

Registration of Crop Varieties

WILL BARLEY

(Reg. No. 61)

Ben R. Jackson and A. M. Schlehuber

'Will' barley, (Hordeum vulgare L. emend. Lam.), CI 11652 (Stillwater 571820 and Stillwater 571823) was named in honor of the late Oklahoma humorist, Will Rogers. It is the result of a cross between 'Rogers' (CI 9174) and 'Kearney' (CI 7580) made at the Oklahoma Agricultural Experiment Station in 1952. Descriptions of Rogers and Kearney have been published.

Will originated from two head selections made from a bulk F1 population at Stillwater, Oklahoma, in 1956. The 2 selections were grown separately in state and regional tests under the CI numbers 10879 and 10880 from 1961 to 1965. Their similarity in appearance and performance under the wide range of conditions prompted the decision to composite them as one variety under the CI number designation 11652.

The outstanding characteristics of Will are tolerance to greenbugs, high yield potential, powdery mildew resistance, and good winterhardiness.

Will is a six-rowed, rough-awned, facultative winter barley that is midtall and midseason to late in maturity. Early growth is semiprostrate with long, narrow drooping leaves. Spikes are lax to dense, parallel, midlong, and slightly inclined when ripe. Occasional lodging types may be present. Kernels are covered, midlong, and white to light blue in color. Rachilla hairs are short.

During the period 1960 to 1963, Will averaged 9.4 bushels per acre or 22% more than Rogers and 16.8 bushels or 40% more than Harvestine in the 17 station-years experiment station tests. Similar results were obtained during the same period from 26 station-years in the state-wide tests. A part of Will's yield advantage over the other two varieties can be attributed to its higher level of winterhardiness which has averaged 30% greater than Rogers in Oklahoma tests. However, Will has also outyielded Rogers in years when winterkilling did not occur.

Will is similar to Rogers in lodging and disease resistance. Will has averaged approximately one pound lower in test weight than Rogers and more nearly resembles Harbine in this respect. Approximately 1,000 bushels of foundation seed were distributed to certified seed growers in Oklahoma and neighboring states in the fall of 1965.

On the basis of its performance in Oklahoma and regional tests, Will is adapted to all areas of Oklahoma and should make winter barley a more competitive crop in the state.

GEM BARLEY

(Reg. No. 62)

K. H. Klages

'Gem' barley (Hordeum vulgare L. emend. Lam.), CI 7243, is one of several varieties derived from the cross 'Arln' x 'Vaughn' made in 1927 by V. H. Florell at Davis, California, in cooperative work between the California Agricultural Experiment Station and the U. S. Department of Agriculture. Florell brought the hybrid lines of this cross with him when he was transferred to the Idaho Agricultural Experiment Station and selection was continued at Moscow. The final selection was made in 1945 by H. K. Schultz and K. H. Klages. The seed was increased in 1946 and the variety was released in 1947.

Gem is a six-rowed, semismooth-awned, spring, feed barley with early erect growth. It is early in maturity, and has a superior, more erect straw than 'Treb'. The kernels are large and plump. A detailed description has been published.

Table 1 gives the comparative yields of Gem, Trebi, 'Hannchen' and 'Velvon 11' at Moscow, Idaho, under subhumid conditions, and at Aberdeen, Idaho, under irrigation.

Gem is grown as feed barley in Idaho and adjoining states. It is well adapted to the subhumid areas of the Palouse region of northern Idaho and eastern Washington. In 1962 Gem was grown on 14% of the barley acreage in Idaho, and on nearly 40% in Washington. It does well under irrigation in the southern part of Idaho and on the drylands of the southern part of the state, due to its early maturity.

Table 1. Comparative yields of Gem, Trebi, Hannchen, and Velvon 11 grown at Moscow and Aberdeen, Idaho, for the years indicated.

<table>
<thead>
<tr>
<th>Testing stations</th>
<th>Variety</th>
<th>Yields in bushels per acre</th>
<th>% of Trebi</th>
<th>Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moscow</td>
<td>Trebi</td>
<td>62.2 58.9 53.6 52.5 60.7 66.5 60.4 95.0</td>
<td>100.0</td>
<td>63.4</td>
</tr>
<tr>
<td>Gem</td>
<td>62.3 53.1 56.4 57.5 69.9 65.9 63.9 104.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hannchen</td>
<td>55.2 46.7 56.2 69.3 65.9 59.3</td>
<td>97.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aberdeen</td>
<td>Trebi</td>
<td>112.6 112.3 112.4</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Gem</td>
<td>112.1 111.4 112.3 100.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Velvon 11</td>
<td>104.2 105.9 102.1</td>
<td>98.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

KEYSTONE, PARKLAND, AND VANTAGE BARLEYS

(Reg. Nos. 63, 64, and 65)

W. H. Johnston

'Keystone' barley (Hordeum vulgare L. emend. Lam.) C.A.N. 292, CI 10877, was developed at the Canada Department of Agriculture Experimental Farm, Brandon, Manitoba, by W. H. Johnston and D. R. Metcalfe, from the cross 'Vantage' x 'Jet' 2x 'Vantmore'. It was licensed for sale in Canada in 1961 and registered the same year.

The initial cross, Vantage x Jet was made in 1949. In 1952, an F1 family was recovered which was homoygous for both loose smut resistance and the 6-rowed character, and segregating for stem rust resistance, smoothness of awn, kernel color and hull adherence. Selected plants from this family were backcrossed twice to Vantmore and, from the progeny, a line designated Br 502-11 (later Keystone) was isolated in 1956.

Keystone is a six-rowed, smooth-awned, spring barley similar to Vantage in maturity (medium late) and general appearance. The straw is medium tall and highly resistant to lodging. The heads which are held erect, resist shattering. This variety is the first to be released in Canada with high resistance to the prevailing races of both loose smut and stem rust. It has also shown resistance to false loose smut, covered smut and scald. It is moderately susceptible to spot blotch, net blotch, and bacterial stripe and susceptible to Septoria leaf blotch, mildew, and leaf rust.

Keystone is not suitable for malting purposes and has been classified as a feed variety.

1 Registered under a memorandum of understanding between the Crops Research Division, ARS, USDA, and the American Society of Agronomy, Received Sept. 30, 1964.

2 Head, Cereal Crops Section, Canada Department of Agriculture, Research Branch, Experimental Farm, Brandon, Manitoba, Canada.