.0
Fall-sown:[2]														
Old Forge Farm	------	---	------	---	------	5	.0	5	8.3	---	------	------	2	18.0
York County Hooded	------	---	------	---	------	5	.0	5	39.6	5	44.7	28.1	3	94.9
T. W. Wood & Sons	------	---	------	---	------	5	.0	5	15.8	---	------	------	2	34.3
Tennessee	------	---	------	---	------	5	.0	5	30.8	5	41.2	24.0	3	81.1
Michigan Winter	2036	---	------	---	------	5	.0	5	47.4	---	------	------	2	103.0
Poland	6280	---	------	---	------	---	------	5	24.7	5	24.5	------	2	55.4
Kentucky No. 1	6050	---	------	---	------	---	------	5	58.4	5	49.8	------	2	121.8
Kentucky No. 2[1]	6148	---	------	---	------	5	.0	5	46.0	5	42.8	29.6	3	100.0
New Maryland	------	---	------	---	------	---	------	5	46.3	5	42.1	------	2	99.5
Marnobarb	6120	---	------	---	------	---	------	5	16.7	5	39.2	------	2	63.0
Smooth Awn selection (Md. 11–6)	------	---	------	---	------	---	------	---	------	5	26.1	------	1	61.0
Smooth Awn selection (Md. 15–8)	6495	---	------	---	------	---	------	---	------	5	23.1	------	1	54.0
Smooth Awn selection (Md. 19–8)	6494	---	------	---	------	---	------	---	------	5	24.5	------	1	57.2
Schell Seed Co	------	---	------	---	------	---	------	5	3.4	---	------	------	1	7.4
Cumberland County	------	---	------	---	------	---	------	5	44.6	5	44.8	------	2	100.7
H. E. Confer (Howard, Pa.)	------	---	------	---	------	---	------	---	------	5	39.5	------	1	92.3

[1] Standard variety with which others are compared.
[2] All varieties winter-killed, season 1933–34.

South Carolina

AGRICULTURAL EXPERIMENT STATION, CLEMSON

H. P. Cooper, *head, department of agronomy*

The yields reported from South Carolina are from fall-sown varieties (table 24). In this State the hooded or awnless varieties are favored by the farmers. Such varieties usually yield less grain than the bearded sorts. The difference in yield of the bearded variety in table 24 and the best beardless sort is 2.6 percent. In the previous 5-year period, 1927–31, this difference was 24.5 percent. The highest yielding variety is Bearded Winter. It was also outstanding in earlier tests. Beardless Winter was grown for 3 years and shows promise. Seed of the Bearded Winter and Beardless Winter varieties was obtained from seedsmen. Tests over a longer period show that Awnless (C. I. 4693) is probably the best of the beardless sorts. Beardless Winter and Bearded Winter are the recommended varieties. They are used by many growers for fall and winter pasture or as a cover crop. October is the most favorable month for seeding, and 1½ to 2 bushels should be seeded per acre.

TABLE 24.—*Acre yields of varieties of barley grown at the South Carolina Agricultural Experiment Station, Clemson, in 1 or more of the years 1932–36*

[Data obtained through the courtesy of the South Carolina Agricultural Experiment Station]

Variety	C. I. No.	Station No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
				Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Bearded Winter [1]			14	42.2	13	34.6	14	19.9	12	48.7	10	51.4	39.4	5	100.0
Beardless Winter							14	21.8	12	52.0	10	43.1		3	97.4
Tennessee Beardless			14	31.6	13	38.6			12	31.1	10	44.3		4	82.3
C. A. C. Awnless (compact)	4693	206C	14	27.9	13	24.3	14	18.4	12	51.5	10	42.1	32.8	5	83.4
C. A. C. Hooded	5956	188	14	33.6	13	37.2	14	21.0						3	94.9
C. A. C. Awnless (loose)	4694	206L	14	31.8	13	22.5	14	13.6	12	34.8				4	70.6

[1] Standard variety with which others are compared.

South Dakota

S. P. Swenson, *associate professor* and *associate agronomist in charge of cereal breeding*, K. H. Klages, formerly *associate agronomist in charge of cereal breeding*, and A. N. Hume, *head, department of agronomy, South Dakota Agricultural Experiment Station, Brookings;* and Beyer Aune, *associate agronomist, United States Department of Agriculture, superintendent, United States Belle Fourche Field Station, Newell*

Varietal trials for South Dakota are reported from 6 stations and the results are given in table 25. At many of the stations no yields were reported in certain years owing to limited rainfall. At one station, Ardmore, the tests were discontinued after the 1932 crop. At Brookings, Trebi is the highest yielding variety. At Highmore, Spartan is the leading variety. At Eureka, White Smyrna × Svanhals and Spartan are the leading sorts. Trebi and Ace lead at Cottonwood.

The results at Ardmore are for 1 year only, and here White Smyrna headed the list. Under irrigation at Newell, White Smyrna and Trebi are the superior varieties. Lion × Manchuria shows promise at several stations and should be given further tests. Odessa has given a better than average yield at many stations. Its previous performance is also good.

Where barley is intended for malting, Odessa, Velvet, and Wisconsin Barbless (Pedigree 38) are the recommended varieties for the southeast section. Where the grain is intended for feed, Trebi, Glabron, and Spartan are recommended. In the drier sections, Horn, White Smyrna, and Ace are satisfactory varieties. Trebi should be grown under irrigation in the western part of the State.

Barley should be seeded early. Sowings later than April 15 are likely to result in reduced yield. It is recommended that 6 pecks per acre be sown in the eastern part of the State. A rate of 5 pecks per acre is sufficient in the central and western sections except under irrigation, when 8 pecks should be used.

TABLE 25.—*Acre yields of varieties of barley grown at the South Dakota Agricultural Experiment Station, Brookings; at the Highmore, Eureka, and Cottonwood substations; at the United States Dry Land Field Station, Ardmore; and at the United States Belle Fourche Field Station, Newell, in 1 or more of the years 1932–36*

[Data for Brookings, Highmore, Eureka, and Cottonwood obtained through the courtesy of the South Dakota Agricultural Experiment Station; for Ardmore, through the courtesy of the Division of Dry Land Agriculture; and for Newell, through the courtesy of the Division of Irrigation Agriculture]

Station and variety	C. I. No.	Station No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Brookings:				*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Odessa [1]	182	182	3	40.8	3	7.6	3	34.8	3	23.3	3	21.8	25.7	5	100.0
Velvet	4252	1286	3	36.5	3	2.9	3	22.3	3	21.7	3	16.9	20.1	5	78.2
Lion × Manchuria	6001	1340	3	51.3	3	7.5	3	31.2	3	25.7	3	20.6	27.3	5	106.2
Minsturdi	1556	1245	3	50.8	3	4.5	3	20.2	3	20.1	3	20.6	23.2	5	90.6
Oderbrucker	1529	1180	3	39.6	3	2.9	3	11.7	3	15.3	3	11.9	16.3	5	63.4
Glabron	4577	1290	3	45.0	3	11.7	3	28.2	3	26.2	3	21.5	26.5	5	103.4
Trebi	936	1298	3	49.6	3	7.9	3	44.6	3	29.9	3	24.8	31.4	5	122.2
Horn	926	1299	3	39.4	---	---	3	24.8	3	25.8	3	17.6	---	4	89.1
Wisconsin Barbless (Pedigree 38)	5105	---	---	---	3	11.3	3	25.2	3	27.8	3	13.1	---	4	88.5
Manchuria (N. Dak. 2121)	2947	---	---	---	---	---	3	18.7	3	13.6	3	11.9	---	3	55.3
Odessa selection 101	---	---	---	---	---	---	---	---	---	---	3	20.9	---	1	95.9
Odessa selection 105	---	---	---	---	---	---	---	---	---	---	3	11.9	---	1	54.6
Highmore: [2]															
Odessa [1]	182	182	3	20.1	3	0	3	0	3	24.2	3	0	8.9	5	100.0
Velvet	4252	1286	---	---	---	---	---	---	3	23.6	3	0	---	2	97.5
Lion × Manchuria	6001	1340	3	24.8	3	0	3	0	3	24.2	3	0	9.8	5	110.6
Minsturdi	1556	1245	3	22.1	3	0	3	0	3	22.5	3	0	8.9	5	100.7
Oderbrucker	1529	1180	3	9.6	3	0	3	0	3	16.5	3	0	5.2	5	58.9
Glabron	4577	1290	3	20.0	3	0	3	0	3	25.4	3	0	9.1	5	102.5
Trebi	936	1298	3	24.0	3	0	3	0	3	21.1	3	0	9.0	5	101.8
Horn	926	1299	3	17.8	3	0	3	0	3	19.8	3	0	7.5	5	84.9
Ace	1853	1173	3	26.5	3	0	3	0	3	22.5	3	0	9.8	5	110.6
White Smyrna × Svanhals	6371	1344	3	25.1	3	0	3	0	3	22.3	3	0	9.5	5	107.0
Binder	1909	1269	3	18.2	3	0	3	0	3	17.7	3	0	7.2	5	81.0
Coast × Lion	6002	1343	3	19.5	3	0	3	0	3	24.6	3	0	8.8	5	99.5
Spartan	5027	1352	3	28.6	3	0	3	0	3	25.6	3	0	10.8	5	122.3
New Era	5108	1355	3	16.1	3	0	3	0	3	22.3	3	0	7.7	5	86.7

[1] Standard variety with which the others are compared.
[2] Zero yields at Highmore, Eureka, and Cottonwood in 1933, 1934, and 1936 due to drought.

TABLE 25.—*Acre yields of varieties of barley grown at the South Dakota Agricultural Experiment Station, Brookings; at the Highmore, Eureka, and Cottonwood substations; at the United States Dry Land Field Station, Ardmore; and at the United States Belle Fourche Field Station, Newell, in 1 or more of the years 1932–36*—Continued

Station and variety	C. I. No.	Station No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.		Pct.
Eureka:[2]															
Odessa[1]	182	182	3	45.5	3	0	3	0	3	27.1	3	0	14.5	5	100.0
Velvet	4252	1286							3	24.7	3	0		2	91.1
Lion × Manchuria	6001	1340	3	40.3	3	0	3	0	3	28.1	3	0	13.7	5	94.2
Glabron	4577	1290	3	40.3	3	0	3	0	3	27.8	3	0	13.6	5	93.8
Horn	926	1299	3	36.8	3	0	3	0	3	22.6	3	0	11.9	5	81.8
White Smyrna × Svanhals	6371	1344	3	47.6	3	0	3	0	3	27.8	3	0	15.1	5	103.9
Binder	1909	1269	3	45.5	3	0	3	0	3	14.9	3	0	12.1	5	83.2
Coast × Lion	6002	1343	3	33.3	3	0	3	0	3	22.6	3	0	11.2	5	77.0
Spartan	5027	1352	3	37.5	3	0	3	0	3	37.8	3	0	15.1	5	103.7
Hannchen	531	20	3	31.3	3	0	3	0	3	16.0	3	0	9.5	5	65.2
Cottonwood:[2]															
Odessa[1]	182	182	3	45.0	3	0	3	0	3	19.8	3	0	13.0	5	100.0
Velvet	4252	1286							3	18.6	3	0		2	93.9
Lion × Manchuria	6001	1340	3	50.0	3	0	3	0	3	21.3	3	0	14.3		110.0
Glabron	4577	1290	3	37.5	3	0	3	0	3	25.3	3	0	12.6	5	96.9
Trebi	936	1298	3	53.8	3	0	3	0	3	19.3	3	0	14.6	5	112.8
Horn	926	1299	3	46.3	3	0	3	0	3	16.5	3	0	12.6	5	96.9
Ace	1853	1173	3	49.2	3	0	3	0	3	23.4	3	0	14.5	5	112.0
White Smyrna × Svanhals	6371	1344	3	48.4	3	0	3	0	3	20.0	3	0	13.7	5	105.6
Binder	1909	1269	3	45.8	3	0	3	0	3	16.5	3	0	12.5	5	96.1
Spartan	5027	1352	3	38.3	3	0	3	0	3	22.4	3	0	12.1	5	93.7
White Gatami	920	889	3	37.9	3	0	3	0	3	21.9	3	0	12.0	5	92.3
White Smyrna	195	28	3	39.6	3	0	3	0	3	14.8	3	0	10.9	5	84.0
Ardmore:[3]															
White Smyrna[1]	195	28	3	18.9										1	100.0
Ace	1853	1173	3	15.5										1	82.0
Vaughn	1367		3	13.2										1	69.8
Coast	690		3	12.9										1	68.3
Trebi	936	1298	3	9.0										1	47.6
Horn	926	1299	3	8.5										1	45.0
Odessa	182	182	3	5.7										1	30.2
Velvet	4252	1286	3	4.5										1	23.8
Glabron	4577	1290	3	10.7										1	56.6
Hannchen	531	20	3	0.0										1	
Newell (irrigated):[4]															
White Smyrna	195	28	3	76.7	3	58.6			3	28.6	3	30.5	48.6	4	101.9
Trebi[1]	936	1298	3	70.7	3	62.1			3	23.8	3	34.1	47.7	4	100.0
Comfort	4578		3	52.1	3	48.9			3	32.6	3	20.9	38.6	4	81.0
Velvet	4252	1286	3	45.8	3				3		3			1	64.8
New Era	5108	1355	3	49.0	3	36.8			3		3			2	64.6
Redfield (X–241)	5675		3	50.2	3	38.5			3		3			2	66.8
Redfield (X–239)	5674		3	49.0	3				3		3			1	69.3
Hannchen	531	20	3	66.7	3	48.9			3	32.2	3	29.5	44.3	4	93.0
Chevalier II	200		3	52.1	3	46.2			3	20.5	3	25.7	36.1	4	75.8
Glabron	4577	1290	3	50.0	3	46.1			3	32.2	3	23.6	38.0	4	79.7
Odessa	182	182	3	53.1	3	49.3			3	39.9	3	26.7	42.3	4	88.6
Lion × Manchuria	6001	1340	3	55.2	3	43.4			3		3			2	74.2
Horn	926	1299	3		3	61.1			3	22.1	3	33.0		3	96.8
Vaughn	1367		3		3	37.1			3	42.3	3	27.1		3	88.8

[1] Standard variety with which the others are compared.
[2] Zero yields at Highmore, Eureka, and Cottonwood in 1933, 1934, and 1936 due to drought.
[3] Tests at Ardmore discontinued after 1932.
[4] Plots were disked out at Newell in 1934 because of poor stands and lack of irrigation water.

TENNESSEE

AGRICULTURAL EXPERIMENT STATION, KNOXVILLE

C. A. MOOERS, *director*

Yields were obtained in only four of the five years, 1932–36, at Knoxville, Tenn. (table 26). The 1932 crop was destroyed by plant lice. Tennessee Winter selection 52 and Union Winter are the highest yielding bearded sorts. The yield of Tennessee Beardless 5 is much lower. The relative ranking of these varieties in respect to yield was the same as in the preceding 5-year tests, 1927–31. The recommended varieties for Tennessee are Tennessee Winter selection 52, Union Winter, and Tennessee Beardless 5; the last named is suggested only when a beardless variety is desired.

Barley should be seeded the latter part of September or early October. A seeding rate of 8 pecks per acre is recommended. Under favorable conditions slightly less seed might be used for Tennessee Winter selection 52 and Union Winter, but not for Tennessee Beardless 5.

TABLE 26.—*Acre yields of varieties of barley grown at the Tennessee Agricultural Experiment Station, Knoxville, in 1 or more of the years 1932–36*

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

Variety	C. I. No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
		1932 [1]		1933		1934		1935		1936				
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
			Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Union Winter	583	---	------	4	29.2	6	24.4	5	35.1	3	19.7	27.1	4	96.1
Tennessee Beardless 5 (Beardless 5)	3384	---	------	4	18.7	6	15.1	5	25.8	3	13.0	18.2	4	64.4
Tennessee Winter selection 52 [2]	3543	---	------	4	29.0	6	25.8	5	39.8	3	18.2	28.2	4	100.0
Six-Rowed Polders	3213	---	------	---	------	---	------	---	------	3	11.3	------	1	62.1
Marnobarb	6120	---	------	---	------	---	------	---	------	3	16.0	------	1	87.9

[1] No yields as crop was destroyed by plant lice.
[2] Standard variety with which others are compared.

