REGISTRATION OF CAROLEE OATS
(Reg. No. 180)

Charles F. Murphy

CAROLEE (Avena sativa L.) (C.I. 7513, C.I. 3791) and Letoria (Reg. No. 124, C.I. 3392) have been published (3, 4). Santa Fe (C.I. 4518) was developed in Argentina by Ing. Ay. Jose Vallega as a pure line selection of an unnamed commercial seed lot and was found resistant to the same races of crown rust in Argentina (5).

Carolee is relatively short, stiff strawed winter oat of medium maturity. It is characterized by a dense panicle which sets a large number of relatively small seeds and the lemma shows a characteristic reddish-brown color at maturity. Although lacking good crown and stem rust resistance, Carolee has shown exceptional yield potential. The 1960-62 average yields (2) from the Coastal Plain show Carolee to have averaged 76.8 bushels per acre, as compared with 67.6 for Moregrain and 57.4 for Arlington. In the Uniform Central Area winter oat nursery (1), grown at 11 locations in 1961, Carolee ranked first in yield with an average yield of 96.3 bushels per acre. This yield was nearly four bushels more than the average yield of the second ranking variety.

Foundation seed of Carolee was first released to the farmers in 1960. It is expected to become a popular grain variety in North Carolina and its performance in uniform nurseries (1) indicates that it yields well throughout the central winter oat area.

REGISTRATION OF DURAR HARD FESCUE
(Reg. No. 4)

J. L. Schwendiman, A. L. Hafenrichter, and A. G. Law

DURAR' hard fescue, Festuca ovina var. duriuscula (L.) Koch, was developed by recurrent selection at Pullman, Washington. It was originally collected by V. B. Hawk in 1934 from an old planting at the Eastern Oregon Branch Experiment Station at Union, Oregon. Propagated and tested as P-2517, Durar has been compared with chewings fescue, creeping red fescue, sheep fescue, Idaho fescue, and other fine-leaved fescues. Uses include plantings for erosion control on roadsides, ditches, farm ponds, skid roads, and for orchard cover crops, improvement of soil tilth, and weed suppression (1, 4).

The competitive character of this variety was demonstrated in a spring 1940 planting of 5 pounds hard fescue with 5 pounds of crested wheatgrass on Palouse silt loam at Pullman. Data in Table 1 show Durar increased from 2% in 1940 to over 90% in 4 years. In six years it completely suppressed crested wheatgrass. When grown in pure stand for six production years at the Idaho Branch Experiment Station at Teton, Durar was found to be more productive and better adapted than chewings fescue (5).

Comparisons with chewings and creeping red fescue were made in alternate row seedings with alfalfa during the years 1943-45 at Pendleton, Oregon, and at Pullman, Washington (6). At both locations alfalfa-Durar mixtures excelled the other fine-leaved fescue mixtures in production of roots. Durar was more persistent, and at the end of 5 years produced 4.68 tons of air-dry roots in the surface 8 inches of soil, 25% more than either of the other fescues.

Root production data are available from other plantings at Pullman (2, 3). Top and root production of 11 dryland grasses were studied for 3 years (1941-1946) when managed as hay and when clipped at 21-day intervals. Durar produced 15,000 and 7,500 pounds of air-dry roots per acre in the surface 8 inches of soil on Palouse silt loam when managed as hay and when clipped, respectively. When grown in alternate rows with alfalfa and managed as hay for 3 years, the Durar-alfalfa mixture produced 19.134 pounds of roots per acre 8 inches of soil, of which 68% were Durar roots. Alfalfa alone produced 9,429 pounds of roots.

Durar is a moderately tall, semierect, densely tufted fine-leaved perennial bunchgrass. It is more uniform, drought resistant, and shade tolerant than chewings fescue. It has abundant long, narrow, lax, basal, somewhat harsh leaves. Culms are numerous and fine and average production of seed is 700 pounds per acre. In dense plantings few seed heads are produced after the third year. The superior characteristics of Durar are: good seed production, disease resistance, competitive ability, durability, longevity, leafiness, and heavy production of fibrous roots.

This competitive fine-leaved fescue is well adapted to dryland areas of the west and northwest in rainfall zones of 12 to 30 inches and on well drained soil under irrigation. It is grown successfully on brown, chernozem, chestnut, prairie, and brown podsolic zonal soils.

Foundation seed was released as hard fescue P-2517 in 1949 by the USDA-SCS Plant Materials Center at Pullman, Washington, in cooperation with the Washington, Oregon, and Idaho Experimental Stations. The variety name, Durar, was assigned in 1962. Seed is commercially available. The variety is increased on a limited generation basis with three recognized classes of seed—breeder, foundation and certified. Breeder seed is maintained at the SCS Plant Materials Center at Pullman. Seed produced from certified seed is not eligible for certification.

Table 1. Production of Durar hard fescue and crested wheatgrass when seeded in a mixture and harvested annually as hay stage. Data are averages of 3 replications.

<table>
<thead>
<tr>
<th>Variety</th>
<th>1963 Pounds Dry Matter per acre</th>
<th>1964 Pounds Dry Matter per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durar hard fescue</td>
<td>900</td>
<td>1000</td>
</tr>
<tr>
<td>Creasted wheatgrass</td>
<td>1046</td>
<td>489</td>
</tr>
<tr>
<td>Total</td>
<td>1946</td>
<td>1589</td>
</tr>
</tbody>
</table>

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* Registered under a memorandum of understanding between the Crops Research Division, USDA, and the American Society of Agronomy. Received Aug. 1, 1963.
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1964