Registration of Crop Varieties

REGISTRATION OF CAROLEE OATS¹
(Reg. No. 180)

Charles F. Murphy²

'CAROLEE' (Avena sativa L.) (C.I. 7513, N.C. No. 64) was developed by W. H. Davis, G. K. Muddleton, and T. T. Hebert at the North Carolina Agricultural Experiment Station, in cooperation with the U.S. Department of Agriculture, as a selection from the cross Letoria × (Clinton—Santa Fe), apparently made by F. A. Coffman at Beltsville, Md., in 1947. Initial selection was made at North Carolina, in 1954, and the variety was released in 1960. The history and performance of Clinton (Reg. No. 105, C.I. 3971) and Letoria (Reg. No. 124, C.I. 3392) have been published (3, 4). Santa Fe (C.I. 4518) was developed in Argentina by Ing. Ayr. Jose Vallega as a pure line selection of an unnamed commercial seed lot and was found resistant to 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 averages (2) from the Coastal Plains 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.

Literature Cited


¹ Registered under a memorandum of understanding between the Crops Research Division, ARS, USDA, and the American Society of Agronomy. Received Aug. 1, 1963.
² Assistant Professor of Crop Science, North Carolina Agricultural Experiment Station, Raleigh, N. C.

The competitive character of this variety was demonstrated in a spring 1940 planting of 5 pounds hard rescue with crested wheatgrass on Palouse silt loam at Pendleton, Oregon. Data (1) show Durar increased from 4% in 1940 to over 90% in 1944. In six years it completely suppressed crested wheatgrass.

Comparisons with chewings fescue in alternate row seedings showed Durar hard rescue mixtures exceeded chewings fescue mixtures in production of roots. Durar increased from 2% in 1940 to over 90% in 4 years. In six years it completely suppressed crested wheatgrass.

Root production data are available from Idaho Rescue, and other fine-leaved rescues. Uses include plantings for erosion control on roadsides, ditch banks, farm ponds, and for orchard cover crops, improved weed suppression (1, 4).

This competitive fine-leaved fescue is well adapted to 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, and podsolic zonal soils.

Foundation seed was released as hard rescue by the USDA-SCS Plant Materials Center in cooperation with the Washington, Oregon, and Idaho Experiment 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 mainly handled by the USDA-SCS Plant Materials Center at Pullman. Seed production of Durar hard rescue is not eligible for certification.

Table 1. Production of Durar hard fescue and crested wheatgrass when seeded in a mixture and harvested at the hay stage. Data are averages of 3 years.

<table>
<thead>
<tr>
<th>Variety</th>
<th>1941</th>
<th>1942</th>
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<tbody>
<tr>
<td>Durar hard fescue</td>
<td>90</td>
<td>800</td>
</tr>
<tr>
<td>Crested wheatgrass</td>
<td>4000</td>
<td>1044</td>
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</tbody>
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* Field Plant Materials Technician, Pullman, Wash., Washington, Oregon, and Idaho Field Plant Materials Technician, Portland, Oregon, and Pullman, Washington (6). At both locations alfalfa-Durar mixtures exceeded chewings fescue mixtures in production of roots. Durar roots, Alfalfa alone produced 9,429 pounds of roots per surface acre 8 inches, of which 68% were Durar roots. Alfalfa alone produced 9,429 pounds of roots per surface acre 8 inches, of which 68% were Durar roots. Alfalfa alone produced 9,429 pounds of roots per surface acre 8 inches, of which 68% were Durar roots. Alfalfa alone produced 9,429 pounds of roots per surface acre 8 inches, of which 68% were Durar roots.