TEXAS

P. C. MANGELSDORF, *agronomist, Texas Agricultural Experiment Station, College Station;* P. B. DUNKLE, *superintendent,* and I. M. ATKINS, *assistant agronomist, United States Department of Agriculture, Substation No. 6, Denton*

Yield tests for Texas are reported from Substation No. 6 at Denton (table 27). The experimental work in field plots at this station is with fall-sown varieties, as they have outyielded spring-sown ones. At the Denton substation, varieties of the intermediate or spring type have been developed that apparently possess sufficient winter hardiness to be successful in most years when fall-sown. Bailey, Wintex (Smith selection S–31–62), Smith selection S–31–51, Finley, and Tennessee Winter (C. I. 6128) are varieties of this type.

Of the true winter sorts, Tennessee Winter (C. I. 6125) and Tennessee Winter (C. I. 6126) produced the highest yields. Among the spring sorts with a considerable degree of winter hardiness, the highest yielding one was Smith selection S–31–51.

A number of typical spring varieties were fall-sown in 1932 and 1933, but they failed to survive the winters.

The recommended varieties for northeastern Texas are Finley and strains of Tennessee Winter. For sections farther west, Vaughn is recommended. In the San Antonio section barley should be seeded November to January. In northern Texas barley should be seeded about October 1 to 20, and where spring barley is grown, it should be seeded about February 1. Spring barley is preferred in western Texas and should be sown about February 15. The rate of 2 bushels per acre is suggested for the northern part of the State, but 6 pecks is sufficient for most of the sections to the west.

TABLE 27.—*Acre yields of varieties of barley grown at Texas Substation No. 6, Denton, Tex., in 1 or more of the years 1932–36*

[Data for Denton obtained in cooperation with the Texas Agr cultural Experiment Station, College Station, Tex.]

Variety	C. I. No.	Station No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932 [1]		1933 [1]		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
				Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Tennessee Winter	6125	15825	4	31.3	4	24.9	4	52.7	3	28.2	4	33.8	34.2	5	112.9
Tennessee Winter selection 61 [2]	3545	15826	4	33.5	4	20.6	4	43.9	3	26.1	4	27.3	30.3	5	100.0
Wisconsin Winter	2159	15839	4	29.5	4	24.7	4	43.8	3	23.5	4	30.5	30.4	5	100.4
Finley	5901	12576	4	21.1	4	30.0	4	53.3	3	35.6	4	21.7	32.3	5	106.8
Tennessee Winter	257	15841	4	.0	---	-----	---	-----	---	-----	---	-----	-----	1	-----
Vaughn	1367	15830	4	.0	4	.0	---	-----	---	-----	---	-----	-----	2	-----
Atlas	4118	15840	4	.0	---	-----	---	-----	---	-----	---	-----	-----	1	-----
Stavropol	2103	15828	4	.0	4	.0	---	-----	---	-----	---	-----	-----	2	-----
Club Mariout	261	15842	4	.0	4	.0	---	-----	---	-----	---	-----	-----	2	-----
Coast	690	15829	4	.0	4	.0	---	-----	---	-----	---	-----	-----	2	-----
Tennessee Winter	6126	18561	---	-----	4	22.2	4	48.5	3	27.4	4	33.3	-----	4	111.5
Harlan Hybrid I–31–84	6375	-----	---	-----	---	-----	1	49.2	3	33.5	4	35.5	-----	3	121.5
Smith selection S–31–51	6143	23257	---	-----	---	-----	1	56.5	3	48.4	4	30.0	-----	3	138.6
Bailey	5902	23241	---	-----	---	-----	1	54.1	---	-----	4	29.7	-----	2	117.7
Harlan Hybrid I–31–79	6351	-----	---	-----	---	-----	1	44.5	---	-----	4	35.3	-----	2	112.1
Tennessee Winter	6128	23259	---	-----	---	-----	---	-----	3	40.0	4	23.8	-----	2	119.5
Wintex (Smith selection S–31–62)	6127	23258	---	-----	---	-----	---	-----	---	-----	4	35.4	-----	1	129.7

[1] Zero yields due to winter-killing.
[2] Standard variety with which others are compared.

UTAH

AGRICULTURAL EXPERIMENT STATION, LOGAN

D. C. TINGEY, *associate agronomist*, and R. W. WOODWARD, *assistant agronomist, United States Department of Agriculture*

Barley yields for Utah are reported in table 28. Of the varieties grown for 4 years or more, the highest yielding are Sacramento and Atlas. Velvon, a smooth-awned variety developed at Logan, and Winter Club have outyielded Trebi in a 2-year test. Winter Club

is a winter variety and should be sown late in the fall or very early in the spring.

Outlying nursery tests have been conducted in many counties in Utah since 1931. The results of these tests show Trebi to be the leading variety of those that have been grown for a long period. The most promising sort of those grown for a shorter time is C. I. 5289, a Composite Cross selection.

Trebi is the recommended variety for the irrigated lands of Utah. Earlier tests at the Nephi Substation showed Bulgarian, a winter variety, to be the most satisfactory of many tried.

Spring barley should be seeded in April at the rate of 2 bushels per acre. Winter barley should be sown in September at the rate of 7 pecks per acre.

TABLE 28.—*Acre yields of varieties of barley grown at the Utah Agricultural Experiment Station, Logan, in 1 or more of the years 1932–36*

[Data obtained in cooperation with the Utah Agricultural Experiment Station]

Variety	C. I. No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
		1932		1933		1934		1935		1936				
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
			Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Atlas	4118	3	58.2	3	62.4	3	97.2	3	92.4				4	107.2
Colorado 3192 (Moister × Coast)		3	49.7	3	55.3	3	77.8						3	90.9
Coast	690	3	49.7	3	59.6	3	91.0						3	99.6
Trebi [1]	936	3	59.4	3	50.8	3	91.0	3	88.1	3	88.7	75.6	5	100.0
Colsess	2792	3	42.8										1	72.1
Sacramento	4108	3	70.0	3	49.7	3	112.0	3	88.4				4	110.6
Velvon (Colorado 3063 × Trebi B2–1)	6109							3	95.6	3	92.4		2	106.3
Algerian [2]	1179							3	96.5	3	88.6		2	104.7
Composite Cross selection	5289									3	89.2		1	100.6
Ezond	5064									3	85.3		1	96.2
Winter Club	592							3	97.2	3	94.0		2	108.1
Colorado 3063 (Lion × Coast)	6108							3	82.3				1	93.4
B2–34	6110							3	94.4				1	107.2
Oderbrucker [3]								3	73.0				1	82.9
Club Mariout [3]								3	56.0				1	63.6
B2–3 (Colorado 3063 × Trebi)	6111							3	72.3				1	82.1

[1] Standard variety with which others are compared.
[2] Variety grown as "Algerian" was not true to type and yields cannot be considered as representative of Algerian.
[3] Badly mixed. Obtained from Becker's Products Co.

VIRGINIA

J. W. TAYLOR, *agronomist, United States Department of Agriculture, Arlington Experiment Farm, Arlington,* and P. T. GISH, *superintendent, Augusta County Station, Staunton*

Yields are reported from the Arlington Experiment Farm for only 4 out of 5 years, 1932–36 (table 29). No yields were obtained in 1932 because of severe drought injury. Esaw produced the highest yield and this is in accord with its performance in the previous 5-year period. A selection of Tennessee Winter selection 66 (C. I. 3546) also produced high yields in this and the preceding 5-year period.

Yields are reported from fall-sown tests for 2 years at the Augusta County Station near Staunton, where tests were conducted primarily to determine the relative value of spring and fall seeding and of bearded and hooded varieties. Spring-seeded barley is not a successful crop and the bearded types are more productive than hooded types.

The varieties generally recommended for Virginia are Wisconsin Winter and Tennessee Winter. Barley should be seeded September 15 to 30 at the rate of 2 bushels per acre.

TABLE 29.—*Acre yields of varieties of barley grown at the Arlington Experiment Farm, Arlington, and at the Augusta County Station, Staunton, Va., in 1 or more of the years 1932–36*

Station and variety	C. I. No.	Number of plots and acre yield											Number of years grown and yield in comparison with standard variety for comparable years	
		1932 [1]		1933		1934		1935		1936		Average yield, 1932–36 [1]		
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
			Bu.		Bu.		Bu.		Bu.		Bu.	Bu.		Pct.
Arlington Experiment Farm:														
Gaddis	6003			1	13.8	4	20.9	1	35.8	2	42.8	28.3	4	69.8
Esaw	4690			1	16.3	4	50.6	2	64.5	2	52.8	46.1	4	113.4
Wisconsin Winter [2]	2159			5	21.3	13	36.2	8	58.1	14	46.8	40.6	4	100.0
Tennessee Winter	257			1	22.5	4	39.5	2	63.2	2	42.8	42.0	4	103.4
Alaska	4106			1	12.2	4	38.5	2	56.5	2	38.3	36.4	4	89.6
Orel	351			1	23.8	4	29.7	2	68.6	2	41.1	40.8	4	100.5
Mechanical Mixture	4115			1	17.5	4	42.8	2	64.7	2	43.5	42.1	4	103.8
Composite Cross	4116			1	10.0	4	43.2	2	67.3	2	45.3	41.5	4	102.1
Do	5530			1	12.2	4	37.8	2	71.3	2	43.8	41.3	4	101.7
Tennessee Winter selection 12	3534			1	9.2	4	37.7	2	62.4	2	40.4	37.4	4	92.2
Tennessee Winter selection 66	3546			1	17.5	4	47.0	2	67.1	2	43.3	43.7	4	107.7
Tennessee Beardless 6	2746			1	5.0	4	20.0	2	36.7	2	41.3	25.8	4	63.4
Hooded (North Carolina)	5951			1	3.0								1	14.1
Tennessee Winter (Johnson)	6034			1	21.5	4	16.2	2	75.3	2	36.4	37.4	4	92.0
Han River	2163					4	44.5	2	64.4	2	41.6		3	106.7
Smooth Awn 203	6267							2	41.7	2	44.3		2	82.0
Smooth Awn 86	6268							2	37.7	2	47.5		2	81.2
Kentucky Smooth Awn No. 11	6021							1	56.7	2	38.5		2	90.8
Hooded 6	6270							1	27.5	2	42.1		2	66.3
Smooth Awn	6271							1	48.3	2	45.4		2	89.3
Nakano Wase 33	6269							1	54.3	2	39.3		2	89.2
Nakano Wase 68	6272							1	53.5	2	53.4		2	101.9
Wood Hooded	6235							1	43.2	2	43.2		2	82.4
Smooth Awn 205										2	40.7		1	87.0
Augusta County Station:														
Hooded		1	22.0	1	13.3								2	62.0
Tennessee Winter [2]	257	1	33.3	1	23.6								2	100.0
Tennessee Beardless 6	2746	1	25.0	1	15.5								2	71.2

[1] Stand irregularities due to drought in 1932 made varietal comparison of no value at Arlington, and data for this year at this station are not included in the average.
[2] Standard variety with which others are compared.

WASHINGTON

E. G. SCHAFER, *head, department of agronomy*, and O. E. BARBEE, *assistant in farm crops, Agricultural Experiment Station, Pullman;* and H. D. JACQUOT, *superintendent, Adams Branch Experiment Station, Lind*

Barley yields for Washington are reported from Pullman, Lind, and Prosser (table 30). At Prosser only one variety was grown. No tests were conducted at Lind in 1934.

Of the spring varieties at Pullman, Rufflyn (C. I. 6374) has produced the highest yield. Other varieties with high yields are Beldi Giant, Blue, and Trebi. Hannchen, a two-rowed sort, gave high yields in a 2-year test. Varieties of the Manchuria-Oderbrucker type yielded relatively less than the adapted sorts. Beldi Giant, Trebi, and Blue are satisfactory varieties for conditions similar to those at Pullman. Winter Club is recommended as a winter variety. It was the highest yielding sort in the test.

Under the conditions of limited rainfall at Lind, Beldi Giant and Flynn are probably the best when long-time averages are considered. The yield of Meloy is satisfactory, considering the fact that it is a hooded variety grown under dry conditions.

TABLE 30.—*Acre yields of varieties of barley grown at the Washington Agricultural Experiment Station, Pullman; at the Adams Branch Experiment Station, Lind; and at the Irrigation Branch Station, Prosser, in 1 or more of the years 1932–36*

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

Station and variety	C. I. No.	Station No.	Number of plots and acre yield												Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936		Average yield, 1932–36			
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			Years	Yield
Pullman:																
Spring-sown				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.			Pct.
Beldi Giant	2777	967	4	53.8	4	54.7	4	53.2	4	61.6	4	83.5	61.4		5	105.9
Blue	1247	973	4	54.5	4	55.6	4	52.7	4	64.5	4	76.0	60.7		5	104.7
Colsess	2792	2410	4	40.0											1	80.2
Composite Cross	5461	3212	4	34.3	4	55.2	4	55.5	4	54.8	4	74.8	54.9		5	94.8
Horsford	1775	873	4	46.3	4	43.9	4	33.6	4	48.6	4	72.4	49.0		5	84.5
Mechanical Mixture	4115	2486	4	41.8	4	47.0	4	41.8	4	53.2	4	72.5	51.3		5	88.4
Trebi [1]	936	1176	4	49.9	4	53.0	4	50.9	4	58.3	4	77.7	58.0		5	100.0
Eureka	1250	958	4	29.1											1	58.3
Rufflyn	6374	2356			4	59.9	4	50.8	4	61.5	4	89.4			4	109.0
Wisconsin Barbless (Pedigree 38)	5105	2875			4	31.8	4	39.0	4	41.3	4	68.5			4	75.3
Winter Club	592	957					4	49.2	4	58.5	4	74.4			3	97.4
Velvet	4252	3135							4	48.3	4	58.1			2	78.2
O. A. C. 21 [2]	1470	3138							4	45.6	4	60.0			2	77.6
Hanna	203	3134							4	64.5	4	65.2			2	95.4
Hannchen (Sask. 229)	4841	2911							4	67.6	4	76.2			2	105.7
Fall-sown																
Winter Club	592	957	4	40.0	4	42.6	4	44.1	4	69.4	4	67.1	52.6		5	90.8
Wisconsin Winter	1894	971	4	37.5	4	35.8	4	43.3	4	64.4	4	46.6	45.5		5	78.5
Olympia	6107	2799									4	55.0			1	70.8
Lind: [3]																
Meloy selection 3 [1]	4656	2872	3	10.7	3	21.7			3	10.6	3	23.3	16.6		4	100.0
Beldi Giant	2777	967	3	10.9	3	18.7									2	91.4
Flynn	1311	2356	3	12.8											1	119.6
Coast	1249	970	3	12.0	3	17.8									2	92.0
Wisconsin Barbless (Pedigree 38)	5105	2875			3	23.3									1	107.4
Unnamed		2704			3	17.1									1	78.8
Do		2705			3	18.7									1	86.2
Hannchen	4841	2911									3	18.7			1	80.3
Prosser:																
Blue [1]	1247	973	2	37.9	2	61.1	2	41.3	2	52.4	2	65.4	51.6		5	100.0

[1] Standard variety with which others are compared.
[2] Not typical of the variety.
[3] No barley tests conducted in 1934.

Barley should be sown as early in the spring as conditions will permit. On the drier lands of the Big Bend country, sowing should be done in March or early April. In the better-watered parts of the Palouse, April is the most satisfactory time for seeding spring barley, and winter barley, in the more favorable areas, should usually be sown during the earlier part of September. Rates vary from 5 pecks in the drier soils to 8 pecks in the best of the Palouse.

