REGISTRATION OF GERMPLASMS 745
at Chillicothe and Bushland. It has performed well in dryland trials at Chillicothe, producing an average of 400 kg/ha more than 'Improved Triumph'; substantially higher yields than Sturdy, 'Caprock', and TAM W-101, and a higher yield than later maturing Centurk. In general, it has produced lower yields than other commercial varieties in dryland trials at Bushland. It is similar to Sturdy in winterhardiness.

The leaf volume of TAM W-103 is equal to that of Scott 66. Mixing and other physical dough properties of TAM W-103 are somewhat superior to those of Scott 66.

Breeder and foundation seed are maintained by the Texas Agric. Exp. Stn.

REGISTRATION OF MCDERMID WHEAT
(Reg. No. 578)
W. E. Kroustad, C. R. Rohde, M. F. Kolding, and R. J. Metzger

'McDermid' (Triticum aestivum L. em. Thell.) CI 14585 is a soft white winter wheat developed by the Oregon Agric. Exp. Stn. in cooperation with ARS-USDA, from a cross between 'Nord Desprez' and Pullman Selection 101 (CI 13438) with one backcross to form breeder seed.

The relatively early date of maturity for McDermid, previously designated OR 63-130-66-5, proved to be a distinct advantage in the 300 mm or less rainfall areas where moisture stress usually prevails prior to harvest. Conversely, McDermid has the yield potential to respond under higher rainfall or irrigated conditions. McDermid has more winterhardiness than 'Hylop' being similar to 'Nugaines.'

McDermid is resistant to the prevalent races of leaf rust (Puccinia rubigo-scuta (De) Wint. f. sp. tritici (Erk.) Carl.) and has mature plant resistance to prevalent races of stripe rust (P. graminearum (Schm.) Erk. & E. Henn.). It is moderately resistant to powdery mildew (Erysiphe graminis De. f. sp. tritici (Eri.) Marchal) and carries the Bt 1 and Bt 4 genes for resistance to common bunt (Tilletia foetida (Wallr.) Eri or T. caries (De) Tul.).

The Western Wheat Quality Laboratory has identified McDermid as having promising overall quality characteristics being equal to or superior to the common soft white wheat cultivars currently in commercial production.

McDermid is medium height with a strong white stem. The spike is awned, fusiform, mid-dense, and inclined with glabrous, white mid-long glumes. The shoulders are mid-wide and oblique, with narrow, acuminate, one to three mm long beaks. Awns are white and two to eight cm in length. Kernels are white, mid-long, ovate with a small germ and mid-wide crease, which is shallow to mid-deep.

McDermid was named after the late Jack T. McDermid, who was the superintendent at the Red Soils and Sherman Branch Experiment Stations for many years.

Breeder seed is maintained by the Agronomic Crop Sci. Dep., Oregon State Univ., Corvallis, OR 97331.

REGISTRATION OF PEARL MILLET GERmplasm
(Reg. No. GP 7)
A. J. Casady, G. M. Paulben, R. C. Housey, and O. J. Webster

RMP1 (S)CI is a grain-type, pearl millet (Pennisetum americanum (L.) K. Schum.), breeding population developed cooperatively by the ARS-USDA and the Kansas Agric. Exp. Stn. The population was officially released in 1975. Its experimental designation was Manhattan Pearl Millet Population. Basic seed stocks will be maintained by the Dep. of Agronomy, Kansas State Univ., Manhattan, KS 66506.

The parentage of RMP1 (S)CI is 'Serere 3A,' 'Serere 17,' and 'Tift 239DB,' Serere 3A and Serere 17 were developed at the Serere Exp. Stn., Uganda, Africa. The Serere pearl millets varied somewhat in head shape and size, seed size and color, and maturity. At Manhattan, Kan., their grain yield was good compared with that of sorghum (Sorghum bicolor (L.) Moench) and their grain protein content and amino acid profile were more desirable than those of sorghum. Tift 239DB, a dwarf inbred line developed for forage use, possessed the d~ gene for dwarfness.

Serere 3A and Serere 17 were crossed to Tift 239DB, by dispersing rows of Tift 239DB, within an isolated planting of Serere 3A and Serere 17. F2 seed harvested from Tift 239DB, was planted in isolation for the first random mating; seed was harvested only from tall plants. The F3 and F4 generations were grown in isolation for the third and fourth random matings, and open-pollinated seed was harvested from desirable dwarf plants. S5 seed from the third random mating was grown to obtain 400 S5 lines. The 400 S5 lines were selected on the basis of head size, seed size, seed set, and lodging resistance of their S5 parent plants. The seed of the S5 lines were screened for variances currently in commercial production.

Serere 3A and Serere 17 were crossed to Tift 239DB, by dispersing rows of Tift 239DB, within an isolated planting of Serere 3A and Serere 17. These parents were screened for traits associated with forage use, and selected for desirable traits such as seed set, lodging resistance, and grain yield. The selected parents were then crossed to Tift 239DB, to produce an F2 population. The F2 population was screened for desirable traits, and the selected lines were advanced to an F3 population. This process was repeated for four generations, resulting in a population of 400 S5 lines.

Table 1. Grain yield, grain protein, and grain amino acid profile of pearl millet population RMP1(S)CI and Martin sorghum grown in replicated trial at Manhattan, Kan.

<table>
<thead>
<tr>
<th>Grain yield</th>
<th>Grain protein</th>
<th>Amino acids</th>
</tr>
</thead>
<tbody>
<tr>
<td>38.8</td>
<td>14.4</td>
<td>13.3</td>
</tr>
<tr>
<td>% of sample</td>
<td>% of protein</td>
<td></td>
</tr>
</tbody>
</table>

1 % Moisture free.

Table 1. Grain yield, grain protein, and grain amino acid profile of pearl millet population RMP1(S)CI and Martin sorghum grown in replicated trial at Manhattan, Kan.

Amino acids:
- Lysine 3.5
- Histidine 3.5
- Arginine 7.8
- Aspartic Acid 7.2
- Threonine 3.9
- Serine 5.7
- Glutamic Acid 18.4
- Proline 6.3
- Glycine 4.0
- Alanine 9.1
- Cystine 1.0
- Valine 3.9
- Methionine 2.2
- Isoleucine 3.2
- Leucine 9.3
- Tyrosine 3.5
- Phenylalanine 3.7

2 Professor of agronomy, Corvallis, Ore.; professor of agronomy, Pendleton, Ore.; instructor of agronomy, Pendleton, Ore.; and research geneticist, ARS-USDA, Corvallis, Ore.; respectively.

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