Breeder seed is maintained by regular examination of stocks in spaced plant blocks at the Soil Conservation Service Plant Materials Center, Pullman, Washington.

Literature Cited

REGISTRATION OF VARIETIES OF OTHER GRASSES

VOLGA Giant Wildrye (Reg. No. 9)

A. L. HAFENRICH, J. L. SCHWENDIMAN, AND A. G. LAW

'VOLGA' giant wildrye grass, Elymus giganteus Vahl., was developed for vegetative control of inland sand dunes in the Pacific Northwest. Grasses used for coastal dune control are not climatically adapted to rigorous inland conditions, particularly drought and temperature extremes. P. F. 106.491, from which Volga developed, was one of the Westover-Enlow 1934 expedition introductions from the Lower Volga River region of the USSR. Volga was propagated and tested at Pullman, Washington, as P-208 along with 6 other introductions of the species.

Three of the best strains and related native and introduced sand-stilling species were planted vegetatively in randomized replicated blocks in the fall of 1939 on an active inland sand dune not far from the Dryland Agricultural Experiment Station at Lind, Wash.

Table 1 gives the comparative performance of the better grasses included in that planting. The name Volga was assigned in 1947, and the results of the comparative study were published (5). Although most of the strains and species have died out, Volga has increased and in 15 years has covered an area several acres in size and is effective in stilling the sand.

In the spring of 1948 culms of Volga and one other selection were made available to the U. S. Bureau of Reclamation for increase. Culms were harvested, cleaned, and replanted. In the following years the technical aspects of culture, harvesting, planting, and mechanical handling were worked out. Further use and observation showed Volga to be superior to other strains.

Volga wildrye plants are tall and have sparse, stout, erect culms to 40 inches; numerous, coarse, 3/8-inch wide, pale green, stiff, nonpalatable leaves; heavy, short rhizomes; dense, cylindrical spikes that are 1 inch in diameter at the base and taper to a point 10 to 15 inches; large seeds with sharp pointed glumes; seeds that germinate readily. The rate of increase of Volga wildrye when propagated vegetatively under good cultural conditions is 15 to 20% in one season. Additional descriptive information is available (2, 3).

The outstanding characteristics of Volga are: vigorous growth, rapid vegetative increase, ability to still sand, and withstanding sand deposition; relative coarseness and nonpalatibility to livestock and rodents; longevity; and production of large seeds with excellent seedling vigor.

Volga giant wildrye can be used to control erosion on inland sand dunes of the West where an average of at least 9 inches of annual rainfall is received annually (1, 2). In 1961, Volga was maintained vegetatively at the USDA-SCS Plant Materials Center, Pullman, Washington. Increase is by culms from the breeder stock. Seed from cloned plants is also held in reserve for rapid increase.

Table 1. Registration of Gaines Wheat

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent Stand</th>
<th>Vigor</th>
<th>It. Seed</th>
<th>Root Inc.</th>
<th>Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1941</td>
<td>66</td>
<td>G</td>
<td>10</td>
<td>0</td>
<td>O</td>
</tr>
<tr>
<td>1942</td>
<td>75</td>
<td>E</td>
<td>15</td>
<td>1</td>
<td>G</td>
</tr>
<tr>
<td>1943</td>
<td>75</td>
<td>G</td>
<td>15</td>
<td>1</td>
<td>G</td>
</tr>
<tr>
<td>1944</td>
<td>75</td>
<td>G</td>
<td>15</td>
<td>1</td>
<td>G</td>
</tr>
</tbody>
</table>

REGISTRATION OF GAINES WHEAT

(O. A. Vogel)

'GAINES' (Triticum aestivum L.) C.I. 13448, is a semi-dwarf soft white winter wheat developed by Washington State University and the Crops Research Division, ARS, U.S. Department of Agriculture. It was released in 1961 cooperatively by the Crops Research Division, ARS, and the Washington, Oregon, and Idaho Agricultural Experiment Stations.

Gaines is Selection 9 from the cross [(Norin 10 X Brevor)-14 X (Orfed X Hybrid 50-3)]. It is resistant to lodging, shattering, all known races of common bunt, and most races of dwarf bunt. Gaines is Selection 9 from the cross [(Norin 10 X Brevor)-14 X (Orfed X Hybrid 50-3)] X Burt. The final selection was made at Pullman, Washington, in 1956. It was named in honor of O. A. Vogel, Gaines, Cerealist at Washington State University from 1913 to 1944.

Gaines is a white-chaff awned variety, medium-tall semi-dwarf with medium-small diameter stem and medium-small leaves. It is highly resistant to lodging, shattering, all known races of common bunt, and most races of dwarf bunt. It has fair field resistance to stripe rust and powdery mildew.

Gaines appears to be widely adapted in the Pacific Northwest. At soil fertility levels generally used for standard-height varieties, it usually yields 5 to 20% higher than the highest yielding commercial varieties. However, on well-managed, highly productive

Table 1. Production of Draylar and other varieties of bluegrass when grown at 3 locations in the Northwest.

<table>
<thead>
<tr>
<th>Location</th>
<th>Air dry weight, pounds per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draylar*</td>
<td>Sherman Delta</td>
</tr>
<tr>
<td>Priest River, Idaho. Seeded on cut-over land, fall 1964, 5-year aver.</td>
<td>1889</td>
</tr>
<tr>
<td>Union, Oregon. Mountain meadow seeded, fall 1963, 4-year aver.</td>
<td>670</td>
</tr>
<tr>
<td>Union, Oregon. Eastern Branch Exp. Sta. (4)-seeded spring 1961, 4-year aver.</td>
<td>1360</td>
</tr>
</tbody>
</table>

* P. glaucantha. † P. ampla. ‡ P. pratensis. § P. compressa.

Accession numbers of SCS Plant Materials Centers in the Western states.

1 Registered under a memorandum of understanding between the Crops Research Division, ARS, USDA, and the American Society of Agronomy, Approved for publication by the Directors of the Washington, Oregon, and Idaho Agricultural Experiment Station.

2 Registered under a memorandum of understanding between the Crops Research Division, ARS, USDA, and the American Society of Agronomy, Approved for publication by the Directors of the Washington, Oregon, and Idaho Agricultural Experiment Station.

3 Registered under a memorandum of understanding between the Crops Research Division, ARS, USDA, and the American Society of Agronomy, Approved for publication by the Directors of the Washington, Oregon, and Idaho Agricultural Experiment Station.

4 Registered under a memorandum of understanding between the Crops Research Division, ARS, USDA, and the American Society of Agronomy, Approved for publication by the Directors of the Washington, Oregon, and Idaho Agricultural Experiment Station.