WEST VIRGINIA

AGRICULTURAL EXPERIMENT STATION, MORGANTOWN

J. A. RIGNEY, *assistant in agronomy*

Yields of barley in West Virginia are reported from Morgantown and Point Pleasant (table 31). At both places spring-sown and fall-sown varieties were tested. In years when both spring-sown and fall-sown varieties were grown, more barley was obtained from fall seeding.

TABLE 31.—*Acre yields of varieties of barley grown at the West Virginia Agricultural Experiment Station, Morgantown, and at the Lakin Experiment Farm, Point Pleasant post office, Lakin, in 1 or more of the years 1932–36*

[Data obtained through the courtesy of the West Virginia Agricultural Experiment Station]

Station and variety	C. I. No.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years	
		1932		1933		1934		1935		1936		Average yield, 1932–36	
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Morgantown:														
Spring-sown			*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*	5	*Pct.*
Chevalier	278	4	33.3	4	12.1	4	10.1	4	41.6	4	11.5	21.7	5	89.0
Manchuria	244	4	27.7	4	23.3	4	10.7	4	41.8	4	10.6	22.8	5	93.5
Alpha [1]	959	4	23.6	4	25.2	4	13.8	4	47.2	4	12.2	24.4	5	100.0
Featherston	1120	4	18.1	4	23.4	4	10.4	4	40.3	4	10.0	20.4	5	83.8
Oderbrucker	1174	4	12.4	4	18.0	4	8.7	4	43.3	4	11.9	18.9	5	77.3
Wisconsin Pedigree	835	4	13.6	4	13.3	4	9.5	4	43.4	4	12.6	18.5	5	75.7
Unnamed (Wisconsin Pedigree 37)	5028	4	28.0	4	16.5	4	7.5	4	46.6	4	10.2	21.8	4	89.2
Velvet	4252	---	------	4	21.5	4	11.8	4	48.0	4	10.6	------	4	93.4
Wisconsin Barbless (Pedigree 38)	5105	---	------	4	13.3	4	8.5	4	42.6	4	11.4	------		77.0
Fall-sown														
North Carolina Hooded	5951	---	------	---	------	---	------	4	43.8	4	34.7	------	2	99.5
Alaska	4106	---	------	---	------	---	------	4	54.7	4	32.5	------	2	110.5
Tennessee Winter selection 52	3543	---	------	---	------	---	------	4	40.6	4	37.3	------	2	98.7
Tennessee Winter [1]	257	---	------	---	------	---	------	4	44.0	4	34.9	------	2	100.0
Tennessee Beardless 5	3384	---	------	---	------	---	------	4	26.3	4	30.4	------	2	71.9
Han River	2163	---	------	---	------	---	------	4	42.0	4	33.5	------	2	95.7
Union Winter	583	---	------	---	------	---	------	4	48.4	4	33.0	------	2	103.2
Tuckwiller		---	------	---	------	---	------	4	42.7	4	36.5	------	2	100.4
Kentucky No. 1	6050	---	------	---	------	---	------	4	54.5	4	40.6	------	2	120.5
Kentucky No. 2	6148	---	------	---	------	---	------	4	43.9	4	34.5	------	2	99.4
Esaw	4690	---	------	---	------	---	------	4	51.5	4	32.9	------	2	107.0
Folk		---	------	---	------	---	------	4	47.8	4	36.8	------	2	107.2
Pidor	901	---	------	---	------	---	------	4	44.7	4	38.0	------	2	104.8
Scottish Pearl	277	---	------	---	------	---	------	4	48.0	4	45.7	------	2	118.8
Tennessee Beardless 6	2746	---	------	---	------	---	------	4	31.5	4	31.3	------	2	79.6
Kentucky Smooth Awned No. 11	6021	---	------	---	------	---	------	4	50.8	4	34.6	------	2	108.2
Orel	351	---	------	---	------	---	------	4	32.8	4	28.1	------	2	77.2
Wisconsin Winter	2159	---	------	---	------	---	------	4	34.4	4	37.0	------	2	90.5

[1] Standard variety with which others are compared.

TABLE 31.—*Acre yields of varieties of barley grown at the West Virginia Agricultural Experiment Station, Morgantown, and at the Lakin Experiment Farm, Point Pleasant post office, Lakin, in 1 or more of the years 1932–36*—Continued

Station and variety	C. I. No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
		1932		1933		1934		1935		1936				
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Year	Yield
Point Pleasant:														
Spring-sown			*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Manchuria	244	---	------	4	16.6	4	12.7	4	12.3	4	13.9	------	4	83.5
Alpha [1]	959	---	------	4	20.0	4	13.0	4	16.9	4	16.6	------	4	100.0
Unnamed (Wisconsin Pedigree 37)	5028	---	------	4	3.9	4	6.0	4	6.6	4	5.5	------	4	33.1
Fall-sown [2]														
North Carolina Hooded	5951	---	------	---	------	4	40.2	4	21.4	---	------	------	2	70.6
Alaska	4106	---	------	---	------	4	62.5	4	27.7	---	------	------	2	103.4
Tennessee Winter selection 52	3543	---	------	---	------	4	58.0	4	32.3	---	------	------	2	103.6
Tennessee Winter [1]	257	---	------	---	------	4	55.6	4	31.6	---	------	------	2	100.0
Tennessee Beardless 5	3384	---	------	---	------	4	43.3	4	12.7	---	------	------	2	64.2
Han River	2163	---	------	---	------	4	54.8	4	31.3	---	------	------	2	98.7
Union Winter	583	---	------	---	------	4	47.2	4	36.8	---	------	------	2	96.3
Tuckwiller [3]	----	---	------	---	------	4	54.0	4	38.9	---	------	------	2	92.9
Kentucky No. 1	6050	---	------	---	------	4	51.9	4	33.9	---	------	------	2	98.4
Kentucky No. 2	6148	---	------	---	------	4	57.4	4	40.6	---	------	------	2	112.4
Esaw	4690	---	------	---	------	4	40.2	4	34.1	---	------	------	2	85.2
Folk [3]	----	---	------	---	------	---	------	4	38.5	---	------	------	1	121.8
Pidor	901	---	------	---	------	4	63.2	4	36.8	---	------	------	2	114.7
Scottish Pearl	277	---	------	---	------	4	68.5	4	31.7	---	------	------	2	114.9
Tennessee Beardless 6	2746	---	------	---	------	4	41.9	4	18.2	---	------	------	2	68.9
Kentucky Smooth Awn No. 11	6021	---	------	---	------	4	35.7	4	29.6	---	------	------	2	74.9
Orel	351	---	------	---	------	4	20.2	4	33.5	---	------	------	2	61.6
Wisconsin Winter	2159	---	------	---	------	4	41.9	4	34.1	---	------	------	2	87.2

[1] Standard variety with which others are compared.
[2] No yields are reported for 1936 at Point Pleasant, as floods destroyed the fall-sown crop.
[3] Variety obtained from local grower.

At both stations Alpha was the highest yielding variety in the spring-seeded tests. It is a two-rowed sort and probably the best one to use. Manchuria and Velvet yielded somewhat less than Alpha in the tests at Morgantown.

The fall-seeded tests give data for only 2 years at each station. Promising varieties at Morgantown are Kentucky No. 1, Scottish Pearl, and Alaska; and at Point Pleasant, Scottish Pearl, Pidor, and Kentucky No. 2. Folk, a variety obtained from a local grower, showed promise in one year at Point Pleasant and was among the better ones at Morgantown.

Spring barley should be seeded in April at the rate of 6 pecks per acre; winter barley, from August 25 to September 5, at the rate of 8 pecks per acre.

WISCONSIN

B. D. LEITH, *professor of agronomy, Agricultural Experiment Station, Madison,* and E. J. DELWICHE, *professor of agronomy, branch stations at Ashland, Marshfield, and Sturgeon Bay*

Yield tests with barley in Wisconsin are reported from four stations (table 32). The yields from Madison and Sturgeon Bay are for the years 1932–36, and for Ashland and Marshfield they are for the years 1930–36.

TABLE 32.—*Acre yields of varieties of barley grown at the Wisconsin Agricultural Experiment Station, Madison, and at the branch stations at Ashland, Marshfield, and Sturgeon Bay, in 1 or more of the years 1930–36*

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

Station and variety	C. I. No.	Station No.	Number of plots and acre yield														Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1930 [1]		1931 [1]		1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
				Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Madison: [2]																			
Wisconsin Barbless (Pedigree 38). [3]	5105	Wisconsin Pedigree 38					1	55.5	1	29.0	1	16.4	1	48.6	4	18.9	33.7	5	100.0
Alpha	959						1	44.1										1	79.5
Glabron	4577						1	41.7							4	20.6		2	83.7
Trebi	936						1	41.0	1	19.9	1	11.3	3	46.8	4	19.0	27.6	5	81.9
Velvet	4252						1	38.7			3	16.9	3	47.3	4	15.0		4	84.6
Oderbrucker	4666	Wisconsin Pedigree 5–1					1	34.9	1	25.1	1	14.0	1	38.8	4	16.1	25.8	5	76.5
Spartan	5027						1	32.8										1	59.1
Manchurian	6492	122–3							1	43.4	1	14.6	1	43.2	4	16.3		4	104.1
Newal	6088														4	22.2		1	117.5
Peatland	5267												1	24.4	4	16.4		2	60.4
Ashland: [4]																			
Unnamed	5028	Wisconsin Pedigree 37	2	34.8														1	91.6
Velvet	4252		2	21.9														1	57.6
Wisconsin Barbless (Pedigree 38). [3]	5105	Wisconsin Pedigree 38	2	38.0	2	18.7	2	40.0	2	27.7	2	21.7	2	15.5	2	1.7	[5] 23.3	7	100.0
Glabron	4577		2	29.4	2	12.3	2	39.7										3	84.2
Oderbrucker	4666	Wisconsin Pedigree 5–1	2	21.3	2	14.2	2	38.5										3	76.5
Newal	6088												2	8.8	2	3.4		2	70.9
Peatland	5267														2	3.5		1	205.9
Marshfield: [4]																			
Unnamed	5028	Wisconsin Pedigree 37			2	28.3	2	30.8										2	87.6
Wisconsin Barbless (Pedigree 38). [3]	5105	Wisconsin Pedigree 38	2	80.8	2	34.2	2	33.3	2	37.7	2	51.2	2	14.2	2	1.6	[5] 36.1	7	100.0
Velvet	4252		2	64.2	2	25.4	2	27.5	2	29.8	2	41.9	2	21.0	2	2.9	[5] 30.4	7	84.1
Oderbrucker	4666	Wisconsin Pedigree 5–1	2	51.0	2	29.2	2	25.8	2	25.0	2	39.9	2	23.1	2	3.0	[5] 28.1	7	77.9
Newal	6088												1	6.8	2	3.6		2	65.8

Sturgeon Bay:																				
Wisconsin Barbless (Pedigree 38).[3]	5105	Wisconsin Pedigree 38					2	16.6	2	20.6	2	44.0	2	42.4	2	9.5	26.6	5	100.0
Velvet	4252						2	15.5	2	19.8								2	94.9
Oderbrucker	4666	Wisconsin Pedigree 5–1					2	14.5	2	15.4								2	80.4
Newal	6088												2	40.7	2	10.1		2	97.9

[1] Data for Madison for 1930 and 1931 published in U. S. Dept. Agr. Tech. Bul. 446.

[2] Where single plots were used at Madison alternate checks were distributed through the field and the yields were corrected to the behavior of the checks. Plots were ½₀-acre. In 1936 4 replications of ½₀-acre plots were used.

[3] Standard variety with which others are compared.

[4] Data for 1930 and 1931 are included for Ashland and Marshfield stations in order to complete the published record of tests in Wisconsin. These data were omitted in U. S. Dept. Agr. Tech. Bul. 446.

[5] 7-year average.

An average of all stations shows that Wisconsin Barbless (Pedigree 38) is the highest yielding variety. It is smooth-awned, resistant to stripe, and has produced high yields in other States. At Madison, Manchurian (Wisconsin 122–3) showed promise in a 4-year test, and Newal was high in the one year it was grown.

Wisconsin Barbless (Pedigree 38), Oderbrucker, and Velvet are the recommended varieties for Wisconsin. They also are suitable varieties where barley is grown for the malting market. The acreage of the smooth-awned varieties has increased in recent years. Such varieties are popular with the farmer because of comfort in handling and increased value of the straw.

Barley is usually sown after corn and oats. The seeding time varies from April 1 to May 7, but the average is about the third week in April. The recommended rate is 1½ bushels per acre for Wisconsin Barbless (Pedigree 38) and 2 bushels per acre for Oderbrucker.

WYOMING

GLENN HARTMAN, *associate agronomist, Agricultural Experiment Station, Laramie;* A. L. NELSON, *associate agronomist, United States Department of Agriculture, superintendent, Archer Field Station, Archer;* and R. S. TOWLE, *associate agronomist, United States Department of Agriculture, superintendent, United States Dry Land Field Station, Sheridan*

Varietal yield tests are reported from three stations in Wyoming and are recorded in table 33. Trebi and Coast are the leading varieties at Sheridan. These varieties were also the highest yielding in previous summaries. At Archer, during a 3-year test, Horn and White Smyrna are the highest in yield. Under the irrigated conditions at Laramie, Odessa, Charlottetown 80, and Horn were the best yielders. Trebi and Horn are the two varieties most commonly grown in the State and are recommended where barley is grown. Where straw is an important factor, Horn, Spartan, and Vaughn are satisfactory varieties. On dry land, 5 pecks per acre, and, under irrigation, 8 pecks is usually a satisfactory rate of seeding. The best time to seed is from April 1 to May 1.

