Registration of 'Charleston' Soybean

'Charleston' soybean \([Glycine \text{ max} \ (L.) \ Merr.]\) (Reg. no. CV-329, PI 567902) was developed jointly by the USDA-ARS and the Ohio Agricultural Research and Development Center. It was released in 1992 as a high-yielding, lodging-resistant determinate semidwarf cultivar with specific adaptation to highly productive environments, where lodging is frequently a problem with taller indeterminate cultivars of similar maturity (1,2).

Charleston was derived from an \(F_4\) plant selected from the cross of two unreleased Maturity Group III determinate semidwarf lines, HC74-634RE \(\times\) HC74-676. HC74-634RE is from the cross 'Williams' \(\times\) 'Ransom'. HC74-676 is from the cross L70T-543G \(\times\) L74D-619. L70T-543G is an indeterminate line from L15 \(\times\) 'Amsoy 71'. L15 is a phytophthora-resistant \((R_{psi})\) backcross isolate of 'Wayne' (4). L74D-619 is a determinate semidwarf line from Williams \(\times\) 'Ransom'. The cross between HC74-634RE and HC74-676 was made in 1982 at the Ohio Agricultural Research and Development Center, Wooster, OH. Charleston is an \(F_4\)-derived \(F_2\) line that was evaluated for yield in Ohio from 1985 to 1987. It was tested in the Uniform Soybean Tests, Northern States, from 1988 to 1991 under the designation HC85-6724.

Charleston is a determinate semidwarf \((dt_{1}\varepsilon_1)\) cultivar adapted to the central Midwest, where Maturity Group III cultivars are normally grown. Charleston matures \(\approx 1\) d later than the semidwarf cultivar Hobbit 87 (3), averaging 5 cm taller in plant height and 5 to 10% higher in seed yield. It has purple flowers, tawny pubescence, tan pods at maturity, and yellow seedcoat with black hila. Plant height averages 60 cm, compared with 30 cm for Resnik, an indeterminate cultivar (7), resulting in greater lodging resistance (1,2). Charleston is recommended specifically for high-yield environments \((>3300 \text{ kg ha}^{-1})\), with solid-seeding and 17-cm row spacing at a seeding rate of 675,000 viable seeds ha\(^{-1}\). It is tolerant to phytophthora rot (caused by \textit{Phytophthora sojae} M.J. Kaufmann & J.W. Gerdemann) (9).

Breeder seed of Charleston was distributed to foundation seed organizations in Iowa, Missouri, and Ohio for planting in 1992. Breeder seed of Charleston will be maintained by the Ohio Agricultural Research and Development Center, Wooster, OH 44691. Plant Variety Protection for Charleston is pending. Small quantities of seed for research purposes can be obtained from the corresponding author for at least 5 yr.


References and Notes