

REGISTRATION OF DELCOT 277J COTTON<sup>1</sup>

(Reg. No. 71)

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'DELCOT 277J' cotton (*Gossypium hirsutum* L.) was developed at the Missouri Agricultural Experiment Station and released in May 1978.

Delcot 277J, formerly designated MO63-277J, is a mass selection of S65-396. S65-391 and S65-396 are component lines of 'Delcot 277' (2). Testing and mass selection of each component line was continued until 1974, following release of Delcot 277 in 1970. The S65-396 mass selection was continued as MO63-277J, now named Delcot 277J. Delcot 277J has been equal to or slightly superior in yield of lint to Delcot 277 (1:1 blend of S65-391 and S65-396). During 5 years, 1971-72 and 1974-76, Delcot 277J averaged 143 kg/ha more lint than 'Stoneville 213', the dominant commercial cultivar in southeast Missouri.

Delcot 277J seeds have been observed to be more tolerant than those of S65-391 to seed coat cracking during spindle picking and ginning. This trait is significant to preservation of seed quality. Consequently, Delcot 277J has shown slight seedling vigor superiority to Delcot 277. Otherwise, Delcot 277J possesses similar characteristics of those of Delcot 277 (2). Outstanding features are resistance to *Verticillium* wilt, incited by *Verticillium albo-atrum* Reinke and Berth or *V. Dahliae*, and Fusarium wilt (1), incited by *Fusarium oxysporum* f. sp. *vasinfectum* (Atk.) Synder and Hansen, early maturity, high fiber yield, good fiber length, and yarn strength. Delcot 277J appears best adapted in the north central fringes of the Cotton Belt on medium and light textured soils.

Breeder seed will be maintained by Foundation Seed Stocks, Dep. of Agronomy, University of Missouri, Columbia, MO 65211. Application for plant protection will be made.

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## REFERENCES

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2. Sappenfield, W. P., T. Kerr, and W. M. Bugby. 1972. Registration of Delcot 277 Cotton. Crop Sci. 12:126-127.

REGISTRATION OF REDALTA, GREENALTA, AND BIGALTA LIMPOGRASS<sup>1</sup>

(Reg. Nos. 52, 53, and 54)

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'REDALTA' (Reg. No. 52), 'Greenalta' (Reg. No. 53), and 'Bigalta' (Reg. No. 54) limpograss [*Hemarthria altissima* (Poir) Stapf and C. E. Hubb] are the direct increase and release of P.I.'s 299993, 299994, and 299995. They were released cooperatively by the Institute of Food and Agricultural Sciences, University of Florida and the SCS, USDA on 19 Apr. 1978.

The introductions, collected in Eastern Transvaal, South Africa, by Dr. A. J. Oakes, research agronomist, Germplasm Resources Laboratory, AR, SEA, USDA, Beltsville, Md., were received in Florida in June 1964. After preliminary evaluation, propagations were made so that an estimated 5,000 to 8,000 ha are currently in commercial production in Florida.

Redalta, Greenalta, and Bigalta limpograss are stoloniferous perennial grasses of the tribe Andropogoneae of the family Gramineae and are all wind-pollinated. The inflorescence is a single spike-like raceme; often two or more racemes may emerge

from a node. Seed set under natural conditions is extremely low, and for commercial purposes all are vegetatively propagated. They spread by decumbent stolons and new culms establish by rooting from the nodes. Redalta and Greenalta are diploids ( $2n=18$ ), and Bigalta is a tetraploid ( $2n=36$ ).

Redalta is fine-stemmed with narrow leaves. It reaches a height of 100 to 120 cm on fertile soils and may spread 2.7 to 3.3 m/year. Leaves and stems of Redalta have a characteristic red color at advanced stages of maturity or when under environmental stress. Redalta is very cold tolerant for a grass of tropical origin and shows only slight leaf browning from frosts which kill all leaf tissue of digitgrass (*Digitaria decumbens* Stent) and bermudagrass (*Cynodon dactylon* (L.) Pers.). Its advantages over the other cultivars are better cold tolerance, good early spring growth, and adaptability to a broad range of poorly to moderately well-drained sandy soils.

Greenalta is somewhat similar to Redalta in growth habit, but its leaves are slightly wider. It retains a consistent green color at all stages of maturity. It also has superior frost tolerance for a tropical grass and performs well on wet and alternating wet-dry sites. Greenalta is more frost-tolerant than Bigalta and less competitive in grass-legume mixtures, but lower in digestibility.

Bigalta is slightly less cold-tolerant than either of the two diploid introductions. Nevertheless, it has perenniated for several winters with minimum temperatures of  $-12^{\circ}\text{C}$ . It reaches a height of 120 to 135 cm and may spread from 3 to 3.8 m/year. Forage yields of Bigalta are usually comparable to or higher than Redalta and Greenalta. It is higher in in vitro organic matter digestibility (IVOMD) than either of the diploids or most other tropical grasses and maintains relatively high IVOMD even after moderate frosting. Values as high as 65 to 68% IVOMD are typical for 6- to 8-week old Bigalta. Bigalta is well-adapted to the wet flatwood soils of central and south Florida and wet areas of the humid tropics.

The limpo grasses are poor seed producers, thus they are normally increased vegetatively from cut stems incorporated into a moist to wet seed bed with a follow-up soil compacting operation. These cultivars of limpo grass have been most productive when allowed to accumulate substantial amounts of forage before grazing or harvesting. Frequent, close defoliation has tended to weaken stands and allow invasion of weedy species. No significant disease or insect pest has been reported on these limpo grasses, but research has shown that sting nematodes (*Belonolimus longicaudatus*) can cause significant damage on locations where they are prevalent.

Foundation stock vegetative planting material of Redalta and Bigalta will be maintained by the Soil Conservation Plant Materials Center, Brooksville, Fla. The Department of Agronomy, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, will maintain foundation stock of Greenalta. The Agricultural Research Center, Ona, will also maintain a small foundation planting of Redalta, Greenalta, and Bigalta. No application will be made for cultivar protection.

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REGISTRATION OF CLINTFORD OAT<sup>1</sup>

Reg. No. (292)

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'CLINTFORD' spring oats (*Avena sativa* L.), CI 7463, was developed cooperatively by the Purdue University Agricultural Experiment Station and ARS (now SEA), USDA and released in 1966.<sup>3</sup> It was tested in Indiana and regionally as Purdue 5328A3-4P-2.