TABLE 33.—*Acre yields of varieties of barley grown at the Wyoming Agricultural Experiment Station, Laramie; at the Archer Field Station, Archer; and at the United States Dry Land Field Station, Sheridan, in 1 or more of the years 1932–36*

[Data for Laramie obtained through the courtesy of the Wyoming Agricultural Experiment Station; for Archer and Sheridan through the courtesy of the Division of Dry Land Agriculture, in cooperation with the station]

Station and variety	C. I. No	Number of plots and acre yield										Average yield, 1932-36	Number of years grown and yield in comparison with standard variety for comparable years	
		1932		1933		1934		1935		1936				
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
			Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Laramie (irrigated):														
Trebi [1]	936	---	72.1	---	31.9	---	29.6	---	85.1	---	126.1	69.0	5	100.0
O. A. C. 21	1470	1	76.7	1	54.5	1	20.7	1	79.6	1	93.4	65.0	5	94.2
Charlottetown 80	2732	1	96.3	1	28.0	1	33.4	1	84.3	1	130.6	74.5	5	108.1
White Smyrna	658	1	90.0	1	25.8	1	30.9	1	75.5	1	127.1	69.9	5	101.3
Hannchen	531	1	64.7	1	35.4	1	27.1	1	72.4	1	99.0	59.7	5	86.6
Coast	690	1	62.4	1	27.0	1	23.9	1	96.2	1	133.4	68.6	5	99.4
Odessa	182	1	92.4	1	66.5	1	30.7	1	85.9	1	139.6	83.0	5	120.4
Nepal	595	1	73.6	1	54.7	1	10.0	1	58.6	---	------	------	4	90.0
Beldi Giant	2777	1	69.5	---	------	1	11.8	1	89.9	1	142.6	------	4	100.3
Colsess	2792	1	73.3	---	------	---	------	1	76.2	---	------	------	2	95.1
Horn	926	1	91.1	1	40.9	1	34.0	1	77.0	1	118.4	72.3	5	104.8
Manchuria	-----	---	------	---	------	---	------	1	82.8	---	------	------	1	97.3
Spartan	5027	---	------	---	------	---	------	1	77.4	1	92.9	------	2	80.6
Vaughn	1367	---	------	---	------	---	------	1	68.0	1	100.4	------	2	79.7
Comfort	4578	---	------	---	------	---	------	1	67.8	1	109.1	------	2	83.8
Glabron	4577	---	------	---	------	---	------	1	70.8	1	103.1	------	2	82.3
Flynn	1311	---	------	---	------	---	------	1	81.9	---	------	------	1	96.2
Archer:														
White Smyrna	910	4	18.7	4	3.7	4	12.5	---	------	---	------	------	3	96.7
Vaughn	1367	4	17.8	4	3.0	4	9.9	---	------	---	------	------	3	85.0
Coast	690	4	18.2	4	2.2	4	12.2	---	------	---	------	------	3	90.3
Himalaya	620	4	10.3	4	1.8	4	9.2	---	------	---	------	------	3	59.0
Trebi	936	4	12.2	4	4.1	---	------	---	------	---	------	------	2	67.4
Meloy	1176	4	19.4	2	[2] 1.2	4	11.5	---	------	---	------	------	3	88.9
Selection 8–1	-----	4	13.4	4	2.3	---	------	---	------	---	------	------	2	64.9
Selection 5	-----	4	16.4	4	3.3	4	9.2	---	------	---	------	------	3	80.1
Selection 8–3	-----	4	12.6	4	2.2	---	------	---	------	---	------	------	2	61.2
Selection 8–2	-----	4	16.4	4	2.6	4	9.4	---	------	---	------	------	3	78.7
Hannchen	531	4	16.3	4	3.0	---	------	---	------	---	------	------	2	79.8
Horn [1]	926	4	20.1	4	4.1	4	11.9	---	------	---	------	------	3	100.0
Selection 9–1	-----	4	17.6	4	2.2	4	9.0	---	------	---	------	------	3	79.8
Vance (Smyrna)	4585	---	------	---	------	4	13.9	---	------	---	------	------	1	116.8
Club Mariout	261	---	------	---	------	4	12.2	---	------	---	------	------	1	102.5
Flynn	1311	---	------	---	------	4	11.8	---	------	---	------	------	1	99.2
Sheridan: [3]														
Trebi [1]	936	3	53.1	3	34.0	3	46.2	3	37.4	6	1.1	34.4	5	100.0
Coast	690	3	54.6	3	24.1	3	35.9	3	41.3	3	1.9	31.6	5	91.9
Vaughn	1367	3	51.2	3	10.3	3	42.8	3	38.6	3	3.1	29.2	5	85.0
Glabron	4577	3	43.9	3	32.1	3	35.9	3	34.0	3	0	29.2	5	84.9
Horn	926	3	(4)	3	(4)	3	39.7	3	32.8	6	0	------	3	85.6
Spartan	5027	3	50.4	3	31.3	3	34.8	3	35.9	6	5.4	31.6	5	91.9
Meloy	1176	3	52.0	3	11.1	---	------	3	(4)	3	0	------	3	71.5
Flynn	1311	3	45.8	3	13.8	---	------	---	------	---	------	------	2	68.4
Nepal	595	3	------	---	------	---	------	3	24.8	3	0	------	2	64.4
Velvet	4252	---	------	---	------	---	------	3	26.7	3	0	------	2	69.4

[1] Standard variety with which others are compared.
[2] 2 of the 4 plots were destroyed by rabbits.
[3] Varieties with zero yields in 1936 were completely destroyed by grasshoppers, most plots as if mowed close. Spartan suffered the least damage from the grasshoppers, very few heads of this variety being cut off at all.
[4] Variety mixed. Yield not used.

ALBERTA

EXPERIMENTAL STATION, LETHBRIDGE

W. H. FAIRFIELD, *superintendent*

Varieties are tested at Lethbridge under irrigated conditions. In table 34 will be found the results. Of the varieties tested for the 5-year period 1932–36, Trebi was found to be the highest yielding with Hannchen a close second. From the 3-year results, Nobarb, a smooth-awned variety, has given the highest yield, followed closely by Brandon 1099, another smooth-awned variety, and Sanalta, a two-rowed Thorpe type smooth-awned barley. Trebi and Hannchen are recommended for this section of Alberta and should be seeded in April or early May at the rate of 8 pecks per acre.

EXPERIMENTAL STATION, LACOMBE

F. H. REED, *superintendent*

During the period 1932 to 1936 a number of varieties were tested at Lacombe (table 34). No yields are recorded for the year 1936 as the plots were too badly damaged by hail to be reliable. During the 4 years of the test Trebi was the highest yielding sort, followed by Victory, a two-rowed variety. Considering only the two years' results, Sanalta, a two-rowed smooth-awned variety, was the highest in yield, followed by Trebi, with Victory in third place. Trebi, as a feed barley, and O. A. C. 21, as a malting barley, are recommended for this section of Alberta and should be seeded in early May at the rate of 8 pecks per acre.

EXPERIMENTAL STATION, BEAVERLODGE

W. D. ALBRIGHT, *superintendent*

During the 5 years of the tests Trebi barley was the highest yielding variety at Beaverlodge, followed by Colsess. From the 3-year results it was found that Trebi was still the highest yielding variety, followed by Newal, a smooth-awned barley. Olli barley is recommended for this part of Alberta owing to its earliness and good malting qualities. O. A. C. 21 is recommended also as a malting barley, and Newal is recommended as a feed barley. They should be seeded reasonably early in the spring, preferably early in May. The recommended rate of seeding is from 7 to 8 pecks per acre.

EXPERIMENTAL STATION, FORT VERMILION

ALBERT LAWRENCE, *officer in charge*

Eight varieties of barley were tested at Fort Vermilion for the years 1932 to 1936. Of the varieties grown for the entire 5-year period, Olli was the highest yielding sort followed closely by Hannchen, and, for the period 1934 to 1936, Trebi and Olli were the highest yielding sorts, followed by Regal. Olli is an early six-rowed variety and is recommended for this district. Barley should be seeded early in May at the rate of 1½ to 2 bushels per acre.

UNIVERSITY OF ALBERTA, EDMONTON

K. W. NEATBY, *Department of Field Crops*

During the period 1932 to 1936, Trebi was the highest yielding variety in the tests conducted at the University of Alberta (table 34). However, for the 10-year period (1927–36) the yield of Newal, which was designated 265 × O. A. C. 21 in Technical Bulletin 446, exceeded that of Trebi. In the Edmonton district, Newal and Trebi are recommended for feed purposes and O. A. C. 21 is recommended for malting, although it is probable that Olli, a recent introduction, may find a place.

TABLE 34.—*Acre yields of varieties of barley grown at the experimental stations at Lethbridge, Lacombe, Beaverlodge, and Fort Vermilion, Alberta, and at the University of Alberta, Edmonton, in 1 or more of the years 1932–36*

Data for the first 4 stations were obtained through the courtesy of the Dominion Experimental Farms and for Edmonton through the courtesy of the University of Alberta]

Station and variety	C. I. No.	Canadian accession No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936 [1]				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Lethbridge:				*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Hannchen	531	1109	4	79.5	4	78.1	4	72.9	4	95.5	4	99.8	85.2	5	110.8
O. A. C. 21 [2]	1470	1086	4	59.7	4	82.2	4	88.7	4	77.1	4	76.5	76.8	5	100.0
Trebi	936	1115	4	84.4	4	86.3	4	71.8	4	91.9	4	104.6	87.8	5	114.3
Velvet	4252	755	4	56.6	4	73.4	4	63.8	4	98.6	4	84.0	75.3	5	98.0
Regal	5030	742	4	66.4	4	59.6	4	65.4	4	97.4	4	102.7	78.3	5	101.9
Sans Barb 2	6339	1074	---	-----	4	84.0	4	81.7	4	92.3	4	83.0	-----	4	105.1
Wisconsin Barbless (Pedigree 38)	5105	1101	---	-----	4	62.9	4	72.8	4	90.6	4	92.2	-----	4	98.2
Brandon 1099	6093	1106	---	-----	---	-----	4	86.3	4	85.1	4	116.6	-----	3	118.9
Nobarb	6335	1022	---	-----	---	-----	4	88.7	4	93.5	4	112.2	-----	3	121.5
Newal	6088	1089	---	-----	---	-----	4	79.0	4	94.0	4	90.0	-----	3	108.5
Olli	6251	739	---	-----	---	-----	4	62.2	4	84.4	4	86.4	-----	3	96.2
Ottawa E. 25	6340	1105	---	-----	---	-----	4	66.8	4	76.3	4	76.6	-----	3	90.7
Peatland	5267	1112	---	-----	---	-----	4	51.1	4	64.1	4	51.1	-----	3	68.6
Sanalta	6087	1088	---	-----	---	-----	4	84.5	4	98.5	4	102.6	-----	3	117.9
Victory	5077	868	---	-----	---	-----	---	-----	4	103.6	4	114.7	-----	2	142.1
Lacombe: [1]															
Hannchen	531	1109	4	87.9	4	86.2	4	56.5	4	50.6	---	-----	70.3	4	102.4
O. A. C. 21 [2]	1470	1086	4	103.8	4	78.3	4	39.5	4	53.0	---	-----	68.7	4	100.0
Velvet	4252	755	4	94.5	4	68.4	4	31.0	4	35.9	---	-----	57.5	4	83.7
Trebi	936	1115	4	117.8	4	94.9	4	55.1	4	68.8	---	-----	84.2	4	122.6
Regal	5030	742	4	103.8	4	78.3	4	43.0	4	30.4	---	-----	63.9	4	93.0
Victory	5077	868	4	105.8	4	95.7	4	48.0	4	70.4	---	-----	80.0	4	116.5
Nobarb	6335	1022	---	-----	---	-----	4	51.6	4	35.4	---	-----	-----	2	94.1
Sanalta	6087	1088	---	-----	---	-----	4	58.4	4	67.0	---	-----	-----	2	135.6
Brandon 1099	6093	1106	---	-----	---	-----	4	43.2	4	42.7	---	-----	-----	2	92.9
Peatland	5267	1112	---	-----	---	-----	4	32.1	4	45.5	---	-----	-----	2	83.9
Olli	6251	739	---	-----	---	-----	4	30.3	4	65.5	---	-----	-----	2	103.6
Ottawa E. 25	6340	1105	---	-----	---	-----	4	35.9	4	77.7	---	-----	-----	2	122.8
Wisconsin Barbless (Pedigree 38)	5105	1101	---	-----	---	-----	4	41.3	4	48.8	---	-----	-----	2	97.4
Sans Barb 2	6339	1074	---	-----	---	-----	4	35.4	4	68.4	---	-----	-----	2	112.2
Newal	6088	1089	---	-----	---	-----	4	45.0	4	56.2	---	-----	-----	2	109.4
Comfort	4578	1107	---	-----	---	-----	4	30.6	4	36.0	---	-----	-----	2	72.0
Glabron	4577	1093	---	-----	---	-----	4	34.4	4	33.1	---	-----	-----	2	73.0
Beaverlodge:															
Hannchen (Sask. 229)	4841	837	8	50.9	8	46.5	4	87.9	8	30.3	8	70.0	57.1	5	111.6
O. A. C. 21 [2]	1470	734	8	28.0	8	48.6	4	65.9	8	43.0	8	70.3	51.2	5	100.0
Regal	5030	742	8	37.0	8	57.2	4	72.5	8	43.0	8	75.1	57.0	5	111.3
Trebi	936	753	8	41.1	8	59.8	4	100.9	8	57.9	8	77.6	67.5	5	131.9
Velvet	4252	755	8	20.7	8	42.7	4	61.9	8	29.7	8	60.4	43.1	5	84.2

[1] No yields recorded at Lacombe in 1936, as plots were hailed out.
[2] Standard variety with which others are compared.

TABLE 34.—*Acre yields of varieties of barley grown at the experimental stations at Lethbridge, Lacombe, Beaverlodge, and Fort Vermilion, Alberta, and at the University of Alberta, Edmonton, in 1 or more of the years 1932–36*—Continued

Station and variety	C. I. No.	Canadian accession No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
				Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Beaverlodge—Continued.															
Canadian Thorpe	740	816	8	27.3	8	45.0	4	79.5	8	27.1	8	57.8	47.3	5	92.5
Colsess	2792	772	8	41.0	8	64.6	4	78.0	8	54.4	8	64.3	60.5	5	118.2
Eureka	1250	773	8	32.0	8	52.3	4	67.7	8	18.8	8	52.4	44.6	5	87.3
Brandon 1099	6093	1106	---	-----	---	-----	4	75.3	8	41.4	8	75.6	-----	3	107.3
Newal	6088	1089	---	-----	---	-----	4	81.1	8	52.0	8	72.6	-----	3	114.8
Nobarb	6335	1022	---	-----	---	-----	4	78.5	8	28.3	8	71.7	-----	3	99.6
Olli	6251	739	---	-----	---	-----	4	75.1	8	40.8	8	49.3	-----	3	92.2
Ottawa E. 25	6340	1105	---	-----	---	-----	4	19.9	8	33.0	8	63.5	-----	3	65.0
Peatland	5267	1112	---	-----	---	-----	4	69.5	8	31.4	8	51.8	-----	3	85.2
Sanalta	6087	1088	---	-----	---	-----	4	73.6	8	33.2	8	67.1	-----	3	97.0
Sans Barb 2	6339	1074	---	-----	---	-----	4	65.1	8	48.7	8	66.1	-----	3	100.4
Washington 4724	6341	1103	---	-----	---	-----	4	68.9	8	37.7	8	60.9	-----	3	93.5
Wisconsin Barbless (Pedigree 38)	5105	1101	---	-----	---	-----	4	59.1	8	36.7	8	67.1	-----	3	90.9
Fort Vermilion: [3]															
Albert	4852	701	2	50.0	2	72.5	4	82.6	4	62.7	4	28.9	59.3	5	111.1
Eureka	1250	773	2	57.5	2	62.5	4	49.2	4	36.3	4	18.5	44.8	5	83.9
Hannchen	531	1109	2	84.9	2	61.5	4	67.7	4	65.4	4	30.1	61.9	5	116.0
O. A. C. 21 [2]	1470	1086	2	60.0	2	60.0	4	71.3	4	53.5	4	22.2	53.4	5	100.0
Olli	6251	739	2	65.0	2	66.3	4	95.7	4	77.5	4	17.3	64.4	5	120.5
Colsess	2792	772	---	-----	---	-----	4	84.9	4	66.7	4	24.2	-----	3	119.6
Regal	5030	742	---	-----	---	-----	4	85.5	4	70.3	4	23.6	-----	3	122.0
Trebi	936	1115	---	-----	---	-----	4	94.3	4	73.2	4	23.4	-----	3	129.9
Edmonton:															
Atlas	4118	702	4	52.5	4	43.3	4	75.5	4	63.7	4	31.4	53.3	5	103.3
Bearer	4707	704	4	41.0	4	39.9	4	58.5	4	61.8	4	38.3	47.9	5	92.8
Canadian Thorpe	740	816	4	44.5	4	34.8	4	40.0	4	53.7	4	30.6	40.7	5	78.9
Colsess	2792	772	4	55.2	4	36.2	4	76.5	4	64.8	4	43.4	55.2	5	107.0
Eureka	1250	773	4	46.6	4	35.8	4	54.5	4	27.9	4	32.0	39.4	5	76.3
Glabron	4577	718	4	43.4	4	39.5	4	52.0	4	46.0	4	36.3	43.4	5	84.2
Gold	1145	829	4	26.4	4	26.2	4	43.0	4	38.5	4	27.0	32.2	5	62.4
Hannchen	531	1109	4	37.6	4	35.6	4	59.5	4	48.9	4	40.9	44.5	5	86.2
Lapland	5973	-----	4	52.8	4	43.0	4	71.0	4	52.3	4	35.8	51.0	5	98.8
Improved Manchuria	2330	724	4	41.0	4	36.0	4	57.0	4	38.9	4	29.2	40.4	5	78.3
Newal	6088	1089	4	53.2	4	40.7	4	70.3	4	60.9	4	45.5	54.1	5	104.9
O. A. C. 21 [2]	1470	1086	4	50.5	4	44.7	4	66.5	4	60.6	4	35.7	51.6	5	100.0
Peatland	5267	722	4	48.0	4	33.5	4	48.0	4	52.6	4	21.0	40.6	5	78.7
Regal	5030	742	4	46.6	4	42.9	4	67.5	4	63.5	4	42.0	52.5	5	101.7
Spartan	5027	860	4	33.4	4	31.5	4	49.0	4	55.3	4	42.2	42.3	5	81.9
Trebi	936	753	4	59.1	4	37.5	4	78.0	4	70.6	4	43.1	57.7	5	111.7
Vaughn	1367	1098	4	36.1	4	22.0	4	56.5	4	42.8	4	21.9	35.9	5	69.5
Wisconsin Barbless (Pedigree 38)	5105	1101	4	48.9	4	41.5	---	-----	4	60.3	4	40.9	-----	4	100.1
Himalayan	4838	765	---	-----	4	40.2	4	60.5	4	50.8	4	39.5	-----	4	92.0
Olli	6251	739	---	-----	---	-----	---	-----	4	54.4	4	37.0	-----	2	94.9

[2] Standard variety with which others are compared.
[3] Yields are from 1/100-acre plots in 1932 and 1933.

