Averaged across 23 replicated field trials (eight plant cane, eight first ratoon, seven second ratoon) at early harvest (last 2 wk of October), CP 82-1592 produced 96% of the sugar per tonne of cane as the two commercial checks, CP 72-1210 and CP 70-1133. Sugar per hectare yield at early harvest of CP 82-1592 was 7.2% less than that of CP 70-1133, but 12.2% greater than the CP 72-1210 yield. At regular harvest (November–March), sugar per tonne of cane for CP 82-1592 was equal to the yield of CP 70-1133, but was 4% less than that of CP 72-1210. Sugar per hectare yield at regular harvest for CP 82-1592 was 3% less than the yield of CP 70-1133, but 13.1% greater than that of CP 72-1210. Regular harvest cane yield of CP 82-1592 was 4% less than that of CP 70-1133 and 15% greater than that of CP 72-1210. Production of sugar per hectare in first- and second-ratoon crops of CP 82-1592 was 0.7% less than CP 70-1133 and 24.2% greater than CP 72-1210. CP 82-1592 has a milliability rating of 0.954 and a fiber content of 10.3%, vs. 0.980 and 10.41% for CP 70-1133 and 0.965 and 10.22% for CP 72-1210. CP 82-1592 has shown adequate resistance, for commercial production in Florida, to sugarcane mosaic virus, leaf scald [caused by Xanthomonas albilineans (Ashby) Down]; eye spot [caused by Bipolaris sacchari (E.J. Butler) Shoemaker]; and smut [caused by Ustilago scitaminea Syd. & P. Syd.). No sporulating rust pustules (caused by Puccinia melanosepala Syd. & P. Syd.) were observed on CP 82-1592 during the period for which data was taken. However, a very low level of sporulation was observed in subsequently planted increase plots.

Seedcane of CP 82-1592 will be maintained by the USDA-ARS at the Sugarcane Field Station, Canal Point, FL.

C. W. DEREN,* J. D. MILLER, B. GLAZ, P. Y. P. TAI, J. M. SHINE, JR., AND J. C. COMSTOCK (3)

References and Notes


REGISTRATION OF 'ARCHER' SOYBEAN

'ARCHER' SOYBEAN [Glycine max (L.) Merr.] (Reg. no. CV-290, PI 546487) was developed cooperatively by the Iowa Agriculture and Home Economics Experiment Station and the Puerto Rico Agricultural Experiment Station. It was released in 1990 because of its resistance to specific races of Phytophthora megasperma Drechs. f. sp. glycinea T. Kuan & D.C. Erwin, to which the cultivar BSR 101 (3) is susceptible. Archer has specific resistance to Races 1 to 22, 24, and 25 of the pathogen. All of the former were developed by transferring the Rps1-k and Rps6 genes for resistance to Phytophthora rot into BSR 101 by backcrossing. Rps1-k was obtained from 'Williams 82' (1) and Rps6 from PRX54-59. PRX54-59 was developed by Purdue University and the USDA-ARS from the cross 'Harosoy' (4) × 'Altona' (2). Each gene was transferred independently to BSR 101 with four backcrosses. BCF1 plants from the two backcrossing programs were intercrossed to obtain F1 plants with both genes. Selection for resistance was conducted in the F2 and F3 generations. F4 plants homozygous for both alleles were propagated, and lines with similar agronomic characteristics were bulked to form the new cultivar. Archer was tested for seed yield in the Uniform Soybean Tests, Northern States, during 1989 under the designation ABSR 101BC. Prior to this testing, Archer was evaluated for yield and maturity in replicated tests conducted at Ames, IA.

Archer is of Maturity Group I and best adapted to approximately 43 to 44° N lat. It has purple flowers, gray pubescence, tan pods at maturity, and dull yellow seeds with imperfect black hila. In the absence of phytophthora rot, Archer is similar to its recurrent parent BSR 101 for all agronomic and seed characteristics, including seed yield, maturity, height, lodging resistance, seed weight, seed quality, seed protein and oil content, resistance to Fe-deficiency chlorosis, and shattering resistance.

Archer is resistant to brown stem rot [caused by Phialophora regata (Allington & D.W. Chamberlain) W. Gams]. It is moderately resistant to pod and stem blight [caused by Diagonthella phaseolorum (Cooke & Ellis) Sacc.] and bacterial tan spot [caused by Curtobacterium flaccumfaciens pv. flaccumfaciens (Hedges) Collins & Jones]. It is moderately susceptible to purple seed stain [caused by Cercospora kikuchii (Matsumoto & Tomoyasu) M.W. Gardner].

Breeder seed of Archer was distributed to foundation seed organizations in Illinois, Indiana, Michigan, Minnesota, and Ohio for planting in 1990. Breeder seed will be maintained by the Iowa Agriculture and Home Economics Experiment Station, Ames.

S. R. CIANZIO,* S. P. SHULTZ, W. R. FEHR, AND H. TACHIBANA (5)

References and Notes


REGISTRATION OF 'GA-MITCHELL' OAT

'GA-MITCHELL' WINTER OAT (Avena sativa L.) (Reg. no. CV-335, PI 549113) was developed by the Georgia Agricultural Experiment Station and released as a cultivar in 1991. GA-Mitchell was developed from the cross of experimental lines, GA-76T-2507/GA-76T-2579. GA-76T-2507 is an early, upright, crown rust (Puccinia coronata Corda var. avenae W.P. Fraser & Ledingham) resistant line with the pedigree 'Coker 234'/CMB-3. The CMB-3 line is an Illinois experimental line with soilborne mosaic virus resistance. GA-76T-2579 is a medium-maturity line with a very dense panicle, and has the pedigree, Coker 70-12/Coker 70-14/IC 2469-2. Following pedigree selection from the F2 to F5, GA-Mitchell was selected as an F6, headrow in 1980. It was tested from 1981