Registration of 'Calhoun' Soybean

'Calhoun' soybean [Glycine max (L.) Merr.] (Reg. no. CV-322, PI 576440) was developed by the Kentucky Agricultural Experiment Station. It was released in 1993 because of its superiority in seed yield in both full-season and double-crop plantings compared with the most widely grown public cultivars in Kentucky.

'Calhoun' originated as an F1 plant selection from the cross 'Ripley' (2) × 'Pershing' (1). The cross was made in the greenhouse and the F1 plants were grown in the field at the Kentucky Agricultural Experiment Station in 1983. The seeds were advanced from the F1 to the F2 generation by modified single-seed descent (harvesting one pod per plant, followed by subsampling to maintain a constant population size) at the Iowa State University soybean breeding nursery at the University of Puerto Rico, Isabela Substation. The F2 plant selection was made in 1984 in Lexington, KY. The F2-derived line was evaluated for seed yield in Kentucky from 1987 through 1992 and in the Uniform Soybean Tests Northern States (Group IV) in 1989 and 1990 under the designation KY85-09073 (4).

'Calhoun' is a determinate Maturity Group IV cultivar (relative maturity 4.4) that matures = 3 d later than Ripley and 5 d earlier than 'Pennyrite' (3). Its latitude of adaptation for full-season production is about 36.5° to 40° N. Mature plants of Calhoun are = 8 cm taller than those of Ripley; lodging resistance is similar for the two cultivars. Plants of Calhoun have purple flowers, gray pubescence, and tan pod walls. Seeds are yellow with buff hila and a positive seed peroxidase activity. Seed size is 10% larger than that of Ripley. Seeds of Calhoun have acceptable protein and oil concentrations, 410 g kg\(^{-1}\) protein and 210 g kg\(^{-1}\) oil on a dry weight basis. Seed yield of Calhoun was 6% higher than Ripley in 42 state and regional tests and 3.5% higher than Pennyrite in 60 state and regional tests.

'Calhoun' is resistant to Race 1 and susceptible to Race 7 of phytophthora rot (4) (caused by Phytophthora sojae M.J. Kaufmann & J.W. Gerdemann). It is also susceptible to the soybean cyst nematode (Heterodera glycines Ichinoh).

U.S. Plant Variety Protection will be applied for in seed yield across 84 southeastern U.S. environments than Sharkey and Leflore, respectively (4).

Doles has a determinate growth habit, white flowers, tawny pubescence, and tan pod walls. Seeds are yellow with shiny seed coats and black hila. Doles is of Maturity Group VI and matures the same day as 'Sharkey' and 1 d earlier than 'Leflore' (4, 5, 7). Mature plants of Doles are 15 cm shorter than Leflore and 25 cm shorter than Sharkey. Doles is similar in lodging resistance to Leflore. Seed of Doles averages 10% smaller than Leflore, and its quality is similar to Leflore. Seed of Doles averages 19 g kg\(^{-1}\) more oil and 2 g kg\(^{-1}\) less protein than Leflore. Doles averages 7 and 8% higher in seed yield than Leflore, and its quality is similar to Leflore. Seed of Doles averages 10% smaller than Leflore, and its quality is similar to Leflore. Seed of Doles averages 19 g kg\(^{-1}\) more oil and 2 g kg\(^{-1}\) less protein than Leflore. Doles averages 7 and 8% higher in seed yield than Leflore, and its quality is similar to Leflore.

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References and Notes
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