BRITISH COLUMBIA

EXPERIMENTAL STATION, SAANICHTON

E. M. STRAIGHT, *superintendent*

Four varieties have been tested at the experimental station at Saanichton for the 5-year period 1932–36 and, of these, Trebi gave the highest yield (table 35). This is also true for the 3-year period 1934–36. Of the newer varieties tested, Glabron and Wisconsin Barbless (Pedigree 38) gave good results. On Vancouver Island,

where this experimental station is located, a few varieties of barley are winter hardy and may be sown in the autumn. Trebi is one of these and does well sown either in spring or fall. For autumn sowing, barley should be seeded not later than the middle of October.

TABLE 35.—*Acre yields of varieties of barley grown at the experimental station at Saanichton, British Columbia, for 1 or more of the years 1932–36*

[Data obtained through the courtesy of the Dominion Experimental Farms]

Variety	C. I. No.	Canadian accession No.	Number of plots and acre yield										Average yield, 1932-36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Spring-sown:				*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Charlottetown 80	2732	817	4	35.9	4	37.9	4	45.9	4	27.7	4	27.9	35.1	5	98.9
Hannchen	531	1109	4	47.5	4	51.9	4	42.0	4	28.0	4	31.3	40.1	5	113.2
O. A. C. 21 [1]	1470	734	4	33.2	4	47.9	4	39.6	4	27.8	4	28.8	35.5	5	100.0
Trebi	936	753	4	63.2	4	32.7	4	63.0	4	37.7	4	40.8	47.5	5	133.9
Duckbill	1916	826					4	40.0	4	25.5	4	30.2		3	99.5
Glabron	4577	1093					4	40.0	4	44.6	4	31.2		3	120.4
Olli	6251	739					4	53.6	4	19.6	4	22.5		3	99.5
Peatland	5267	1112					4	39.9	4	21.9	4	27.1		3	92.4
Regal	5030	742					4	41.3	4	26.9	4	31.0		3	103.1
Sanalta	6087	1088					4	52.9	4	26.6	4	28.4		3	112.2
Velvet	4252	755					4	43.0	4	24.3	4	27.5		3	98.5
Wisconsin Barbless (Pedigree 38)	5105	1101					4	45.5	4	37.4	4	29.6		3	116.9
Fall-sown:															
Bark	2793	703					4	28.1	4	97.7	4	109.8		3	89.5
Trebi [1]	936	1115					4	54.8	4	128.1	4	80.3		3	100.0

[1] Standard variety with which others are compared.

MANITOBA

EXPERIMENTAL FARM, BRANDON

M. J. TINLINE, *superintendent*

O. A. C. 21 barley is used as the standard and is the variety that is recommended in this Province for malting (table 36). Trebi is the highest yielding of the rough-awned varieties, and Wisconsin Barbless (Pedigree 38) is the most widely grown of the smooth-awned sorts. Some of the newer sorts, when the same are procurable in commerce, may be expected to replace O. A. C. 21 and Trebi. Hannchen has given the best yields among the two-rowed varieties.

Barley should be seeded at the rate of 1½ to 2 bushels per acre in April or early May in the southern part of the Province.

EXPERIMENTAL STATION, MORDEN

W. R. LESLIE, *superintendent*

Trebi and Hannchen gave the highest yields of the varieties that have been tested at Morden for the period 1932–36. However, when considering yields for the 3 years 1934–36, Ottawa E. 25, an early smooth-awned feed type of barley, outyielded the other varieties. During this 3-year period, early varieties gave the best results. Of

the varieties procurable, Trebi and Wisconsin Barbless (Pedigree 38) are recommended for feed purposes, and O. A. C. 21 is considered to be the standard variety for malting.

Barley should be seeded late in April or early in May at the rate of 1½ to 2 bushels per acre.

UNIVERSITY OF MANITOBA, WINNIPEG

P. J. OLSON, *professor of plant science*

O. A. C. 21 remains the most widely grown variety of barley in the Winnipeg district, chiefly owing to the demand of the malting trade for a barley of high malting quality. O. A. C. 21 is surpassed in yield by Trebi and the two smooth-awned varieties, Regal and Wisconsin Barbless (Pedigree 38). However, the fact that these three varieties are not acceptable to the Canadian malting trade has militated against them. Where barley is grown as a feed, these three varieties are in high demand.

TABLE 36.—*Acre yields of varieties of barley grown at the experimental farm, Brandon, at the experimental station, Morden, and at the agricultural college, Winnipeg, Manitoba, in 1 or more of the years 1932–36*

[Data obtained through the courtesy of the Dominion Experimental Farms]

Station and variety	C. I. No.	Canadian accession No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.		Pct.
Brandon:															
O. A. C. 21 [1]	1470	1086	4	71.9	4	67.2	4	52.2	4	37.9	4	28.1	51.5	5	100.0
Trebi	936	1115	4	69.0	4	71.9	4	63.8	4	42.5	4	38.2	57.1	5	110.9
Velvet	4252	755	4	62.8	4	59.4	4	50.8	4	39.0	4	37.6	49.9	5	97.0
Regal	5030	742	4	76.0	4	62.3	4	61.3	4	42.1	4	39.8	56.3	5	109.4
Brandon 1099	6093	1106	4	72.4	4	77.9	4	67.6	4	44.1	4	38.6	60.1	5	116.8
Peatland	5267	1112	---	-----	4	57.3	4	59.8	---	-----	4	33.7	-----	3	102.2
Hannchen	531	1109	---	-----	---	-----	4	59.4	4	36.5	4	35.8	-----	3	111.4
Sanalta	6087	1088	---	-----	---	-----	4	50.7	4	60.6	4	30.6	-----	3	120.1
Nobarb	6335	1022	---	-----	---	-----	4	68.4	4	30.0	4	36.1	-----	3	113.8
Sans Barb 2	6339	1074	---	-----	---	-----	4	58.6	4	31.5	4	40.8	-----	3	110.7
Newal	6088	1089	---	-----	---	-----	4	47.1	4	33.0	4	38.5	-----	3	100.3
Wisconsin Barbless (Pedigree 38)	5105	1101	---	-----	---	-----	4	49.3	4	49.1	4	36.9	-----	3	114.5
Ottawa E. 25	6340	1105	---	-----	---	-----	4	48.3	4	33.6	4	46.7	-----	3	108.8
Olli	6251	739	---	-----	---	-----	4	39.4	4	24.0	4	20.7	-----	3	71.2
Victory	5077	868	---	-----	---	-----	---	-----	4	36.1	4	44.7	-----	2	122.4
Morden:															
Brandon 1099	6093	1106	4	47.2	4	65.7	4	44.1	4	34.3	4	10.9	40.4	5	143.0
Hannchen	531	1109	4	67.5	4	54.5	4	54.7	4	31.5	4	16.3	44.9	5	158.8
O. A. C. 21 [1]	1470	1086	4	42.0	4	30.2	4	25.8	4	27.3	4	16.1	28.3	5	100.0
Trebi	936	1115	4	82.7	4	50.0	4	37.8	4	42.8	4	11.8	45.0	5	159.2
Velvet	4252	755	4	32.9	4	32.5	4	34.6	4	25.4	4	6.2	26.3	5	93.1
Regal	5030	742	4	56.4	4	31.5	4	39.9	4	24.3	4	12.1	32.8	5	116.1
Olli	6251	739	4	42.2	4	34.4	4	47.8	4	38.1	4	20.2	36.5	5	129.2

[1] Standard variety with which others are compared.

TABLE 36.—*Acre yields of varieties of barley grown at the experimental farm, Brandon, at the experimental station, Morden, and at the Agricultural College, Winnipeg, Manitoba, in 1 or more of the years 1932–36*—Continued

Station and variety	C. I. No.	Canadian accession No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Morden—Continued.				*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Nobarb	6335	1022	---	-----	---	-----	4	41.3	4	27.2	4	6.8	-----	3	108.8
Sanalta	6087	1088	---	-----	---	-----	4	33.3	4	28.2	4	1.9	-----	3	91.6
Peatland	5267	1112	---	-----	---	-----	4	36.4	4	40.6	4	5.4	-----	3	119.1
Ottawa E. 25	6340	1105	---	-----	---	-----	4	51.2	4	34.9	4	31.6	-----	3	170.1
Sans Barb 2	6339	1074	---	-----	---	-----	4	44.4	4	38.3	4	19.7	-----	3	148.0
Wisconsin Barbless (Pedigree 38)	5105	1101	---	-----	---	-----	4	37.9	4	33.0	4	12.6	-----	3	120.7
Newal	6088	1089	---	-----	---	-----	4	42.9	4	21.5	4	13.9	-----	3	113.2
Victory	5077	868	---	-----	---	-----	---	-----	4	28.8	4	9.8	-----	2	88.9
Winnipeg:															
Charlottetown 80	2732	817	4	51.0	4	55.9	4	70.0	4	25.4	4	14.2	43.3	5	99.0
Hannchen	531	1109	4	51.0	4	67.0	4	66.0	4	41.3	4	20.6	49.2	5	112.5
Mensury	4696	730	4	40.0	4	34.4	4	49.0	4	22.2	4	27.8	34.7	5	79.3
O. A. C. 21 [1]	1470	1086	4	55.0	4	44.3	4	53.0	4	35.9	4	30.4	43.7	5	100.0
Trebi	936	1115	4	69.0	4	46.0	4	73.0	4	31.4	4	9.0	45.7	5	104.5
Velvet	4252	755	4	46.0	4	41.0	4	58.0	4	36.1	4	17.2	39.7	5	90.7
Wisconsin Barbless (Pedigree 38)	5105	1101	4	58.0	4	48.0	4	72.0	4	36.0	4	6.8	44.2	5	101.0
Canadian Thorpe	740	816	---	-----	4	22.0	4	48.0	4	8.3	4	7.6	-----	4	52.5
Peatland	5267	1112	---	-----	4	41.0	4	40.0	4	28.4	4	7.2	-----	4	71.3
Regal	5030	742	---	-----	4	51.1	4	74.0	4	30.4	4	17.7	-----	4	105.9
Newal	6088	1089	---	-----	---	-----	4	53.0	4	38.1	4	14.2	-----	3	88.3

[1] Standard variety with which others are compared.

NEW BRUNSWICK

EXPERIMENTAL STATION, FREDERICTON

C. F. BAILEY, *superintendent*

Trebi barley has consistently outyielded all other varieties in the Province of New Brunswick, although over the 3-year period 1934–36, Byng, a six-rowed smooth-awned variety, has yielded almost as well (table 37). At the present time, however, the recommended varieties for this Province are Charlottetown 80 and O. A. C. 21. Farmers have been advised as to the yielding ability of Trebi, but this variety has not been definitely recommended because there is a possibility that on poor land the straw would be too short for binding. Barley should be seeded early in May at the rate of 2 bushels per acre.

TABLE 37.—*Acre yields of varieties of barley grown at the experimental station at Fredericton, New Brunswick, in 1 or more of the years 1932–36*

[Data obtained through the courtesy of the Dominion Experimental Farms]

Variety	C. I. No.	Canadian accession No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
				Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Charlottetown 80	2732	817	4	62.8	4	55.2	4	45.9	4	54.2	4	56.1	54.8	5	97.4
Hannchen	531	1109	4	64.0	4	66.1	4	54.4	4	55.4	4	48.6	57.7	5	102.5
O. A. C. 21 [1]	1470	1086	4	48.5	4	68.1	4	53.0	4	53.1	4	68.8	56.3	5	100.0
Trebi	936	1115	4	71.0	4	79.0	4	56.4	4	68.7	4	70.3	69.1	5	122.7
Velvet	4252	755	4	53.1	4	65.9	4	56.1	4	52.5	4	58.9	57.3	5	101.8
Regal	5030	742	---	-----	4	55.6	4	59.0	4	53.4	4	62.9	-----	4	99.1
Sanalta	6087	1088	---	-----	4	60.5	4	59.1	4	50.4	4	66.7	-----	4	101.6
Byng	6089	1096	---	-----	---	-----	4	64.0	4	57.8	4	69.9	-----	3	116.3
Nobarb	6335	1022	---	-----	---	-----	4	62.4	4	58.0	4	57.7	-----	3	108.1
Olli	6251	739	---	-----	---	-----	4	50.8	4	40.3	4	62.8	-----	3	93.4
Peatland	5267	1112	---	-----	---	-----	4	44.3	4	50.3	4	50.4	-----	3	88.0
Wisconsin Barbless (Pedigree 38)	5105	1101	---	-----	---	-----	4	57.6	4	57.4	4	56.2	-----	3	103.9
York	6090	1097	---	-----	---	-----	4	56.0	4	51.9	4	56.5	-----	3	99.8

[1] Standard variety with which others are compared.

NOVA SCOTIA

EXPERIMENTAL FARM, NAPPAN

W. W. BAIRD, *superintendent*

Of the five varieties that have been tested at Nappan for the 5-year period 1932–36 (table 38), Trebi has been consistently the highest yielding variety, but, because of its very short straw, especially on the poorer types of soil, it cannot be recommended for use in the Maritime Provinces. The two-rowed varieties, Hannchen and Charlottetown 80, have given good results. For the 3 years 1934–36, Hannchen was again the highest yielding sort, followed closely by Byng and Olli. In this section of Nova Scotia, the two-rowed varieties are most popular and Charlottetown 80 is the recommended variety; for the six-rowed varieties, O. A. C. 21 or Trebi might be recommended. Barley should be seeded in May at the rate of 8 to 10 pecks per acre.

EXPERIMENTAL STATION, KENTVILLE

W. S. BLAIR, *superintendent*

Barley testing on a large scale at Kentville only started in 1934. Of the three varieties that have been tested for the 5 years, Charlottetown 80 gave the highest yield, and in the 3-year test Sanalta came second to Charlottetown 80. For this district, which may be considered to be maritime, the two-rowed varieties are recommended, the most popular variety being Charlottetown 80. Barley should be seeded as early as possible in May at the rate of 8 pecks per acre. (See table 38.)

