Registration of Crop Cultivars

REGISTRATION OF NUECES AND LLANO BUFFELGRASS¹
(Reg. Nos. 58 and 59)

E. C. Bashaw²

‘NUECES’ and ‘Llano’ buffelgrass (Cenchrus ciliaris L.) are apomictic F₁ hybrids developed by AR-SEA-USDA and Texas Agric. Exp. Stn. and released cooperatively with SCS-USDA in 1977. They were selected from approximately 100 apomictic hybrids derived from the cross TAM-CRD B-1s sexual clone (Reg. No. CPI)³ × a rhizomatous apomictic “blue-type” introduction (PI unknown) from South Africa. Both cultivars reproduce by obligate apospory and pseudogamy and breed true. Mode of reproduction was determined by cytological studies of embryo sac development in the F₁ generation and confirmed by progeny tests through four seed generations.

Advantages of Llano (hybrid 331) and Nueces (hybrid 2-1) over present buffelgrass cultivars, ‘T-4464’ (common) and ‘Higgins,’ include strongly rhizomatous root systems, better cold tolerance, up to three weeks earlier spring growth and higher forage yields. Average dry matter production of Nueces and Llano for five consecutive years exceeded that of Higgins by 21% and 36% respectively. Both cultivars have blue-green foliage and tan inflorescences as contrasted to Higgins and T-4464 which have green embryo sac development in the F₁ generation and confirmed by the fusarium wilt root-knot nematode complex [caused by Fusarium oxysporum f. sp. vasinfectum (Atk.) and Meloidogyne incognita (Kofoid and White) Chitwood]. Tests have indicated that the boll worm complex (Heliothis spp.) is more resistant to the cultivar than to the cultivars. ‘T-4464’ and ‘Higgins’ have shown the progeny from a single BC₂ F₃ generation to have the best combi- nation of yield and superior fiber properties. The progeny from the selection has been previously tested under the designation ‘Bashaw, E. C. 1969. Registration of buffelgrass germplasm.

Breeder seed is maintained by the Foundation Seed Section, Texas Agric. Exp. Stn., College Station, TX 77843.

²Registered by the Crop Sci. Soc. Am. Cooperative investigations of AR-SEA-USDA, and the Texas Agric. Exp. Stn., College Station, TX 77843.

REGISTRATION OF GACOT 79 COTTON¹
(Reg. No. 76)

J. B. Weaver, Jr.²

‘GACOT 79’ is a cotton (Gossypium hirsutum L.) cultivar released in March 1979 by the College Experiment Station, University of Georgia, Athens, Ga. This cultivar has the character frego bract (fg), semi-smooth leaf, superior resistance to the fusarium wilt root-knot nematode complex [caused by Helicoverpa zea (Boddie)], and moderate resistance to tarnished plant bug (Lygus lineolaris (Pieper)). Its performance as compared to standard cultivars with frego bracts is given in Table 1.

Table 1. Performance of Frego 142 (GaCot 79) and McNair 511 in the Wilt Screening Test at Tallassee, Ala.

<table>
<thead>
<tr>
<th>Strain</th>
<th>1975</th>
<th>1976</th>
<th>1977</th>
</tr>
</thead>
<tbody>
<tr>
<td>GaCot 79</td>
<td>18.0</td>
<td>9.9</td>
<td>11.0</td>
</tr>
<tr>
<td>McNair 511</td>
<td>35.0</td>
<td>7.9</td>
<td>10.0</td>
</tr>
</tbody>
</table>

The main defect of GaCot 79, as is apparently true with all frego bract strains, is its susceptibility to tarnished plant bug. The tarnished plant bug has increased to the point where many farmers must treat their normal bract cultivars with insecticides. Therefore, early scouting and proper application of insecticides could be used to reduce the problem in the production of frego bract cultivars.

Foundation seed of GaCot 79 will be available through Georgia Seed Development Commission, 920 West Whitehall Road, Athens, GA 30605.

³Associate professor of agronomy, College of Georgia, Athens, GA 30602.