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Registration of Crop Cultivars

REGISTRATION OF NUECES AND LLANO BUFFELGRASS[1]

(Reg. Nos. 58 and 59)

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'NUECES' and 'Llano' buffelgrass (*Cenchrus ciliaris* L.) are apomictic F_1 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. GP1[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 F_1 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 cultviars have blue-green foliage and tan inflorescences as contrasted to Higgins and T-4464 which have green foliage and dark brownish-wine colored inflorescences. Nueces can readily be distinguished from Llano by the size of its inflorescences which are typically 30% longer than those of Llano. Adaptation of these cultivars is limited to arid areas with mild winters. Llano and Nueces extend the buffelgrass area of adaptation to approximately 160 km and 80 km, respectively, north of the present area of buffelgrass production (south of San Antonio, Tex.).

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

[1] Registered by the Crop Sci. Soc. Am. Cooperative investigations of AR-SEA-USDA, and the Texas Agric. Exp. Stn., College Station, TX 77843. Technical Article No. 15290 of the Texas Agric. Exp. Stn. Accepted 1 Oct. 1979.

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[3] Bashaw, E. C. 1969. Registration of buffelgrass germplasm. Crop Sci. 9:396.

REGISTRATION OF GACOT 79 COTTON[1]

(Reg. No. 76)

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'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 *Fusarium oxysporum* f. sp. *vasinfectum* (Atk.) Snyd. and Hans.] and *Meloidogyne incognita* (Kofoid and White) Chitwood], tolerance to boll rot and above-average fiber properties. The frego bract character results in less bract trash in machine-harvested lint and non-preference by the boll weevil (*Anthonomus grandis* Boheman). Tests have indicated that the frego bract character permits greater insecticide efficiency against the boll worm complex (*Heliothis* spp.). GaCot 79 is more susceptible to tarnished plant bug (*Lygus* spp.) attack than normal bract cultivars.

This cultivar was developed from a cross of a frego strain of 'Deltapine Smoothleaf' × 'Deltapine 16' followed by two backcrosses to Deltapine 16. Seventy-two frego bract plants were selected in the BC_2 F_2 generation in 1971 from back crosses to four different cultivars. Yield testing in the F_3 and later generations of the backcrosses to the four different cultivars showed the progeny from a single BC_2 F_2 plant of the cross with Deltapine 16 to have the best combination of yield and fiber properties. The progeny from the single BC_2 F_2 plant has been previously tested under the designation Frego 142.

In a yield test conducted at two locations in south Georgia from 1974 thru 1978, GaCot 79 produced a yield of 944 kg/ha of lint followed by yields of 925, 915, 915, and 809 kg/ha for 'Stoneville 213,' 'Coker 310,' 'Stoneville 603,' and 'Dixie King 3,' respectively. Fiber test results from these yield tests indicate that GaCot 79 has average strength and superior fiber elongation. GaCot fiber is slightly longer than the average for all cultivars tested.

GaCot 79 has an unexpected high level of fusarium wilt root-knot nematode resistance as shown in Table 1. 'McNair 511' is the cultivar used in the Regional Wilt Screening Test as the resistant check.

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

	Wilt				
Strain	1975	1976	1977	1978	Avg.
	%				
GaCot 79	18.0	9.9	11.0	5.8	11.17
McNair 511	35.0	7.9	10.0	10.3	15.8

The main defect of GaCot 79, as is apparently true with all frego bract strains, is its susceptibility to tarnished plant bugs. The tarnished plant bug has increased in the southeast to the point where many farmers must treat their normal bract cultivars with insecticides. Therefore, early season insect scouting with proper application of insecticides should create no real problem in the production of frego bract cotton.

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

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