TABLE 38.—*Acre yields of varieties of barley grown at the experimental farm at Nappan and at the experimental station at Kentville, Nova Scotia, in 1 or more of the years 1932–36*

[Data obtained through the courtesy of the Dominion Experimental Farms]

Station and variety	C. I. No	Canadian accession No.	Number of plots and acre yield												Number of years grown and yield in comparison with standard variety for years grown	
			1932		1933		1934		1935		1936		Average yield, 1932–36			
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			Years	Yield
				Bu.		Bu.		Bu.		Bu.		Bu.	Bu			Pct.
Nappan:																
Charlottetown 80	2732	817	4	69.6	4	86.4	4	63.5	4	54.1	4	55.5	65.8		5	107.6
Hannchen	531	1109	4	66.7	4	77.9	4	64.7	4	58.1	4	54.4	64.4		5	105.2
O. A. C. 21 [1]	1470	1086	4	70.5	4	72.7	4	51.1	4	60.4	4	51.2	61.2		5	100.0
Trebi	936	1115	4	74.6	4	88.0	4	65.2	4	65.7	4	69.1	72.5		5	118.5
Velvet	4252	755	4	66.1	4	72.8	4	41.5	4	54.4	4	55.4	58.0		5	94.9
Byng	6089	1096	---	-----	---	-----	4	63.0	4	65.5	4	66.6	-----		3	119.9
Nobarb	6335	1022	---	-----	---	-----	4	52.2	4	58.9	4	55.2	-----		3	102.2
Olli	6251	739	---	-----	---	-----	4	64.8	4	64.0	4	55.6	-----		3	113.3
Peatland	5267	1112	---	-----	---	-----	4	56.2	4	58.9	4	53.6	-----		3	103.7
Regal	5030	742	---	-----	---	-----	4	49.6	4	57.5	4	53.3	-----		3	98.6
Sanalta	6087	1088	---	-----	---	-----	4	52.3	4	53.6	4	57.8	-----		3	100.6
Wisconsin Barbless (Pedigree 38)	5105	1101	---	-----	---	-----	4	49.3	4	58.4	4	53.8	-----		3	99.3
York	6090	1097	---	-----	---	-----	4	62.0	4	61.9	4	54.6	-----		3	109.7
Pontiac	4849	741	---	-----	---	-----	---	-----	4	57.8	4	50.6	-----		2	97.1
Kentville:																
Charlottetown 80	2732	817	4	28.1	4	26.5	4	41.3	4	26.5	4	42.2	32.9		5	125.8
O. A. C. 21 [1]	1470	1086	4	20.7	4	24.5	4	27.1	4	19.0	4	39.5	26.2		5	100.0
Velvet	4252	755	4	18.2	4	21.4	4	21.1	4	24.1	4	40.8	25.1		5	96.0
Olli	6251	739	---	-----	---	-----	4	29.7	4	17.0	4	27.1	-----		3	86.2
Sanalta	6087	1088	---	-----	---	-----	4	27.3	4	22.3	4	48.5	-----		3	114.6
Trebi	936	1115	---	-----	---	-----	4	19.0	4	12.6	4	47.4	-----		3	108.4
Regal	5030	742	---	-----	---	-----	4	18.9	4	12.1	4	-----	-----		2	67.2
Byng	6089	1096	---	-----	---	-----	---	-----	4	16.9	4	34.9	-----		2	88.5
Nobarb	6335	1022	---	-----	---	-----	---	-----	4	24.9	4	37.6	-----		2	106.8
Ottawa E. 25	6340	1105	---	-----	---	-----	---	-----	4	21.9	4	32.3	-----		2	92.6
Peatland	5267	1112	---	-----	---	-----	---	-----	4	11.0	4	26.9	-----		2	64.8
Wisconsin Barbless (Pedigree 38)	5105	1101	---	-----	---	-----	---	-----	4	19.8	4	45.7	-----		2	112.0

[1] Standard variety with which others are compared.

ONTARIO

CENTRAL EXPERIMENTAL FARM, OTTAWA

As this section of Ontario is in the heart of the area producing malting barleys, the variety O. A. C. 21 is the recommended variety, although it has been outyielded by Wisconsin Barbless (Pedigree 38), Velvet, and Regal (table 39). These three are smooth-awned sorts and unsuitable for the production of the best malt. From the 3-year results, it will be seen that some of the newer sorts, such as Sanalta, give promise of high yield. Velvet barley is perhaps the most popular of the barleys suitable for feed. Barley should be seeded as early in May as possible at the rate of 2 bushels per acre.

EXPERIMENTAL STATION, KAPUSKASING

S. BALLANTYNE, *superintendent*

Only three varieties have been tested for the 5-year period at Kapuskasing. Of these, O. A. C. 21 or Pontiac, which is a Manchuria type and similar to O. A. C. 21, gave the best results (table 39). From the 3-year results, the variety Byng was the highest yielding and was followed closely by Nobarb. Both of these are smooth-awned and outyielded Trebi. The recommended variety for this part of Ontario, which calls for an early maturing sort, is O. A. C. 21. This should be seeded as early as possible in May at the rate of 2 bushels per acre.

ONTARIO AGRICULTURAL COLLEGE, GUELPH

G. P. MCROSTIE, *Department of Field Husbandry*

The highest yield procured at Guelph during the 5-year period was that of Nobarb, a smooth-awned variety produced by crossing at this institution, and Velvet was second (table 39). In the period 1927–31 the latter variety was the highest yielding. Nobarb is recommended as a feed barley in the western part of Ontario, and O. A. C. 21 is still considered to be the best malting barley. Barley should be seeded in April at the rate of 2 bushels per acre.

TABLE 39.—*Acre yields of varieties of barley grown at the Central Experimental Farm, Ottawa, at the experimental station, Kapuskasing, and at the Ontario Agricultural College, Guelph, Ontario, in 1 or more of the years 1932–36*

[Data for Ottawa and Kapuskasing obtained through the courtesy of the Dominion Experimental Farms and for Guelph through the courtesy of the Ontario Agricultural College]

Station and variety	C. I. No.	Canadian accession No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Ottawa:				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.		Pct.
Charlottetown 80	2732	817	4	36.8	4	17.3	4	36.9	4	41.2	4	34.3	33.3	5	84.6
Hannchen	531	1109	4	45.4	4	16.7	4	56.6	4	33.3	4	47.6	39.9	5	101.4
O. A. C. 21 [1]	1470	1086	4	46.9	4	12.4	4	33.2	4	51.1	4	53.3	39.4	5	100.0
Regal	5030	742	4	48.7	4	15.6	4	39.3	4	63.2	4	51.5	43.7	5	110.9
Trebi	936	1115	4	55.3	4	21.2	4	31.9	4	50.4	4	41.1	40.0	5	101.5
Velvet	4252	755	4	43.7	4	22.1	4	39.6	4	59.0	4	52.7	43.4	5	110.3
Wisconsin Barbless (Pedigree 38)	5105	1101	4	47.2	4	22.6	4	40.7	4	59.1	4	63.4	46.6	5	118.3
Brandon 1099	6093	1106	---	-----	---	-----	4	34.7	4	34.3	4	44.1	-----	3	82.2
Byng	6089	1096	---	-----	---	-----	4	42.7	4	43.0	4	41.0	-----	3	92.1
Newal	6088	1089	---	-----	---	-----	4	38.3	4	56.0	4	42.3	-----	3	99.3
Nobarb	6335	1022	---	-----	---	-----	4	25.9	4	50.7	4	33.3	-----	3	79.9
Olli	6251	739	---	-----	---	-----	4	30.0	4	57.6	4	42.7	-----	3	94.7
Ottawa E. 25	6340	1105	---	-----	---	-----	4	38.0	4	65.5	4	42.6	-----	3	106.2
Peatland	5267	1112	---	-----	---	-----	4	24.0	4	62.3	4	44.3	-----	3	94.9
Pontiac	4849	741	---	-----	---	-----	4	31.5	4	51.9	4	42.4	-----	3	91.4
Sanalta	6087	1088	---	-----	---	-----	4	35.2	4	66.4	4	55.2	-----	3	114.0
Sans Barb [2]	6339	1074	---	-----	---	-----	4	31.1	4	58.5	4	46.4	-----	3	98.8
Victory	5077	868	---	-----	---	-----	---	-----	4	20.6	4	41.0	-----	2	59.0
York	6090	1097	---	-----	---	-----	4	41.8	4	44.9	4	39.2	-----	3	91.5

[1] Standard variety with which others are compared.
[2] Yields at Guelph are from single 1/100-acre plots.

TABLE 39.—*Acre yields of varieties of barley grown at the Central Experimental Farm, Ottawa, at the experimental station, Kapuskasing, and at the Ontario Agricultural College, Guelph, Ontario, in 1 or more of the years 1932–36*—Continued

Station and variety	C. I. No.	Canadian accession No.	Number of plots and acre yield												Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936		Average yield, 1932–36			
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			Years	Yield
Kapuskasing:				*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*			*Pct.*
O. A. C. 21 [1]	1470	1086	4	53.3	4	52.3	4	65.1	4	52.8	4	51.6	55.0		5	100.0
Velvet	4252	755	4	60.0	4	46.6	4	41.4	4	51.2	4	56.4	51.1		5	92.9
Pontiac	4849	741	4	55.5	4	49.4	4	71.8	4	50.9	4	51.8	55.9		5	101.6
Trebi	936	1115	---	-----	4	58.3	4	81.7	4	62.5	4	54.2	-----		4	115.7
Charlottetown 80	2732	817	---	-----	---	-----	4	60.3	4	53.9	4	45.3	-----		3	94.1
Nobarb	6335	1022	---	-----	---	-----	4	75.1	4	64.4	4	66.1	-----		3	121.3
Regal	5030	742	---	-----	---	-----	4	66.0	4	46.2	4	53.9	-----		3	98.0
Byng	6089	1096	---	-----	---	-----	4	80.2	4	63.7	4	65.0	-----		3	123.2
Sanalta	6087	1088	---	-----	---	-----	4	68.9	4	60.0	4	53.9	-----		3	107.8
York	6090	1097	---	-----	---	-----	4	66.2	4	56.9	4	51.5	-----		3	103.0
Wisconsin Barbless (Pedigree 38)	5105	1101	---	-----	---	-----	4	63.7	4	62.2	4	55.6	-----		3	107.1
Olli	6251	739	---	-----	---	-----	4	72.7	4	55.8	4	48.0	-----		3	104.1
Peatland	5267	1112	---	-----	---	-----	4	61.2	4	52.7	4	43.0	-----		3	92.6
Guelph: [2]																
Nobarb	6335	1022	1	70.1	1	45.6	1	51.8	1	80.5	1	53.6	60.3		5	123.0
Velvet	4252	755	1	68.6	1	40.4	1	50.6	1	76.4	1	47.8	56.8		5	115.7
French Chevalier	175	822	1	65.6	1	34.8	1	47.9	1	74.6	1	44.9	53.6		5	109.2
Colsess	2792	772	1	62.7	1	40.7	1	47.7	1	77.2	1	34.6	52.6		5	107.2
Guy Mayle (Himalaya)	620	763	1	52.3	1	42.7	1	51.4	1	71.8	1	44.0	52.4		5	106.9
Oderbrucker	2700	1059	1	56.1	1	44.5	1	46.2	1	82.8	1	27.9	51.5		5	105.0
O. A. C. 21 [1]	1470	1086	1	71.6	1	33.8	1	46.9	1	65.7	1	27.3	49.1		5	100.0
Mandscheuri 620	6336	1091	1	70.7	1	33.2	1	45.2	1	65.7	1	28.9	48.7		5	99.3
Common Six-Rowed	184	1060	1	55.9	1	34.4	1	51.8	1	65.8	1	33.2	48.2		5	98.3
Charlottetown 80	2732	817	1	62.0	1	31.1	1	36.0	1	75.5	1	35.7	48.1		5	98.0
Success	2707	1062	1	48.5	1	36.9	1	47.5	1	72.8	1	33.5	47.8		5	97.5
Winnipeg No. 2	4877	1067	1	57.3	1	30.8	1	41.3	1	64.4	1	38.1	46.4		5	94.5
Black Hull-less	596	1065	1	46.9	1	31.5	1	40.4	1	68.9	1	40.0	45.5		5	92.8
Duckbill	6337	1063	1	58.5	1	21.5	1	37.6	1	69.5	1	21.3	41.7		5	85.0
New White Hull-less (Nepal)	4878	1068	1	34.4	1	31.8	1	35.5	1	45.6	1	28.5	35.2		5	71.7

[1] Standard variety with which others are compared.
[2] Yields at Guelph are from single 1/100-acre plots.

PRINCE EDWARD ISLAND

EXPERIMENTAL STATION, CHARLOTTETOWN

J. A. CLARK, *superintendent*

No yields are recorded for the year 1936 at Charlottetown (table 40). The 4-year average, 1932–35, showed that Charlottetown 80 is still the highest yielding variety, which is in agreement with the records of previous years. Of the newer sorts tested, the 2-year test showed that the varieties Peatland and Olli give every promise of producing high yields. Charlottetown 80 is recommended for use in this Province. Barley should be seeded in May at the rate of 2 bushels per acre.

TABLE 40.—*Acre yields of varieties of barley grown at the experimental station, Charlottetown, Prince Edward Island, in 1 or more of the years 1932–36*

[Data obtained through the courtesy of the Dominion Experimental Farms]

Variety	C. I. No.	Canadian accession No.	Number of plots and acre yield								Average yield, 1932–36 [1]	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
				Bu.		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Charlottetown 80	2732	817	4	36.9	4	59.8	4	28.7	4	31.4	39.2	4	105.7
O. A. C. 21 [2]	1470	1086	4	47.6	4	47.3	4	22.9	4	30.6	37.1	4	100.0
Pontiac	4849	741	4	46.8	4	49.6			4	38.4		3	107.4
Velvet	4252	755	4	44.5	4	51.4	4	17.9	4	34.0	37.0	4	99.6
Bearer	4707	704	4	38.3	4	40.9	4	29.9	4	31.7	35.2	4	94.9
Byng	6089	1096					4	21.9	4	40.9		2	117.4
Nobarb	6335	1022					4	19.7	4	34.8		2	101.9
Olli	6251	739					4	35.9	4	30.0		2	123.2
Peatland	5267	1112					4	38.4	4	34.0		2	135.3
Regal	5030	742					4	17.8	4	26.5		2	82.8
Sanalta	6087	1088					4	17.2	4	20.6		2	70.7
Wisconsin Barbless (Pedigree 38)	5105	1101					4	20.4	4	36.1		2	105.6
York	6090	1097					4	21.1	4	28.8		2	93.3
Glabron	4577	1093					4	17.7	4	27.6		2	84.7
Washington 4725	6338	1104					4	26.6	4	30.1		2	106.0

[1] No yields recorded for 1936.
[2] Standard variety with which others are compared.

QUEBEC

EXPERIMENTAL STATION, LENNOXVILLE

J. A. STE. MARIE, *superintendent*

The results at Lennoxville clearly indicate that Trebi barley was the highest yielding variety both in the 3-year and 5-year results (table 41), but, owing to its coarseness of grain, weakness of straw, and susceptibility to disease, it is not popular. Velvet compares very favorably with O. A. C. 21, which is the recommended variety for the Province of Quebec owing to its value both as a malting and a feed barley. Of the newer sorts, Peatland gives promise of producing high yields and is followed closely by Byng, the smooth-awned variety originated at MacDonald College. The recommended varieties for the Province of Quebec are O. A. C. 21 and Charlottetown 80. Barley should be seeded in May at the rate of 2 bushels per acre.

EXPERIMENTAL STATION, STE. ANNE DE LA POCATIERE

J. R. PELLETIER, *superintendent*

Trebi barley is the highest yielding variety in this part of Quebec, but it is not popular owing to the coarseness of its grain. The 5-year average shows that O. A. C. 21 is the recommended variety, and it is the second highest yielding sort at the Ste. Anne de la Pocatiere station. From the 3-year results, there seems to be every indication that some of the newer sorts will be of value in eastern Quebec. Barley should be seeded in May at the rate of 2 bushels per acre.

MACDONALD COLLEGE, STE. ANNE DE BELLEVUE

EMILE A. LODS, *assistant professor of agronomy*

In table 41 only the named varieties under test at MacDonald College are reported. Some 25 to 30 unnamed varieties are also being tested. Two of the newer sorts that have only been tested for 3 years give indication of being superior in yield to the old sorts. These are Byng and York, 2 smooth-awned varieties produced by crossing at this institution. The varieties of barley recommended for the Province of Quebec by the Quebec Seed Board are O. A. C. 21 and Charlottetown 80. Barley should be seeded at the rate of 2 bushels per acre as early as soil and weather conditions will permit. The results from MacDonald College are given in 3 sections, as the barleys are being tried out in 3 different tests. O. A. C. 21 is common to all tests.

