REGISTRATION OF 525 ALFALFA
(Reg. No. 15)
Lloyd E. Arnold^2

The variety 525 was developed by the U.S. Department of Agriculture, Agricultural Research Service and Pioneer Hi-Bred Corn Company for commercial channel distribution. In 1952, the hybrid X-525, developed by cross Canus × Redman, was a synthetic consisting of 22 clones of alfalfa, individually spaced from the variety. The parents of the 22 clones were based on the following characteristics: color, bloom pattern, regrowth from crown, seed size, plant color, plant vigor, pod set, pod shape, and seed color.

The new variety is a winter-hardy alfalfa with a fall growth period that is slightly shorter than Ranger or Vernal, and is more resistant to bacterial leaf blight. The variety tends to be more vigorous in the northern area than in the southern area. The new variety appears to be similar to that of Ranger and Vernal.

In 2-year trials conducted by the developers at Johnston, Iowa, and Willmar, Minn., Watertown, Wis., and Two Harbors, Minn., the yield of 525 was equal to or slightly higher than that of Ranger and Vernal.

The parental clones will be maintained by the United States Department of Agriculture, Agricultural Research Service in California. The procedure for maintaining the parental clones is as follows:

A. Seed production outside area of adaptation:

1. USDA. Severance will be managed by the USDA. The seed will be produced from the parental clones in the area of adaptation. The seed will be mass harvested and planted in the area of adaptation.

2. California. Seed will be produced in California from vegetative seedlings from the parental clones in the area of adaptation. The seed will be mass harvested and planted in the area of adaptation.

In 1960 and 1961, preliminary data were collected at the USDA Station in the area of adaptation. The parental clones were maintained in the USDA Station and the seed was harvested and planted in the area of adaptation.

In 1961, the parental clones were planted in the USDA Station and the seed was harvested and planted in the area of adaptation.

B. Seed production in area of adaptation:

The variety is to be grown only in the area of adaptation. The seed will be produced from the parental clones in the area of adaptation. The seed will be mass harvested and planted in the area of adaptation.

C. Limitation of seed classes and use of variety name:

The variety is to be grown only in the area of adaptation. The seed will be produced from the parental clones in the area of adaptation. The seed will be mass harvested and planted in the area of adaptation.

An application for review of 525 alfalfa has been presented to the National Certified Alfalfa Variety Review Board at its January 1962 meeting and reviewed. The variety was approved for certification in California and the seed was offered to growers in the area of adaptation.

REGISTRATION OF REDMAN WHEAT
(Reg. No. 424)
R. F. Peterson^1

Redman, R.L. 1834.7, CI 12638, was developed at Winnipeg by the Dominion Laboratory of Cereal Breeding in cooperation with the Dominion Laboratory of Plant Pathology (both part of the Canada Department of Agriculture Research Station). The cross was Regent × Canus and was made in 1934. It was licensed in 1946 and distributed in 1947. The original designation was R.L. 1834.7 (12638). 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 rounded, shoulders. The kernels are red, ovate and medium large, with a 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>Years</th>
<th>Pembina</th>
<th>Selkirk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winnipeg</td>
<td>8</td>
<td>33.2</td>
<td>32.4</td>
</tr>
<tr>
<td>Morden</td>
<td>8</td>
<td>41.7</td>
<td>41.8</td>
</tr>
<tr>
<td>Portage</td>
<td>8</td>
<td>37.3</td>
<td>37.4</td>
</tr>
<tr>
<td>Brandon</td>
<td>8</td>
<td>44.4</td>
<td>46.2</td>
</tr>
<tr>
<td>Indian Head</td>
<td>9</td>
<td>34.4</td>
<td>35.7</td>
</tr>
<tr>
<td>Melfort</td>
<td>9</td>
<td>37.6</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 × Kenya Farmer, the crosses having been made during the period 1951 to 1953. It was licensed and distributed in Canada in 1959. 3

CANTHATCH, a hard red spring wheat, has the Sr7 gene and 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.