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 ‘Thorone’ x ‘Clarkan’, made in 1942. Seed of the basic population had been irradiated with thermal neutrons at Brookhaven National Laboratory in 1955. Seed from R₂ plants was again irradiated in 1956, and the population from which Stadler was selected was grown in 1957. The basic population was a selection from the cross ‘Early Premium’ x ‘Clarkan’. Stadler is of winter habit, early, short; stem midstrong to strong; spike fusiform, awnleted, midnarrow, erect; glumes glabrous, white, midlong, midwide; shoulders midwide, rounded; beaks midwide, obtuse, 0.5 to 1 mm long; awnlets white, 2 to 8 mm long; kernels red, midlong, soft, ovate; germ mid sized to small; crease midwide, shallow to middeep; cheeks rounded; brush midsized and midlong.

Stadler is of winter habit, early, midtall; stem white, midstrong; spike fusiform, awnleted, midnarrow, inclined; glumes glabrous, white, midlong, and midwide; shoulders midwide, rounded; beaks midwide, obtuse, 0.5 to 1 mm long, awnlets white, 2 to 8 mm long; kernels red, midlong, soft, ovate; germ mid sized to small; crease midwide, shallow to middeep; 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 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 harvested</th>
<th>Lodging</th>
<th>Test weight</th>
<th>Yield</th>
<th>Leaf rust</th>
<th>Loose smut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stadler</td>
<td>11/13</td>
<td>17</td>
<td>59.5</td>
<td>44.1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Lewis</td>
<td>12/19</td>
<td>16</td>
<td>57.1</td>
<td>42.9</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Monon</td>
<td>11/14</td>
<td>15</td>
<td>58.2</td>
<td>42.1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Knox</td>
<td>12/19</td>
<td>16</td>
<td>59.1</td>
<td>20.1</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>Pawnee</td>
<td>12/17</td>
<td>15</td>
<td>56.1</td>
<td>28.9</td>
<td>42</td>
<td>0</td>
</tr>
</tbody>
</table>

* Heads per 10¹ row. † Number in parenthesis refers to number of observations.

REGISTRATION OF LEWIS WHEAT

(Reg. No. 459)

Charles Hayward and J. M. Poehlman

‘LEWIS’, Triticum aestivum L. em Thell., C.I. 13705, is a soft red winter wheat variety developed by the Missouri Agricultural Experiment Station, Columbia, Mo. Lewis is similar to Wells in milling yield and gluten characteristics. The average 1000-kernel weight of Leeds is about 2.5% heavier than Wells, and it has exceeded Wells by about 2.5 pounds per bushel (3.22 kg/hl). Lewis has been slightly more resistant to lodging than Wells, but similar in grain yield, maturity, and straw height. It is expected to perform satisfactorily throughout the traditional durum-producing areas of the north central United States.

Lewis has been highly resistant to prevalent cultures of the stem rust organism when tested under field conditions and as seedlings in the greenhouse in North Dakota. It has also been highly resistant to stem rust in many of the countries in which the International Spring Wheat Rust Nursery has been grown. Major agronomic advantages of Lewis over the predominating variety, Wells, are its larger, heavier kernels and its higher test weight. The average 1000-kernel weight of Leeds is about 2.5% heavier than Wells, and it has exceeded Wells by about 2.5 pounds per bushel (3.22 kg/hl). Lewis has been slightly more resistant to lodging than Wells, but similar in grain yield, maturity, and straw height. It is expected to perform satisfactorily throughout the traditional durum-producing areas of the north central United States.

Lewis has been identified as a highly resistant source of the stem rust organism when tested under field conditions and as seedlings in the greenhouse in North Dakota. It has also been identified as a highly resistant source of stem rust in many of the countries in which the International Spring Wheat Rust Nursery has been grown. Major agronomic advantages of Lewis over the predominating variety, Wells, are its larger, heavier kernels and its higher test weight. The average 1000-kernel weight of Leeds is about 2.5% heavier than Wells, and it has exceeded Wells by about 2.5 pounds per bushel (3.22 kg/hl). Lewis has been slightly more resistant to lodging than Wells, but similar in grain yield, maturity, and straw height. It is expected to perform satisfactorily throughout the traditional durum-producing areas of the north central United States.

REGISTRATION OF LEEDS DURUM WHEAT

(Reg. No. 460)

K. L. Lebsock, F. J. Gough, and L. D. Sibbitt

‘LEEDS’ wheat, (Triticum durum Desf. C.I. 13768, is a variety developed and released May 15, 1966, cooperatively by the North Dakota Agricultural Experiment Station and the International Field Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Leeds originated from the cross (Ld 575 x St 464 – Ld 575) x ‘Wells’ made at Fargo, N. D., in 1957. Leeds was bulked as selection 60-115 in the F₂ generation, which was grown at the Mexican Ministry of Agriculture Experiment Station near Ciudad Obregon, Mexico, in 1961, and entered in preliminary yield trials in North Dakota in 1961.

Leeds is a spring variety with an erect, oblong, dense and awnless spike. The stem is medium to strong and usually white in color, but some red to purple coloration occurs at times. Its glumes are glabrous, midlong, midwide to long with narrow, elevated shoulders, and wide beaks 2 to 3 mm long. Kernels of Leeds are amber, hard, midlong, elliptical, and essentially brushless.

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Reg. No. 460