TABLE 41.—*Acre yields of varieties of barley grown at the experimental stations at Lennoxville, Ste. Anne de la Pocatiere, and at MacDonald College, Ste. Anne de Bellevue, Quebec, in 1 or more of the years 1932–36*

[Data from Lennoxville and Ste. Anne de la Pocatiere obtained through the courtesy of the Dominion Experimental Farms and for MacDonald College through the courtesy of MacDonald College]

Station and variety	C. I. No.	Canadian accession No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Lennoxville:				*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Charlottetown 80	2732	817	4	51.5	4	55.9	4	65.2	4	65.0	4	42.2	56.0	5	94.7
O. A. C. 21[1]	1470	1086	4	42.1	4	62.3	4	45.6	4	78.0	4	67.5	59.1	5	100.0
Pontiac	4849	741	4	42.6	4	63.8	4	71.1	4	77.8	4	60.7	63.2	5	106.9
Trebi	936	1115	4	55.2	4	44.1	4	88.9	4	88.9	4	64.4	68.3	5	115.6
Velvet	4252	755	4	39.6	4	59.5	4	57.3	4	80.7	4	58.8	59.2	5	100.0
Himalayan	4838	765	4	27.2	4	43.4	4	56.1	4	48.0	4	33.3	41.6	5	70.4
Nobarb	6335	1022	---	-----	4	60.9	4	66.0	4	73.3	4	71.5	-----	4	107.2
Regal	5030	742	---	-----	4	59.5	4	76.7	4	79.6	4	50.3	-----	4	105.0
Sanalta	6087	1088	---	-----	4	53.0	4	70.5	4	74.5	4	32.8	-----	4	91.1
Byng	6089	1096	---	-----	---	-----	4	86.5	4	72.0	4	66.5	-----	3	117.7
Olli	6251	739	---	-----	---	-----	4	63.1	4	70.6	4	36.2	-----	3	88.9
Peatland	5267	1112	---	-----	---	-----	4	84.2	4	85.3	4	70.6	-----	3	125.6
Wisconsin Barbless (Pedigree 38)	5105	1101	---	-----	---	-----	4	78.8	4	83.5	4	34.5	-----	3	103.0
York	6090	1097	---	-----	---	-----	4	68.9	4	66.1	4	55.9	-----	3	99.9
Ste. Anne de la Pocatiere:															
Hannchen	531	1109	4	58.4	4	69.9	4	57.1	4	64.3	4	77.0	65.3	5	98.7
O. A. C. 21[1]	1470	1086	4	75.2	4	61.6	4	55.7	4	66.4	4	72.0	66.2	5	100.0
Trebi	936	1115	4	69.1	4	79.6	4	67.5	4	75.0	4	77.4	73.7	5	111.4
Velvet	4252	755	4	60.8	4	40.9	4	42.3	4	56.5	4	54.7	51.0	5	77.1
Nobarb	6335	1022	4	-----	4	63.4	4	63.7	4	69.5	4	72.7	-----	4	105.3
Regal	5030	742	---	-----	4	63.7	4	50.4	4	60.7	4	72.3	-----	4	96.6
Sanalta	6087	1088	---	-----	4	71.3	4	59.5	4	68.8	4	69.8	-----	4	105.4
Byng	6089	1096	---	-----	---	-----	4	66.6	4	66.5	4	77.4	-----	3	108.4
Charlottetown 80	2732	817	---	-----	---	-----	4	47.9	4	65.0	4	67.6	-----	3	93.0
Olli	6251	739	---	-----	---	-----	4	48.2	4	53.3	4	64.6	-----	3	85.6
Peatland	5267	1112	---	-----	---	-----	4	46.3	4	53.7	4	53.2	-----	3	78.9
Pontiac	4849	741	---	-----	---	-----	4	43.0	4	54.4	4	51.6	-----	3	76.8
Wisconsin Barbless (Pedigree 38)	5105	1101	---	-----	---	-----	4	61.8	4	76.2	4	66.0	-----	3	105.1
York	6090	1097	---	-----	---	-----	4	63.9	4	76.0	4	77.3	-----	3	111.9

[1] Standard variety with which others are compared.

TABLE 41.—*Acre yields of varieties of barley grown at the experimental stations at Lennoxville, Ste. Anne de la Pocatiere, and at MacDonald College, Ste. Anne de Bellevue, Quebec, in 1 or more of the years 1932–36*—Continued

Station and variety	C. I. No.	Canadian accession No.	Number of plots and acre yield												Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936		Average yield, 1932–36			
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			Years	Yield
MacDonald College:																
Provincial comparative tests (1/100-acre):				*Bu.*		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*			*Pct.*
O. A. C. 21 [1]	1470	734	4	60.4	4	57.0	6	55.1	6	62.0	5	78.8	62.7		5	100.0
Pontiac	4849	741	4	64.1	4	55.0	6	64.4	6	68.7	5	76.5	65.7		5	104.9
Oxford	5974	740	4	54.7	4	42.3	6	60.1	6	61.4	5	60.2	55.7		5	89.0
Velvet	4252	755	---	-----	4	56.2	6	60.9	6	73.1	5	71.1	-----		4	103.3
Byng	6089	1096	---	-----	---	-----	---	-----	6	69.2	5	84.8	-----		2	109.4
Variety tests (1/1,000-acre plots):																
O. A. C. 21 [1]	1470	734	4	61.8	4	51.0	4	55.6	4	62.4	4	55.6	57.3		5	100.0
Mensury	6343	1120	4	61.4	4	52.7	4	56.1	4	65.1	4	57.7	58.6		5	102.3
York	6090	1097	---	-----	4	48.4	4	66.7	4	59.8	4	67.7	-----		4	108.0
Byng	6089	1096	---	-----	---	-----	4	63.4	4	63.7	4	70.5	-----		3	113.8
Velvet	4252	755	---	-----	---	-----	4	65.8	4	75.4	4	59.5	-----		3	115.6
National co-operative variety tests (1/1,000-acre plots):																
Byng	6089	1096	---	-----	---	-----	4	82.8	4	65.4	---	-----	-----		2	112.2
Glabron	4577	1093	---	-----	---	-----	4	71.0	4	53.8	---	-----	-----		2	94.5
Nobarb	6335	1022	---	-----	---	-----	4	78.3	4	60.8	---	-----	-----		2	105.3
Regal	5030	742	---	-----	---	-----	4	69.1	4	65.6	---	-----	-----		2	102.0
Sanalta	6087	1088	---	-----	---	-----	4	60.5	4	60.5	---	-----	-----		2	91.6
Velvet	4252	1102	---	-----	---	-----	4	79.1	4	59.2	---	-----	-----		2	104.7
Wisconsin Barbless (Pedigree 38)	5105	1101	---	-----	---	-----	4	73.2	4	62.1	---	-----	-----		2	102.4
York	6090	1097	---	-----	---	-----	4	74.4	4	71.0	---	-----	-----		2	110.1
Charlottetown 80	2732	1100	---	-----	---	-----	4	55.1	4	52.0	---	-----	-----		2	81.1
O. A. C. 21 [1]	1470	1086	---	-----	---	-----	4	71.5	4	60.6	---	-----	-----		2	100.0

[1] Standard variety with which others are compared.

SASKATCHEWAN

EXPERIMENTAL FARM, INDIAN HEAD

W. H. GIBSON, *superintendent*

The highest yielding variety at Indian Head during the 5 years of the test was Trebi, which outyielded the nearest competitor by 9 bushels per acre (table 42). Hannchen was the second variety. Of the newer sorts under test for only 3 years, a numbered variety, Brandon 1099, was second to Trebi. The recommended varieties for this section are Hannchen and Trebi. Seeding should be done in May at the rate of 2 bushels per acre.

EXPERIMENTAL STATION, SWIFT CURRENT

L. B. THOMSON, *superintendent*

No yields are given for the season of 1933 because of grasshopper damage. Severe wind damage in the spring of 1934 seriously affected yields, which were closely correlated with June stands. The season of 1936 was abnormally dry. Two comparatively new varieties in Saskatchewan, namely, White Smyrna and Stavropol, have yielded very well, comparing favorably with Hannchen and Trebi, the varieties generally recommended for Saskatchewan. Barley should be seeded early in May at the rate of 6 pecks per acre.

UNIVERSITY OF SASKATCHEWAN, SASKATOON

J. B. HARRINGTON, *professor of agronomy*

Trebi and Hannchen are the two highest yielding varieties at the University of Saskatchewan, followed closely by Regal. These three varieties are recommended for Saskatchewan, Regal being particularly useful because of its smooth awns and long, strong straw. In the easterly part of the Province, where malting barley is produced, the standard variety, O. A. C. 21, is recommended. Barley should be seeded in May at the rate of 6 pecks per acre.

EXPERIMENTAL STATION, SCOTT

G. D. MATTHEWS, *superintendent*

During the period of the tests at Scott, 3 of the 5 years have been extremely dry, with the result that average yields are low. The two highest yielding varieties are Trebi and Hannchen, followed closely by the smooth-awned Brandon 1099. The variety Peatland does not seem to be suitable to the conditions in this part of Saskatchewan. Trebi and Hannchen are the recommended varieties and should be seeded around the second week in May at the rate of 6 pecks per acre.

TABLE 42.—*Acre yields of varieties of barley grown at the experimental farm at Indian Head, at the experimental stations at Swift Current and Scott, and at the University of Saskatchewan, Saskatoon, Saskatchewan, in 1 or more of the years 1932–36*

[Data for Indian Head, Swift Current, and Scott obtained through the courtesy of the Dominion Experimental Farms and for Saskatoon through the courtesy of the University of Saskatchewan]

Station and variety	C. I. No.	Canadian accession No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
				Bu.		*Bu.*		*Bu.*		*Bu.*		*Bu.*	*Bu.*		*Pct.*
Indian Head:															
Hannchen	531	1109	4	30.1	4	75.4	4	59.6	4	43.8	4	49.5	51.7	5	128.2
Mensury	4696	730	4	20.1	4	64.8	4	36.7	4	31.3	4	20.0	34.6	5	85.8
O. A. C. 21 [1]	1470	1086	4	22.7	4	70.5	4	41.5	4	26.2	4	40.7	40.3	5	100.0
Trebi	936	1115	4	33.5	4	80.6	4	68.5	4	67.1	4	54.9	60.9	5	151.1
Bearer	4707	704	4	18.3	4	60.5	4	38.0	4	33.9	4	23.3	34.8	5	86.3
Regal	5030	742	4	26.6	4	78.3	4	59.3	4	35.9	4	47.2	49.5	5	122.7
Canadian Thorpe	740	816	4	19.0	4	52.9	4	30.9	4	34.0	4	20.0	31.4	5	77.8
Colsess	2792	772	4	27.3	4	74.8	4	55.4	4	57.2	4	36.6	50.3	5	124.7
Sanalta	6087	1088	---	-----	---	-----	4	60.9	4	60.9	4	42.9	-----	3	151.9
Nobarb	6335	1022	---	-----	---	-----	4	61.5	4	43.3	4	51.3	-----	3	144.0
Sans Barb 2	6339	1074	---	-----	---	-----	4	55.5	4	62.4	4	43.1	-----	3	148.5
Velvet	4252	755	---	-----	---	-----	4	43.8	4	29.2	4	39.3	-----	3	103.6
Wisconsin Barbless (Pedigree 38)	5105	1101	---	-----	---	-----	4	53.0	4	61.4	4	47.8	-----	3	149.6
Ottawa E. 25	6340	1105	---	-----	---	-----	4	32.5	4	54.0	4	45.6	-----	3	121.9
Brandon 1099	6093	1106	---	-----	---	-----	4	66.5	4	51.8	4	56.4	-----	3	161.2
Glabron	4577	1093	---	-----	---	-----	4	55.2	4	48.1	4	27.5	-----	3	120.7
Comfort	4578	1107	---	-----	---	-----	4	50.4	4	57.0	4	26.2	-----	3	123.2
Newal	6088	1089	---	-----	---	-----	4	54.3	4	62.3	4	44.5	-----	3	148.6
Washington 4724	6341	1103	---	-----	---	-----	4	48.5	4	49.5	4	30.9	-----	3	118.9
Peatland	5267	1112	---	-----	---	-----	4	33.1	4	38.5	4	33.4	-----	3	96.9
Olli	6251	739	---	-----	---	-----	4	38.9	4	53.9	4	34.6	-----	3	117.5
Himalayan	4838	765	---	-----	---	-----	4	37.3	4	24.6	4	25.6	-----	3	80.7
Swift Current: [2]															
Hannchen	531	1109	4	44.3	---	-----	4	18.3	4	54.2	4	9.7	31.6	4	118.9
Colsess	2792	772	4	36.7	---	-----	4	18.8	4	49.2	4	14.9	29.9	4	112.4
Regal [1]	5030	742	4	31.3	---	-----	4	15.2	4	54.6	4	5.3	26.6	4	100.0
White Smyrna	195	859	4	44.0	---	-----	4	24.7	4	57.2	4	19.0	36.2	4	136.2
Stavropol	2103	749	4	36.8	---	-----	4	27.3	4	60.6	4	13.6	34.6	4	130.0
Trebi	936	1115	4	39.6	---	-----	4	21.7	4	55.8	4	12.7	32.5	4	122.0
Himalayan	4838	765	4	28.1	---	-----	4	15.6	4	49.3	4	13.0	26.5	4	99.6
Brandon 213	6342	1110	---	-----	---	-----	4	9.3	4	50.1	4	3.3	-----	3	83.5
Brandon 1099	6093	1106	---	-----	---	-----	4	18.1	4	52.8	4	4.1	-----	3	99.9
Glabron	4577	1093	---	-----	---	-----	4	12.6	4	53.6	4	12.5	-----	3	104.8
Newal	6088	1089	---	-----	---	-----	4	14.7	4	55.3	4	13.6	-----	3	111.3
Nobarb	6335	1022	---	-----	---	-----	4	12.6	4	47.1	4	3.0	-----	3	83.5
O. A. C. 21	1470	1086	---	-----	---	-----	4	11.0	4	43.4	4	6.1	-----	3	80.6
Olli	6251	739	---	-----	---	-----	4	4.2	4	39.8	4	11.4	-----	3	73.8
Ottawa E. 25	6340	1105	---	-----	---	-----	4	13.1	4	53.7	4	17.6	-----	3	112.4
Peatland	5267	1112	---	-----	---	-----	4	9.2	4	40.9	4	2.3	-----	3	69.8
Sanalta	6087	1088	---	-----	---	-----	4	17.9	4	52.6	4	6.4	-----	3	102.4
Sans Barb 2	6339	1074	---	-----	---	-----	4	14.4	4	52.9	4	16.0	-----	3	110.9
Velvet	4252	755	---	-----	---	-----	4	6.4	4	47.4	4	5.1	-----	3	78.4
Washington 4724	6341	1103	---	-----	---	-----	4	23.8	4	50.9	4	9.7	-----	3	112.4
Wisconsin Barbless (Pedigree 38)	5105	1101	---	-----	---	-----	4	15.4	4	48.5	4	5.6	-----	3	92.5
Victory	5077	868	---	-----	---	-----	---	-----	4	55.7	4	10.5	-----	2	110.5
Saskatoon:															
Trebi (Saskatchewan 101)	936	753	6	52.8	6	22.8	8	46.6	5	63.1	4	32.0	43.5	5	104.3
Hannchen (Saskatchewan 229)	4841	837	6	52.5	6	25.2	8	44.8	5	58.3	4	34.9	43.1	5	103.5
Regal (Saskatchewan 1865) [1]	5030	742	6	47.5	6	25.0	8	48.2	5	63.6	4	24.1	41.7	5	100.0
Colsess (Saskatchewan 1636)	2792	772	6	47.0	6	23.2	8	45.6	5	51.1	4	33.3	40.0	5	96.1
O. A. C. 21 (Saskatchewan 228)	4708	735	---	-----	---	-----	8	39.0	5	45.2	4	17.4	-----	3	74.8
Sol (Saskatchewan 1667)	5031	782	---	-----	---	-----	8	32.0	5	37.7	4	27.7	-----	3	71.7

[1] Standard variety with which others are compared.
[2] 1933 crop destroyed by grasshoppers.

