REGISTRATION OF STADLER WHEAT
(Reg. No. 458)

Charles Hayward and J. M. Poehlman

‘STADLER,’ Triticum aestivum L., em Thell., C.I. 13704, is a soft red winter wheat variety developed cooperatively by the Missouri Agricultural Experiment Station and the Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Selection No. 6992, which later became Stadler, originated as a single plant selected from a spaced population in 1957. The basic population was a selection from the cross ‘Thorne’ × ‘Clarkan,’ made in 1942. Seed of the basic population had been irradiated with thermal neutrons at Brookhaven National Laboratory in 1955. Seed from R1 plants was again irradiated in 1956, and the population from which Stadler was selected was grown in 1957.

Stadler is of winter habit, early, midtall; stem white, midstrong; spike fusiform, awnleted, middense, inclined; glumes glabrous, white, midlong, and midwide; shoulders midwide, rounded; beaks midwide, obtuse, 0.5 to 1 mm long, awnlets strong; spike fusiform, awnleted, middense, inclined; glumes glabrous, white, midlong, midwide; shoulders midwide, middeep to deep; cheeks rounded; brush midsized and midlong.

Stadler has a very good performance record in Missouri (Table 1). It is high in yield, resistant to prevalent races of leaf rust and loose smut, has good test weight, and is moderately resistant to soilborne mosaic. It is susceptible to stem rust (early maturity of Stadler is of value in escaping damage), powdery mildew, and to hessian fly. Stadler is one of the more winterhardy varieties adapted to Missouri. It is similar in height to ‘Knox’ but has stiffer straw.

Stadler has excellent soft wheat milling and baking properties. The flour is well-suited for cookies and cakes.

Foundation seed was distributed in 1964 by the Missouri Agricultural Experiment Station, Columbia, Mo., and seed is being maintained by this Agency.

Table 1. Mean performance of Stadler, Lewis, and three other recommended wheat varieties grown in Missouri at four locations in 1961-1965.

<table>
<thead>
<tr>
<th>Variety</th>
<th>Date head-ed</th>
<th>R.t., in.</th>
<th>lodging, %</th>
<th>Test wt, lb/bu</th>
<th>Yield, bu/a</th>
<th>Leaf rust, %</th>
<th>Loose smut, %</th>
<th>H/R*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stadler</td>
<td>(7)†</td>
<td>(17)</td>
<td>(11)</td>
<td>(17)</td>
<td>(17)</td>
<td>(8)</td>
<td>(4)</td>
<td></td>
</tr>
<tr>
<td>Lewis</td>
<td>5/13</td>
<td>40</td>
<td>13</td>
<td>59.5</td>
<td>44.1</td>
<td>14</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Monon</td>
<td>12</td>
<td>37</td>
<td>11</td>
<td>57.1</td>
<td>42.9</td>
<td>50</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Knox</td>
<td>12</td>
<td>41</td>
<td>16</td>
<td>59.1</td>
<td>39.1</td>
<td>14</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Pawnee</td>
<td>12</td>
<td>41</td>
<td>22</td>
<td>59.1</td>
<td>36.9</td>
<td>12</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

* Heads per 10' row. † Number in parentheses refers to number of observations.

1 Registered by the Crop Science Society of America. Received Nov. 25, 1966. Published with the approval of the Director, Missouri Agricultural Experiment Station, as Journal Series Paper No. 4053.

2 Senior Agronomist, W. R. Grace & Co., Rud-Patrick Seed Division, Hutchinson, Kans., and former Associate Professor of Field Crops, University of Missouri, and Professor of Field Crops, University of Missouri, Columbia, Mo., respectively.

REGISTRATION OF LEWIS DURUM WHEAT
(Reg. No. 460)

K. L. Lübsock, F. J. Gough, and L. D. Sikkema

‘LEWIS’ wheat, (Triticum durum Desf.) C.I. 1376, was developed and released May 15, 1966, cooperatively by the North Dakota Agricultural Experiment Station and the Crops Research Division, Agricultural Research Service, U.S. Department of Agriculture. Lewis originated from the cross (Ld 357 X ‘Wells’ made at Fargo, N. D., in 1955) × Ld 357) X ‘Wells’ made at Fargo, N. D., in 1955 and bulked as selection 60-115 in the F5 generation, which was grown at the Mexican Ministry of Agriculture Experimental Station in Ciudad Obregon, Mexico, in 1961, and entered in yield trials in North Dakota in 1961.

Leeds is a spring variety with an erect, oblong, dense and awned spike. The stem is moderately short and usually white in color, but some red to purple color at times. Its glumes are glabrous, midlong, with narrow, elevated shoulders, and wide beaks long. Kernels of Leeds are amber hard, midlong, and essentially brushless.

Major agronomic advantages of Leeds over the predominating variety, Wells, are its larger, heavier kernels and higher test weight. The average 1000-kernel weight of Leeds is heavier than Wells, and it has exceeded Wells in pounds per bushel (3.22 kg/hl). Leeds has been more resistant to lodging than Wells, but similar in grain yield and quality, and straw height. It is expected to perform satisfactorily throughout the traditional durum-producing areas of the central United States.

Leeds has been highly resistant to prevalent current stem rust organism when tested under field conditions in seedling nurseries and seedling populations in North Dakota. It is highly resistant to stem rust in many of the countries in the International Spring Wheat Rust Nursery, and it is maintained at the North Dakota Agricultural Experiment Station with the approval of the Director, USDA.

Foundation seed of Lewis was distributed in 1964 by the Missouri Agricultural Experiment Station, Columbia, Mo., and seed is being maintained by this Agency.