REGISTRATION OF GERMLASMS

sandy soils with high populations of several species of nematodes. UC-PX 1971 had the best stand of all entries in three production years.

In a 5-year yield trial at Davis, forage yields of UC-PX 1971 were 114% of Lahontan and 102% of "Moapa 69." In a 4-year forage yield trial at the West Side Field Station, Five Points, California UC-PX 1971 yielded 109% of Moapa 69, 110% of Lahontan, and 111% of "El Unico." In a 4-year forage yield trial at the UC-Riverside Moreno farm. UC-PX 1971 yielded 107% of El Unico. Fall dormancy of UC-PX 1971 is similar to that of Moapa, whereas spring recovery is slightly later.

One hundred grams of UC-PX 1971 seed are available upon written request and agreement to make appropriate use of its source a matter of open record when this germplasm contributes to the development of a new cultivar, hybrid, or germplasm. Request seed from either L. R. Teuber, Agronomy of its source a matter of open record when this germplasm contributes to the development of a new cultivar, hybrid, or germplasm. Request seed from either L. R. Teuber, Agronomy and Research Agronomist (retired), AR-SEA-USDA, Pee Dee Exp. Stn., Florence, SC 29503. Published March, 1980

REGISTRATION OF TRIAZINE-RESISTANT B RASSICA CAMPESTRIS GERMLASM1

(W. D. Beversdorf, J. Weiss-Lerman, and L. R. Erickson) SUMMER turnip rape (B rassica campestris L.) germplasm with cytoplasmic inherited triazine resistance was released by the Crop Science Dep., Univ. of Guelph in 1979. The germplasm, referred to as ATR-5Ca, was derived from bulked seeds from the fourth backcross between a triazine resistant B. campestris weed biotype called B.'s rape (donor parent) and 'Candle' (recurring pollen parent), a triple zero (low erucic acid, low thioglucosinolate, low fiber) Canadian cultivar.

ATR-5Ca is resistant to erucic acid, low thioglucosinolate, low fiber) Canadian cultivar.

Small quantities (2 to 4 g) of ATR-5Ca are available from the Crop Science Dep., University of Guelph, Guelph, Ontario, Canada, N1G 2W1.

1 Registered by the Crop Sci. Soc. Am. Accepted 8 Nov. 1979.

REGISTRATION OF TRIAZINE RESISTANT B RASSICA NAPUS GERMLASM1

(W. D. Beversdorf, J. Weiss-Lerman, and L. R. Erickson) TRIAZINE resistant Brassica napus L. germplasm hereafter referred to as ATR-STw was released by the Crop Science Dep., Univ. of Guelph in 1979. Cytoplasmically inherited triazine resistance was incorporated into ATR-STw through a backcrossing program between a triazine resistant Brassica campestris L. weed biotype known as bird's rape or wild turnip (2n = 38), a double zero (low erucic acid and low thioglucosinolate content) Canadian B. napus cultivar. In the backcross program Tower was used as a recurrent pollen parent. Hybrids of the initial cross (bird's rape × Tower) were triploids (2n = 29). Among backcross (BC1) progeny, three 38-chromosome plants were identified by root-tip chromosome number -determination. These were resistant to a 3.0 kg/ha application of triazine (postemergence) and used as females in the next cycle of backcrossing. Resulting progeny (BC2) contained 38 chromosomes and all were resistant to atrazine. Subsequent cycles of backcrossing were continued with progeny from each cycle subjected to a post-emergence application of atrazine (3.0 kg/ha). All progeny carrying cytoplasm derived from the bird's rape donor parent were resistant to the atrazine application.

Seeds bulked to form ATR-STw were from the fourth backcross (bird's rape × Tower). ATR-STw is resistant to atrazine (3.0 kg/ha) and cyanazine (5.0 kg/ha) and tolerant (5 to 15%, leaf area damage) of metribuzin (0.5 kg/ha) applied preplant incorporated, preemergence, or postemergence. Tower is killed by any of the above herbicide applications.

ATR-STw is similar to Tower in erucic acid content (less than 1% of total fatty acids). Glucose test strip assays indicate ATR-STw is similar to Tower in thioglucosinolate content, although no quantitative determination has been completed. ATR-STw has been released because of its potential as a source of triazine resistance and the potential value of such resistance in weed control programs for rapeseed. Small quantities (2 to 4 g) of ATR-STw are available from the Crop Science Dep., Univ. of Guelph, Guelph, Ontario, Canada, N1G 2W1.

T. W. Culp and D. C. Harrell

THREE breeding lines of cotton (Gossypium hirsutum L.), Pee Dee 0100 (GP 141), Pee Dee 0111 (GP 142), and Pee Dee 0113 (GP 143), were released by AR-SEA-USDA and the South Carolina Agric. Exp. Stn. in 1975 (1). These breeding lines represent a significant step in overcoming the adverse association among lint yield, fiber quality, and disease resistance.

These lines were developed from the cross Pee Dee 4831 × Pee Dee 2165, and each is from a single plant selected in the F2 generation. Pee Dee 4831 was developed from the cross AC 299 × "Auburn 56." AC 299 was derived from a series of crosses involving Triple Hybrid 171, Sealant 7, Earlstaple 7, and C 6-5. Pee Dee 2165 was derived from similar crosses involving Triple Hybrid 171, Sealant 7, Earlstaple 7, and C 6-5. Sealant 542, and C 6-5. Auburn 56 is a commercial cultivar developed by the Alabama Agric. Exp. Stn. that possesses resistance to the fusarium wilt rootknot-nematode complex caused by Fusarium oxysporum L. spp. vasinfectum (Ark.) Synd. and Hans. and Meloidogynex spp. (2).

Pee Dee 0109, Pee Dee 0111, and Pee Dee 0113 generally produce yields equivalent to those of commercial cultivars in the Southeast. Pee Dee 0113 is the most consistently high producer and has shorter and weaker fibers than the other two lines; however, its yarn strength is equal to that of the high fiber strength check, Pee Dee 2165. Pee Dee 0113 is the first PD line derived from Triple Hybrid material to possess seeds per boll approaching that of Goker 201 and most southeastern cultivars (2). Pee Dee 0109 has significantly longer and coarser fibers than Pee Dee 0111; however, both are in a higher fiber and yarn strength range than is Pee Dee 2165.

Pee Dee 0111 and Pee Dee 0113 are highly resistant to fusarium wilt (3, 4). Pee Dee 0109, while more susceptible than its sister lines, may have sufficient resistance to withstand most field attacks of the pathogen. All breeding lines exhibited some resistance to verticillium wilt caused by Verticillium spp. at Rohwer, Ark., and Scott, Stoneville, and Tunica, Miss., in 1974.


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