Registration of Gaucho Greenbug-Resistant Triticale Germplasm

Gaucho (Reg. no. GP-14, PI 572235) is an octoploid triticale (×Tritiscosecale Wittmack) resistant to greenbug [Schizaphis graminum (Rondani)], developed by the USDA-ARS in cooperation with the Oklahoma Agricultural Experiment Station. It was formally released in November 1971. Gaucho is resistant to Biotype C of the greenbug (1) and was the first greenbug-resistant triticale made available to growers.

In 1966, a greenbug-resistant strain of 'Insave F.A.' rye (Secale cereale L.) was crossed with susceptible 'Chinese Spring' wheat (Triticum aestivum L.). The chromosomes were doubled using colchicine to produce the amphiploid (octoploid triticale, 2n=8x=56). The first generation of these primary wheat-rye hybrids were tested for resistance to Biotype C. The second generation was also tested to verify resistance. Gaucho was formed by bulking seed from several of the first-generation primary triticale plants.

Under greenhouse conditions, Gaucho is moderately tall; spikes are long and lax, and have irregular awnlets that are variable in length, position, and degree of recurving. Peduncles are highly pubescent. Seeds are large, moderately wrinkled, with an average seed set of ≈70%. Gaucho was developed as a source of resistance to greenbug Biotype C and was the first greenbug-resistant triticale made available to growers.


Written requests for small quantities of Gaucho seed should be sent to the corresponding author. Requests for this germplasm should be indicated with the USDA Plant Science Research Laboratory.

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References and Notes
2. E.E. Sebesta (deceased), E.A. Wood, Jr. (died), J.A. Webster, USDA-ARS, 1301 N. Western Avenue, and E.L. Smith, Dep. of Agronomy, Oklahoma State University, Stillwater, OK 74078. Registration by CSSA. Accepted 31 January 1994; published September, 1994.

Registration of Soybean Cyst Nematode Resistant Germplasms: S88-1608 and S89-2122

Two germplasm lines of soybean [Glycine max (L.) Merr.], S88-1608 (Reg. no. GP-167, PI 578003) and S89-2122 (Reg. no. GP-168, PI 578002), resistant to soybean cyst nematode (SCN) (Heterodera glycines Ichinohe) were released by the Missouri Agricultural Experiment Station in cooperation with the Virginia Agricultural Experiment Station and Southern Illinois University, College of Agriculture. S88-1608 and S89-2122 were derived from the crosses 'Essex' × PI 89772 and Essex × PI 90763, respectively. Both PI 89772 and PI 90763 are resistant to SCN Races 3 and 5 (1) as are the germplasm lines.

The breeding work in the development of these lines was conducted at the Delta Center of the University of Missouri, Portageville, MO. Crosses were made between Essex (4), an early Maturity Group V soybean cultivar, and PI 89772 or PI 90763. The F₁ generation was grown in the winter nursery at Isabela, PR, and the F₂ was grown in the SCN screening nursery at the Rhodes Farm of the University near Clarkton, MO. Single F₂ plants were harvested, and their progenies were evaluated in the greenhouse for reaction to SCN Races 3 and 5. Resistant progenies were backcrossed to Essex the following year. The crosses were advanced to the F₃ generation and were again evaluated in the greenhouse. Selected progenies were advanced to F₅ at Portageville, MO. The promising lines were grown in the field at Clarkton, MO, which is heavily infested with SCN, the margin of difference in yield between infested and noninfested fields in M. Illinois during 1991 and 1992, and compared to 'Forrest' (2).

The two germplasm lines, S88-1608 and S89-2122, as good or better than the check cultivars in yield on the field at Clarkton, MO, which is heavily infested with SCN, the margin of difference in yield between infested and noninfested fields in M. Illinois during 1991 and 1992, and compared to 'Forrest' (2).

The two germplasm lines, S88-1608 and S89-2122, are resistant to SCN Races 3 and 5, both lines significantly outyielding resistant check cultivars. At other test sites where the fields were not heavily infested with SCN, the margin of difference in yield between infested and noninfested fields in M. Illinois during 1991 and 1992, and compared to 'Forrest' (2).

Seed of both lines will be maintained by the Missouri Agricultural Experiment Station for 5 years.