REGISTRATION OF CROP CULTIVARS


H65-7052 is a 24-month crop cultivar with high tonnage and average sucrose content. It is a medium tillering, fast growing, nonflowering cultivar with an average diameter stalk. It germinates satisfactorily and racions as well as the standard Hawaiian commercial cultivars, 'H59-3775' (2) and 'H62-4071' (5), and is tolerant to *t*'-triazine herbicides.

H65-7052 is highly resistant to both races of culmicolous smut (caused by *Ustilago scitaminea* Syd.) present in Hawaii, eye spot (caused by *Bipolaris sacchari* (Butler) Shoemaker), and leaf scald (caused by *Xanthommas albilineans* (Ashby) Dowson), moderately resistant to red rot (caused by *Physalospora tucummanensis* Spg.) and pineapple disease (caused by *Cenizoctaceae paradoxa* (de Seynes) Moreau), and moderately susceptible to brown spot (caused by *Cercospora longipes* Butler).

Replicated yield trials indicate that H65-7052 has a higher yield potential than H50-7209 and H59-3775 in metric tons sugar/ha. It is more susceptible to drought and saline conditions than its maternal parent, H50-7209, and is best adapted to leeward irrigated areas. It is especially well suited for drip-irrigated fields, presently comprised about half of the total irrigated sugarcane acreage in Hawaii. H65-7052 is expected to be most rapidly increased in areas of adaptation where smut disease is most widespread. Vegetative cuttings will be maintained by the Experiment Station, Hawaiian Sugar Planters' Association, Aiea, Hawaii.

REFERENCES


REGISTRATION OF H68-1158 SUGARCANE1

(Reg. No. 52)

Don J. Heinz, Thomas L. Tew, Hans K. Meyer, and Kuo Kao Wu

Clone 'H68-1158' sugarcane (*Saccharum* spp. hybrid) was selected by the staff of the Experiment Station, Hawaiian Sugar Planters' Association, from a progeny derived from random pollination of *H53-5589* in a polycross involving many cultivars adapted to windward unirrigated environments. H68-1158 contains germplasm from *S. officinarum* L., *S. sinense* Roxb. amend. Jeswiet, and *S. spontaneum* L. It has a chromosome number of 2n = ca. 114.

H68-1158 is a high tonnage, medium-high fiber, low-sucrose cultivar capable of continued growth for periods extending to 36 months. It germinates rapidly and produces an excellent root system after harvest. H68-1158 has an average growth rate, tillering capacity, and stalk diameter. It is very tolerant to *t*'-triazine herbicides and has shown poor response to the chemical ripener glyphosate when glyphosate is applied before 24 months crop age. Yield data indicate that the optimum crop age at harvest for H68-1158 will be greater than 24 months, permitting increased stalk maturity, natural ripening, and response to chemical ripeners. Its leaf sheaths are covered with a dense hair-like silica deposit.

H68-1158 is highly resistant to both races of culmicolous smut (caused by *Ustilago scitaminea* Syd.) present in Hawaii, eye spot (caused by *Bipolaris sacchari* (Butler) Shoemaker), and leaf scald (caused by *Xanthommas albilineans* (Ashby) Dowson).

This cultivar is adapted to the Hilo-Puna region of the island of Hawaii where average annual rainfall exceeds 400 cm. This cultivar has outyielded H54-7751 and H59-3775 in total cane per hectare (+16%) and has been about equal to those cultivars in sugar/ha (+5%) in yield trials over 4 years on the Island of Hawaii. Total cane percent fiber have economic significance considering that over 40% of the electric power on the Island of Hawaii is generated from sugarcane bagasse.

Vegetative cuttings of H68-1158 will be maintained by the Experiment Station, Hawaiian Sugar Planters' Association, Aiea, Hawaii.

REGISTRATION OF FLORIDA 301 WHEAT1

(Reg. No. 643)


'Florida 301' (*Triticum aestivum* L. em. Thell), CI 17769, is a soft red winter wheat developed by the Univ. of Florida at the Agricultural Research and Education Center at Quincy in cooperation with AR-SEA-USDA and released in 1980. Florida 301 was selected from a cross made in 1971 between 'Holley' and a Florida line 709RB3. The 709RB3 parent was an F1 of the cross between 'Olesen' and the Purdue Univ. line 64212A-23, Olesen (CI 14497) is a short-statured, spring wheat developed in Rhodesia from a combination of crosses including 'Norin 10', 'Mara', and an Angola line, X2-50. The Purdue line 64212A-23 originated from a cross between 'Arthus' and WS20, a large seeded selection from Portugal. Florida 301 was tested as FL71100A-29-3-10 and has the pedigree Holley/5/Olesen/Arthus/WS20. Head selections were made in the F2 generation and Florida 301 was identified as a single head row in the F2 generation. A seed increase was made at Tetonia, Idaho, during the summer of 1979 and approximately 1,500 bushels were distributed to certified seed growers during the fall of 1980.

When grown under north Florida conditions, Florida 301 closely resembles the Holley parent in maturity, plant height, straw strength, and general appearance. It produces higher yields, has more tillers, and is more disease resistant than Holley. In tests conducted at the USDA Soft Wheat Quality Laboratory, Florida 301 was fair in general quality, similar to Holley, 'McNair 1813', 'Oasis', and 'Doublecrop' cvs. It has a harder kernel texture and higher alkaline water retention capacity than 'Rosen' or 'Blueboy' cvs., and makes smaller cookies than higher quality cultivars.

Florida 301 is very early maturing and normally produces grain with high test weight. It is resistant to the prevalent races of leaf rust (caused by *Puccinia recondita* Rob. ex. Desm.) and powdery mildew (caused by *Erysiphe graminis* DC. ex. Merat f. sp. *tritici*) common to the North Florida area, but is susceptible to Septoria glume blotch (caused by *Septoria nodorum* Berk.) and Hessian fly (*Mayetiola destructor* Say). This new cultivar performs well in late planting and in double cropping systems. It is not very winter hardy and is not adapted for growth north of the Coastal Plain region. It has a low vernalization requirement, and begins jointing after a small amount of cold weather.

The morphological characteristics of Florida 301 are as follows: winter growth habit, early season, midtall; stems white, midstrong; spikes awnlelt, fusiform, middense, inclined; glumes glabrous, midlong, wide, shoulders rounded to square, beaks midwide, obtuse, less than 0.5 mm long; awnlets white 2 to 40 mm long; kernels red, short to midlong, ovate, soft to medium hard: germ mid sized, crease midwide, and cheeks rounded; brush midstared, midlong.

Breeder seed will be maintained by the Univ. of Florida at the Agricultural Research and Education Center, Route 3, Box 638, University of Florida, Gainesville, FL 32611.