TABLE 42.—*Acre yields of varieties of barley grown at the experimental farm at Indian Head, at the experimental stations at Swift Current and Scott, and at the University of Saskatchewan, Saskatoon, Saskatchewan, in 1 or more of the years 1932–36*—Continued

Station and variety	C. I. No.	Canadian accession No.	Number of plots and acre yield										Average yield, 1932–36	Number of years grown and yield in comparison with standard variety for comparable years	
			1932		1933		1934		1935		1936				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield
Scott:				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.		Pct.
Hannchen	531	1109	6	51.0	6	15.3	4	14.9	4	35.1	4	18.2	26.9	5	154.6
O. A. C. 21 [1]	1470	734	6	39.9	6	10.5	4	7.4	4	20.3	4	8.9	17.4	5	100.0
Regal	5030	742	6	44.5	6	7.7	4	15.6	4	20.2	4	14.4	20.5	5	117.7
Trebi	936	753	6	57.8	6	15.1	4	17.7	4	29.9	4	15.2	27.1	5	156.0
Nobarb	6335	1022	---	-----	---	-----	4	4.8	4	18.6	4	15.8	-----	3	107.1
Velvet	4252	755	---	-----	---	-----	4	8.7	4	13.0	4	11.6	-----	3	91.0
Sanalta	6087	1088	---	-----	---	-----	4	7.7	4	23.8	4	10.8	-----	3	115.6
Brandon 1099	6093	1106	---	-----	---	-----	4	17.6	4	30.6	4	13.4	-----	3	168.3
Peatland	5267	1112	---	-----	---	-----	4	11.0	4	7.1	4	9.1	-----	3	74.3
Newal	6088	1089	---	-----	---	-----	4	19.3	4	24.5	4	15.7	-----	3	162.6
Olli	6251	739	---	-----	---	-----	4	15.5	4	20.4	4	14.3	-----	3	137.2
Ottawa E. 25	6340	1105	---	-----	---	-----	4	16.8	4	17.5	4	15.6	-----	3	136.3
Sans Barb 2	6339	1074	---	-----	---	-----	4	16.1	4	24.8	4	18.1	-----	3	161.2
Wisconsin Barbless (Pedigree 38)	5105	1101	---	-----	---	-----	4	12.8	4	21.9	4	18.3	-----	3	144.8

[1] Standard variety with which others are compared.

HIGHEST YIELDING VARIETIES

The position of the better varieties as shown by tests in the United States and Canada is represented in table 43. The second and fourth columns are based on actual yields for the 5-year period 1932–36. In the second column is recorded the highest yielding variety at each place and in the fourth column is shown the next highest yielding variety. The seventh column is not dependable, but serves to call attention to some of the newer sorts. The tests were for shorter periods and the choice of varieties was arbitrarily made, as in many cases other varieties could be substituted with equal grounds.

Trebi produced the highest average yield at 32 stations. Wisconsin Barbless (Pedigree 38) was the leading variety at 10 stations and White Smyrna was best at 4. The leading varieties in second place were: Trebi at 13 stations, Hannchen at 10, O. A. C. 21 at 5, Vaughn and Spartan at 4, and Wisconsin Barbless (Pedigree 38) at 3, respectively.

The newer sorts showing promise consist for the most part of hybrids and selections developed by plant breeders.

TABLE 43.—*Highest yielding varieties grown at the experiment stations in the United States and Canada in the years 1932–36*

Station	5-year period, 1932-36				Showing promise in less than 5 years but more than 1 year		
	Highest yielding variety	C. I. or State No.	Second highest yielding variety	C. I. or State No.	Number of years	Variety	C. I. or State No.
Mesa, Ariz.	Vaughn	1367	Scarab	995	3	Union Beardless	5976
Sacaton, Ariz.	Scarab	995	Vaughn	1367	3	Common Six-Rowed	4625
Fayetteville, Ark.	Selection 6	4678	Tennessee Winter selection 61	3545			
Davis, Calif.	Vaughn	1367	Atlas	4118	3	C–308	6114
Fort Collins, Colo.	Lico	6279	Coast × Lion	6368	4	Trebi × Colsess	6369
Fort Lewis, Colo.	do	6279	Trebi	936	3	do	6369
Akron, Colo.	Blackhull selection	6009	Vaughn	1367	2	Lico	6279
		Ga. No.		Ga. No.			Ga. No.
Experiment, Ga.	Texas Winter	171	Greece	168	2	Tennessee Winter Hooded selection.	P900
Athens, Ga.					2	Greece	4593
Tifton, Ga.					2	Tennessee Winter selection 66	3546
Moscow, Idaho	Trebi	936	Winter Club	488	3	Atlas	4118
Sandpoint, Idaho [1]	Hannchen	531	Union Beardless	5976			
Aberdeen, Idaho	Trebi	936	Flynn	1311	2	Afghanistan	4166
Urbana, Ill.	do	936	Spartan	5027			
De Kalb, Ill. [1]	Wisconsin Barbless (Pedigree 38).	5105	Trebi	936	3	Spartan	5027
Ames, Iowa [1]	Trebi	936	Wisconsin Barbless (Pedigree 38).	5105			
Kanawha, Iowa	do	936	Glabron	4577			
Hays, Kans. [1]	White Smyrna	195	Club Mariout	261			
Colby, Kans. [1]	Flynn	1311	Vaughn	1367			
Garden City, Kans.	Trebi	936	Huntington	4110			
Manhattan, Kans. (spring)					2	Trebi	936
Manhattan, Kans. (winter) [2]	Kansas (South Central strain)		Kansas (Southeast strain)				
Tribune, Kans. [1]	Flynn	1311	Vaughn	1367			
Wichita, Kans. (spring)	Franklin Malt [2]	5915	Colby Local Six-Rowed [1]	5919			
Wichita, Kans. (winter)					2	Kansas South Central strain	
Kingman, Kans. (spring)					2	Malt	
Kingman, Kans. (winter)					2	Kansas South Central strain	
Pratt, Kans. (spring)					1	Trebi [3]	936
Moran, Kans. (spring)					1	Colby Local Six-rowed [3]	5919
Columbus, Kans. (winter)					2	Kansas South Central strain	
Northeast (Kans.) Experiment Field					1	Kansas Southeast strain [3]	
College Park, Md.	Smooth Awn selection 15–8	6495	Smooth Awn selection 19–8	6494			
East Lansing, Mich.	Wisconsin Barbless (Pedigree 38).	5105	Alpha	959			
St. Paul, Minn.	Trebi	936	Minsturdi	1556	4	South Dakota 1340 (Lion × Manchuria).	6001

Waseca, Minn	Wisconsin Barbless (Pedigree 38).	5105	Trebi	936	4	Odessa	182
Morris, Minn.[3]	do	5105	do	936	2	do	182
Crookston, Minn	Trebi	936	Wisconsin Barbless (Pedigree 38).	5105	4	do	182
Grand Rapids, Minn	Peatland	5267	Trebi	936	4	do	182
Duluth, Minn	Wisconsin Barbless (Pedigree 38).	5105	do	936	4	do	182
Columbia, Mo	Bearded Winter (Mo.)		Kentucky No. 1	6050	4	Alaska	4106
Elsberry, Mo. (spring)					2	Oderbrucker	
Elsberry, Mo. (winter)					2	Kentucky No. 1	6050
Bozeman, Mont.[1]	Trebi	936	Cebada 97A	6352	3	Ezond	5064
Havre, Mont.[1]	Meloy	1176	Ezond	5064	2	Newal	6088
Moccasin, Mont.[1]	Atlas	4118	Composite Cross	4116	2	Composite Cross selection	5414
Huntley, Mont. (dry land)					2	Himalaya	620
Huntley, Mont. (irrigated land)					2	Trebi	936
Lincoln, Nebr.[3]	Short Comfort	5907	Spartan	5027	2	Club Mariout	261
Alliance, Nebr.[1]	Vaughn	1367	do	5027	3	do	261
North Platte, Nebr.[1]	Ezond	5064	North Platte No. 1	5266			
Mitchell, Nebr. (irrigated land)					2	Trebi	936
New Brunswick, N. J. (spring)	Trebi	936	Comfort	4578	4	Wisconsin Barbless (Pedigree 38).	5105
New Brunswick, N. J. (winter) [1]	Bearded Winter (Va.)		Michigan Winter	2036	2	Kentucky No. 1	6050
State College, N. Mex. (irrigated)	Club Mariout	261	Trebi	936	3	Type A	6095
Capulin, N. Mex. (dry farmed)	White Smyrna	195	Stavropol H. C. 249	5913	4	Wisconsin Barbless (Pedigree 38).	5105
Ithaca, N. Y	Hybrid 220a1-29-50		Swiss Spring selection No. 87				
Statesville, N. C. (hooded)	Hooded selection	N.C.I-23	Hooded selection	N.C. I-26			
Statesville, N. C. (bearded)	Bearded selection	6373	Bearded selection	N.C. II-11			
Fargo, N. Dak	Trebi	936	Odessa	182			
Langdon, N. Dak.[3]	do	936	Hannchen	531			
Dickinson, N. Dak	Steigum	907	Horn	926			
Mandan, N. Dak	Trebi	936	Odessa	182			
Hettinger, N. Dak					1	Svansota [3]	1907
Williston, N. Dak					1	Steigum [3]	907
Edgeley, N. Dak					1	Odessa [3]	182
Woodward, Okla. (spring-sown) [4]	Atlas	4118	White Smyrna	910	2	Danne selection 113	6140
Woodward, Okla. (fall-sown)					1	Wisconsin Winter [4]	2159
Lawton, Okla (winter)	Michigan		Wisconsin Winter	519			
Corvallis, Oreg. (spring)	Peruvian selection 1	5912	Trebi	936			
Corvallis, Oreg. (winter)	Winter Club	592	O. A. C. selection 1	5953	3	Santiam	6367
Moro, Oreg. [1]	Peruvian	935	Club Mariout	261	3	Flynn selection 37	5918
Pendleton, Oreg	Trebi	936	Flynn selection 1	5911	3	do	5918
Union, Oreg	do	936	Hannchen	531			
Burns, Oreg	O. A. C. No. 7	2814	Trebi	936			
State College, Pa. (spring)	Alpha	959	Wisconsin Barbless (Pedigree 38).	5105			
State College, Pa. (winter)	Kentucky No. 2	6148	York County Hooded		2	Kentucky No. 1	6050
Clemson College, S. C. (winter)	Bearded Winter		C. A. C. Awnless (compact)	4693	3	Beardless Winter	

See footnotes at end of table.

TABLE 43.—*Highest yielding varieties grown at the experiment stations in the United States and Canada in the years 1932–36*—Continued

Station	5-year period, 1932-36			Showing promise in less than 5 years but more than 1 year			
	Highest yielding variety	C. I. or State No.	Second highest yielding variety	C. I. or State No.	Number of years	Variety	C. I. or State No.
Brookings, S. Dak.	Trebi	936	South Dakota 1340 (Lion × Manchuria).	6001			
Highmore, S. Dak.	Spartan	5027	do	6001			
Eureka, S. Dak.	White Smyrna × Svanhals	6371	Spartan	5027			
Cottonwood, S. Dak.	Trebi	936	Ace	1853			
Ardmore, S. Dak. (dry land)					1	White Smyrna [3]	195
Newell, S. Dak. (irrigated) [1]	White Smyrna	195	Trebi	936	3	Horn	926
Knoxville, Tenn. [1]	Tennessee Winter selection 52	3543	Union Winter	583			
Denton, Tex. (fall-sown)	Tennessee Winter	6125	Finley	5901	3	Smith selection S–31–51	6143
Logan, Utah	Trebi	936			2	Winter Club	592
Arlington, Va.[1]	Esaw	4690	Tennessee Winter selection 66	3546	3	Han River	2163
Staunton, Va.					2	Tennessee Winter	257
Pullman, Wash. (spring)	Beldi Giant	2777	Blue	1247	4	Rufflyn	6374
Pullman, Wash. (winter)	Winter Club	592	Wisconsin Winter	1894			
Lind, Wash.[1]	Meloy selection 3	4656			2	Coast	1249
Prosser, Wash.	Blue	1247					
Morgantown, W. Va. (spring)	Alpha	959	Manchuria	244	4	Velvet	4252
Morgantown, W. Va. (winter)					2	Kentucky No. 1 (Kans. 8080)	6050
Point Pleasant, W. Va. (spring) [1]	Alpha	959	Manchuria	244			
Point Pleasant, W. Va. (winter)					2	Scottish Pearl	277
Madison, Wis.	Wisconsin Barbless (Pedigree 38).	5105	Trebi	936	4	Manchurian (Wis. 122–3)	6492
Ashland, Wis. [5]	do	5105					
Marshfield, Wis. [5]	do	5105	Velvet	4252			
Sturgeon Bay, Wis.	do	5105			2	Newal	6088
Laramie, Wyo.	Odessa	182	Charlottetown 80	2732	4	Beldi Giant	2777
Archer, Wyo.[2]	Horn	926	White Smyrna	910			
Sheridan, Wyo.	Trebi	936	Coast	690			
Lethbridge, Alberta	do	936	Hannchen	531	3	Nobarb	6335
Lacombe, Alberta [1]	do	936	Victory	5077	2	Sanalta	6087
Beaverlodge, Alberta	do	936	Colsess	2792	3	Newal	6088
Fort Vermilion, Alberta	Olli	6251	Hannchen	531	3	Trebi	936
Edmonton, Alberta	Trebi	936	Colsess	2792	4	Wisconsin Barbless (Pedigree 38).	5105
Saanichton, British Columbia	do	936	Hannchen	531	3	Glabron	4577
Brandon, Manitoba	Brandon 1099	6093	Trebi	936	3	Sanalta	6087
Morden, Manitoba	Trebi	936	Hannchen	531	3	Ottawa E. 25	6340
Winnipeg, Manitoba	Hannchen	531	Trebi	936	4	Regal	5030
Fredericton, New Brunswick	Trebi	936	Hannchen	531	3	Byng	6089
Nappan, Nova Scotia	do	936	Charlottetown 80	2732	3	do	6089
Kentville, Nova Scotia	Charlottetown 80	2732	O. A. C. 21	1470	3	Sanalta	6037

Ottawa, Ontario	Wisconsin Barbless (Pedigree 38).	5105	Regal	5030	3	do	6087
Kapuskasing, Ontario	Pontiac	4849	O. A. C. 21	1470	3	Byng	6089
Guelph, Ontario	Nobarb	6335	Velvet	4252			
Charlottetown, Prince Edward Island [1]	Charlottetown 80	2732	O. A. C. 21	1470	2	Peatland	5267
Lennoxville, Quebec	Trebi	936	Pontiac	4849	3	do	5267
Ste. Anne de la Pocatiere, Quebec	do	936	O. A. C. 21	1470	3	York	6090
Ste. Anne de Bellevue, Quebec	Pontiac	4849	do	1470	3	Byng	6089
Indian Head, Saskatchewan	Trebi	936	Hannchen	531	3	Brandon 1099	6093
Swift Current, Saskatchewan [1]	White Smyrna	195	Stavropol	2103	3	Ottawa E. 25	6340
Saskatoon, Saskatchewan	Trebi	936	Hannchen (Sask. 229)	4841			
Scott, Saskatchewan	do	936	Hannchen	531	3	Brandon 1099	6093

[1] Yields for 4 years only.
[2] Yields for 3 years only.
[3] Yields for 1 year only.
[4] Yields for 6 years.
[5] Yields for 7 years.

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[Numbers in parentheses are C. I. numbers]

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