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REGISTRATION OF TUNDRA BLUEGRASS[1]

(Reg. No. 19)

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'TUNDRA' glaucous bluegrass (*Poa glauca* Vahl) is a cultivar developed from indigenous Alaskan collections by the Alaska Agric. Exp. Stn. for revegetation use in the Arctic. The species is known also by the common name Greenland bluegrass. Tundra helps to fill a vital need for adapted materials in extreme northern areas with severe environmental conditions. Tundra is a synthetic that traces to bulk seed collections (1AS 231) made along the Sagavanirktok River in arctic Alaska in 1969 and 1970. Twenty-three plants were selected in a spaced-plant nursery at Palmer as the basis for the breeding stock (1AS 305). The selected clones were more upright in growth habit and persisted longer than other, much more prostrate forms occurring in the spaced-plant nursery. Tundra is the first cultivar of the species and the first known variety of arctic origin.

Tundra is a short-to-medium height, tufted bluegrass, growing to ca. 5.5 dm tall. It produces a basal clump of narrow leaves and numerous flowering culms with leaves borne near the base. The inflorescence is short and narrowly pyramidal. Flowering culms are produced at an angle with those on the periphery subject to lodging in open plantings. The species *P. glauca* occurs throughout much of mainland Alaska, generally occupying dry sites along river courses and on slopes and bluffs.

Tundra has been tested extensively in revegetation trials conducted in the arctic oil field at Prudhoe Bay since 1972. It has been the most reliable performer of the many grasses tested in the severe arctic environment. Tundra dominated mixtures planted on upland sites but is poorly adapted to wet sites. The new cultivar is recommended as a significant component of revegetation mixes for arctic plantings north of the Brooks Range.

Tundra is capable of producing ca. 100 kg/ha of seed in the year of seeding and from 300 to 1,000 kg/ha in the 2nd year of growth. Yields have declined in subsequent years, partly because of vulnerability to diseases, particularly powdery mildew caused by *Erysiphe graminis* DC. ex Merat under boreal conditions.

Tundra was released in 1976. Breeder seed is produced and maintained by the Alaska Agric. Exp. Stn. Foundation, registered, and certified seed are recognized for seed increase purposes, with seed distributed by the Alaska Crop Improvement Assoc. United States Plant Variety Protection Certificate No. 7700033 has been issued for Tundra.

[1] Registered by the Crop Sci. Soc. Am. Contribution from the Univ. of Alaska Agric. Exp. Stn. Published with the approval of the Director as Pap. No. J-142, J. Ser., Alaska Agric. Exp. Stn., Univ. of Alaska, Fairbanks. Support was provided, in part, for collection and testing purposes by the Alyeska Pipeline Service Co., Atlantic Richfield Co., Alaskan Arctic Gas Study Co., Exxon Company, Shell Oil Co., and Union Oil Co. of California. Accepted 31 Mar. 1980.

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REGISTRATION OF DELCOT 311 COTTON[1]

(Reg. No. 79)

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'DELCOT 311' cotton (*Gossypium hirsutum* L.) was developed by the Missouri Agric. Exp. Stn. and released in March 1980. Delcot 311 also was evaluated as MO74-944.

Delcot 311 originated as a single F_2 plant derived from a segregating population resulting from a complex series of crosses and backcrosses among predominately Verticillium wilt tolerant Delcot 277 breeding lines that possessed superior fiber properties (4).

The inclusion of 101-102 B(B_2B_3), 'Auburn 56'(B_2B_6) and 'Mo-Del' with the Delcot 277 lines provided sources of genes for immunity to the bacterial blight pathogen, *Xanthomonas malvacearum* (E. F. Sm) Dows; races 1, 2, 10, 11, and 12; tolerance to the Verticillium wilt pathogen, *Verticillium dahliae* Kleb and resistance to the Fusarium wilt-root knot disease pathogens, *Fusarium oxysporum* Schlect. *f vasinfectum* (Atk.) Snyd. and Hans. and *Meliodogyne incognita* (Kofoid and White) Chitwood (1, 2). The Missouri inoculation-selection greenhouse procedure for screening plants resistant to root-knot nematodes, bacterial blight, Fusarium wilt, and Verticillium wilt was utilized in the development of Delcot 311 (3).

Delcot 311 is an indeterminant, vigorous growing, yet early maturing, multiple disease resistant cultivar with excellent potentials for high lint yield, seed quality, seedling vigor, storm resistance, fiber length uniformity and yarn strength. In local and regional tests, Delcot 311 appeared widely adapted and performed well on variable type soils. Its level of Verticillium wilt tolerance, measured by degree of leaf symptom expression, approaches that of 'Delcot 277 J.'

Delcot 311 seed are similar in size to those of 'Stoneville 213' but are smaller than seed of Delcot 277 J. Lint percent averages 1.3, 0.7, and 0.6 percent higher than for Stoneville 213, Delcot 277 J, and 'Coker 310', respectively.

Delcot 311 fiber length is similar to that of Stoneville 213 and 'Deltapine 55,' but is shorter than that of Delcot 277 J and Coker 310. Length uniformity is outstanding. Micronaire averages 0.2 units coarser than that for Delcot 277 J; 0.4 units finer than for Stoneville 213 and is equal to those for Coker 310 and Deltapine 55. Yarn tenacity is equal or superior to that for Stoneville 213, Coker 310, Delcot 277 J, and Deltapine 55.

Breeder's and foundation seed will be maintained by the Dep. of Agronomy, Missouri Agric. Exp. Stn. Application is in process for protection under the Plant Variety Protection Act which requires that Delcot 311 seed will be sold only by cultivar name as a class of certified seed.

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REGISTRATION OF COVAR SHEEP FESCUE[1]

(Reg. No. 16)

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'COVAR' sheep fescue (*Festuca ovina* var. *ovina* L.) tested as P-274, was developed at the USDA Soil Conservation Service (SCS) Plant Materials Center, Pullman, Washington. Covar was developed for rangelands, waterways, roadbanks, dryland turf, and other areas subject to soil erosion in parts of Washington, Oregon, and Idaho where annual precipitation is 25 to 45 cm. Covar was released jointly in 1977 by the SCS, Washington Agric. Res. Center, Oregon Agric. Exp. Stn., and Idaho Agric. Exp. Stn.