variety is its excellent baking quality. Its yield is equal to Selkirk in the Red River Valley, although slightly less farther west (see Table 1). It is slightly more rust resistant than Selkirk, but somewhat less resistant to lodging, being about equal to Thatcher in this respect. It is generally one day earlier maturing than Selkirk. It tends to be graded higher than Selkirk in Canada.

Pembina is a hard red spring wheat. Its spike is fusiform, mid-long, mid-dense, with apical awnlets. Glumes are short, narrow to mid-wide, smooth and white, with short, narrow, acute beaks, and shoulders that are narrow and sloping at the base of the spike, mid-wide and square at the centre, narrow and elevated towards the tip. The kernels are ovate, variable in size, hard and red, with a mid-wide, mid-deep crease, rounded to angular cheeks, small to mid-sized, mid-long to long and often collared brush, and with a mid-sized, rounded to oval germ.

Table 1—Mean Yield of Pembina and Selkirk in Black Soil Zone of Manitoba and Saskatchewan, 1954 to 1962.

<table>
<thead>
<tr>
<th>Station</th>
<th>Pembina</th>
<th>Selkirk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winnipeg</td>
<td>33.2</td>
<td>32.4</td>
</tr>
<tr>
<td>Morden</td>
<td>8</td>
<td>41.7</td>
</tr>
<tr>
<td>Portage</td>
<td>9</td>
<td>37.3</td>
</tr>
<tr>
<td>Brandon</td>
<td>9</td>
<td>44.4</td>
</tr>
<tr>
<td>Indian Head</td>
<td>9</td>
<td>34.8</td>
</tr>
<tr>
<td>Pembina</td>
<td>9</td>
<td>37.6</td>
</tr>
<tr>
<td>Melfort</td>
<td></td>
<td>38.2</td>
</tr>
</tbody>
</table>

Pembina is best adapted to the Red River Valley and is unlikely to be grown outside of the rust area.

Pure seed is maintained in Canada from 83 Breeder Lines of separate identity.

CANTHATCH, R.L. 2936, CI 13345, was developed by the Rust Area Project Group, centered at the Canada Department of Agriculture Research Station, Winnipeg. The parentage is Thatcher X Kenyan Farmer, the crosses having been made during the period 1951 to 1953. It was licensed and distributed in Canada in 1959. The new variety is resistant to biotypes of stem rust races 11 and 15B to which Thatcher is susceptible. In all other respects it is similar to Thatcher. Thatcher and Canthatch can only be distinguished by the use of differential races of stem rust.

Canthatch is best adapted to the brown soil zones of Saskatchewan and Alberta. Forty-two tests in this area during the period 1956 to 1959 gave a mean yield of 30.5 bushels per acre for Canthatch, and 30.0 for Thatcher. It is not useful in the leaf rust area because of its susceptibility to this disease.

Pure seed is maintained in Canada from 183 Breeder Lines of separate identity.

REGISTRATION OF REDMAN WHEAT

(Reg. No. 424)

R. F. Peterson

REDMAN, R.L. 1834.7, CI 12638, was developed at Winnipeg by the Dominion Laboratory of Cereal Breeding in co-operation with the Dominion Laboratory of Plant Pathology (both now part of the Canada Department of Agriculture Research Station). The cross was Regent X Canus and was made in 1954. It was licensed in 1946 and distributed in 1947. The original designation was R.L. 1834.4 (CI 12496). A selection was made from the original and distributed in 1950 and was designated R.L. 1834.7 (CI 12638). At the time, Redman offered superior yield and leaf rust resistance for the rust area. Redman has been previously described.

Redman is a hard red spring wheat that has a fusiform, mid-long spike, with apical awnlets. The glumes are yellow at maturity and smooth, with short, wide, acute beaks and mid-wide, sloping to round-edged shoulders. The kernels are red, ovate, mid-wide and smooth, with short awnlets, white to light red, mid-long, mid-wide, rounded, smooth with short awnlets, white to light red, mid-long, mid-wide, rounded, smooth and white, with small, narrow, acute beaks, and shoulders that are narrow and sloping at the base of the spike, mid-wide and square at the centre, narrow and elevated towards the tip. The kernels are ovate, variable in size, hard and red, with a mid-wide, mid-deep crease, rounded to angular cheeks, small to mid-sized, mid-long to long and often collared brush, and with a mid-sized, rounded to oval germ.

The variety 525 was developed by the Arnold-Thomas Seed Service and Pioneer Hi-Bred Corn Company in co-operation. It was registered in commercial seed channels in 1962. 525, experiment 525, X-525, is a synthetic consisting of 22 clones individually spaced from the variety. The 22 clones were based on the following characteristics: plant color, spike color, bloom pattern, regrowth from crown, number of nodes, pod set, pod shape, and tiller number.

The new variety is a winter-hardy alfalfa with a different pattern between that of Ranger and Vernal. It is slightly more rust resistant than Vernal or Ranger and slightly more susceptible to leaf rust. Some of the clones are resistant to the spotted alfalfa aphid, and nearly all the clones have a high degree of bacterial wilt resistance. It is not useful in the area of adaptation of 525 appears to be similar to that of Ranger and Vernal.

In 2-year trials conducted by the developers at Willmar, Minn., Watertown, Wis., and Tipton, Ia., 525 were slightly higher than those of Ranger and Vernal.

Preliminary data at Five Points, Calif., indicated that seed yield of 525 was equal to or slightly higher than the yield of Vernal.

The parental clones will be maintained by the Arnold-Thomas Seed Service in California. The procedure for maintaining foundation classes is as follows:

A. Seed production outside area of adaptation:

The parental clones will be produced in California from vegetative multiplication of the parental clones randomized in a crossing cage or an isolated field. The parental clones or seed from the cage or field will be mass harvested by the Arnold-Thomas Seed Service to produce certified seed.

B. Seed produced in area of adaptation:

The parental clones or commercial seed produced in California. The procedure for maintaining the foundation class of seed in the northern area will be as follows: Foundation class of seed may only be used to produce good clones of seed and/or foundation seed within the variety. The variety name 525 is restricted to the area of adaptation described herein.

An application for review of 525 alfalfa in the United States was presented to the National Certified Alfalfa Variety Review Board at its January 1962 meeting and received favorable consideration. Also, application to the California Crop Improvement Association was made in January 1962 to certify 525 in California and 525 was approved.

REGISTRATION OF CHEROKEE ALFALFA

(Reg. No. 15)

Lloyd E. Arnold

The variety CHEROKEE alfalfa was developed jointly by the North Carolina State University and the California Alfalfa Improvement Association. The new variety is a winter-hardy alfalfa with a fall growth habit. It is resistant to the potato leafhopper and has a good adaptation to the northern area. CHEROKEE is a hybrid of 22 clones selected from 3,000 clones obtained by the National Alfalfa Foundation. The new variety is a synthetic consisting of 22 clones entered into a crossing cage or an isolated field. The parental clones will be maintained by the Arnold-Thomas Seed Service, P.O. Box 274, Minneapolis, Minn. 55440.

The new variety is characterized by a high degree of resistance to bacterial wilt, a high degree of resistance to leaf rust, and a high degree of resistance to leaf spot. CHEROKEE is adapted to the northern area of the United States and is characterized by its resistance to bacterial wilt, leaf rust, and leaf spot. The new variety is a semi-dwarf, semi-determinate variety that is adapted to the northern area of the United States.