REGISTRATION OF FULCASTER 612 WHEAT

(Reg. No. 410)

Edward L. Smith

FULCASTER 612, CI 13715, (Tenn. 612) is a soft red winter wheat developed by the Tennessee Agricultural Experiment Station. It was distributed in 1940.

According to C. D. Sherbakof, who developed the variety, Fulcaster 612 resulted from a pure line selection from a field of bearded wheat (presumably Fulcaster, CI 4862) that had been grown for a number of years on a farm in Dyer County, Tenn. The selection was made in 1929.

For a number of years Fulcaster 612 was grown extensively in Tennessee and to some extent in surrounding states. At the present time this variety is being grown to a limited extent in Tennessee.

Fulcaster 612 is midseason in maturity, tall in height; the stems are purple and midweak; the spike is awned, fusiform, and lax; the glumes are white; and the kernels are soft and red. Fulcaster 612 differs from Fulcaster only in its greater uniformity in appearance and in its consistently higher yielding capacity.

1 Registered under a memorandum of understanding between the Crops Research Division, ARS, USDA, and the American Society of Agronomy. This investigation was conducted in connection with a project of the Tennessee Agricultural Experiment Station and is published with approval of the Director. Received Feb. 14, 1963.

REGISTRATION OF KAW WHEAT

(Reg. No. 411)


KAW, CI 12871, is a hard red winter wheat selection from the cross (Early Black Hull X Tenny) X (Oro X Mediterranean-Hope), made in 1941. The maternal parent was a sister selection of Wichita. The final selection, in F6, was made in 1947 and given the number KS 471238. It was entered in the Uniform Hard Red Winter Wheat Performance Nursery in 1953. Kaw was released jointly by the Kansas and Oklahoma Agricultural Experiment Stations in 1960.

Kaw has a winter habit of growth, is early and mid-mall. The parts have the following textures: stem-white, midstrength to weak; spike-awned, fusiform, middense, inclined; glumes-glabrous, white, midlong, narrow to midwide; shoulders-midwide, oblique to rounded; beads-midwide, acuminate, 2 to 4 mm. long; awn-white, 2 to 6 cm. long; kernels-red, midlong, hard, ovate; germ-midsmall to small; crease-midwide, shallow; cheeks-rounded; brush-midstrong, short.

Kaw is resistant to race 56 of stem rust, but not to race 15B. It resists the races of leaf rust prevalent in Kansas at the time of release. Kaw resists the bunt races common in Kansas. It is susceptible to loose smut, soiling disease, streak mosaic, and to hessian fly. It is not as winter-hardy as Wichita but shatters less.

The original material released was heterogeneous for resistance to stem rust race 56. Later, breeders seed was purified so that the strain now available is homogeneous for resistance to race 56 of stem rust. Some difficulty has occurred in maintaining pure seed. The common mixtures present have been plants that are taller and at heading stage have a darker blue-green foliage color, plants with spikes having both black and red glumes, and a few plants susceptible to both leaf and stem rust. These mixtures have constituted about 0.5% of the population.

Kaw is high in test weight and is a good quality hard wheat. Mixing time and other physical dough properties approach those of Cheyenne. The bread baking properties of Kaw are more stable to the adverse effects of high temperature and low humidities during the fruiting period than most hard winter wheat varieties. It has been evaluated for quality by Kansas State University, USDA, and by several Baking and Milling Industry Laboratories. Data on several characteristics of Kaw and other recommended varieties for Kansas are given in Table 1.

REGISTRATION OF OTTAWA WHEAT

(Reg. No. 412)

E. G. Heyne, E. T. Jones, and C. O. Johnston

OTTAWA, CI 12804, is a hard red winter wheat selection from the cross (Mediterranean-Hope X Pawnee) X (Oro-IIIinois No. 1 (W38) X Comanche) made in 1945. The final selection, Ks 48954, was made in 1948 in the F7 generation. This line segregated for reaction to race 56 of stem rust. About 50 stem rust resistant progenies were bulked in 1957 for increase of what became Ottawa. It was distributed to Kansas farmers in the fall of 1960. In 1962 it was grown commercially in Kansas, Nebraska, and Illinois.

Ottawa has a winter habit of growth, is early to midseason and short. Its parts have the following characteristics: stem-white, strong; spike-awned, fusiform, middense, inclined; glumes-glabrous, brown, midlong, narrow to midwide; shoulders-midwide, rounded to oblique; beads-narrow, acuminate, 3 to 8 mm. long; awns-white (light brown), 3 to 6 cm. long; kernels-red, midlong, hard, ovate; germ-midsmall; create-midwide, shallow; cheeks-rounded; brush-midstrong, midlong.

Ottawa is resistant to race 56 of stem rust, but not to 15B. It resists, in the adult stage, the races of leaf rust prevalent in Kansas at the time it was released. It resists soliome disease and is particularly adapted for growing in the mosaic-infested areas of eastern Kansas. Ottawa is moderately susceptible to loose smut and bunt, and susceptible to streak mosaic. It resists hessian fly attack.

The source of hessian fly resistance (W38 in the pedigree) is different from that found in Pawnee and Ponca. Ottawa has nearly the same degree of winterhardiness as Pawnee but it shatters less.

During the period Ottawa has been tested the yields have been good, especially when lodging, stem and leaf rust, or soliome disease have been present. In southwest and south central Nebraska Ottawa was outstanding in the presence of hessian fly and stem rust infection. The weight test is average and the grain bleaches readily in the field. However, it is superior to

Table 1—Yield, test weight, disease response, and quality of Kaw and other commercial varieties of wheat in Kansas, 1955-1962.

<table>
<thead>
<tr>
<th>Wheat Variety</th>
<th>Yield, lb./bu.</th>
<th>Test wt., lb./bu.</th>
<th>Bunt, %</th>
<th>Leaf rust, %</th>
<th>Stem rust, %</th>
<th>Mixing time, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaw</td>
<td>59</td>
<td>6.5</td>
<td>10 yrs.</td>
<td>3 yrs.</td>
<td>9 yrs.</td>
<td></td>
</tr>
<tr>
<td>Wichita</td>
<td>60</td>
<td>6.7</td>
<td>11 yrs.</td>
<td>2 yrs.</td>
<td>3 yrs.</td>
<td></td>
</tr>
<tr>
<td>Triumph</td>
<td>59</td>
<td>6.6</td>
<td>10 yrs.</td>
<td>2 yrs.</td>
<td>3 yrs.</td>
<td></td>
</tr>
<tr>
<td>Bicentennial</td>
<td>57</td>
<td>6.5</td>
<td>10 yrs.</td>
<td>2 yrs.</td>
<td>3 yrs.</td>
<td></td>
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