



Registration of 'Cook' Soybean

'Cook' soybean [*Glycine max* (L.) Merr.] (Reg. no. PI ) was developed by the Georgia Agricultural Experiment Stations and cooperatively released by YYYYYY and Zzzzzz Agricultural Experiment Stations in (month) of 1991 because of its multiple disease and nematode resistance and high productivity.

Cook was derived from an F<sub>5</sub> plant from the cross 'Braxton' x 'Young' (1,2). The generations were advanced by the single pod-bulk method to the F<sub>5</sub> generation in Georgia and Puerto Rico. The line was tested in Georgia for disease resistance, agronomic performance, and seed yield from 1983 to 1989 under the designation G83-266. It was evaluated in the Uniform Tests, Southern Region (Uniform Group VIII) from 1987 to 1989 (3).

Cook has a determinate growth habit, purple flowers, tawny pubescence, and tan pod walls. Seeds are yellow with dull seed coats and black hila. The intensity of the black pigment in the hilum can vary across environments and even for different seeds from the same plant. Cook is of Maturity Group VIII and matures the same day as 'Kirby' and 1 d later than 'Coker 6738' (1,3). It is similar in plant height and lodging to Coker 6738. Its seed weight averages 27% greater than Kirby and 20% greater than Coker 6738. It is similar in protein and oil content to Kirby. Cook averaged 12 and 25% higher in seed yield across 32 environments than Coker 6738 and Kirby, respectively (3).

Cook is resistant to the common races of frog-eye leafspot (caused by *Cercospora sojina* Hara), stem canker [caused by *Diaporthe phaseolorum* (Cke. & Ell.) Sacc. var. *caulivora* Athow & Caldwell], powdery mildew (caused by *Microsphaera diffusa* Cke. & Pk.), and bacterial pustule [caused by *Xanthomonas campestris* pv. *glycines* (Nakano) Dye] (3,4). It has moderate resistance to the southern root-knot nematode [*Meloidogyne incognita* (Kofoid & White) Chitwood]. It is susceptible to soybean cyst nematode (*Heterodera glycines* Ichinohe) (3,4).

Breeder seed of Cook was distributed to foundation seed organizations in 1991. The Georgia Agricultural Experiment Stations will be responsible for the maintenance of breeder seed.

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respectively (Table 25). It also has resistance to all major races of frogeye leafspot (Table 21). Coker 6738 and Kirby are susceptible to the common races of this disease. In three environments with severe frogeye leafspot G83-266 averaged 49% (16.8 bu/A) and 20% (8.3 bu/A) higher in yield than Kirby and Coker 6738, respectively (Table 22).

- 8. Method of Propagation: Seed
- 9. Amount of Breeder Seed Stocks Available (if applicable): There were 17 acres of breeder seed planted in 1990.
- 10. Amount of Foundation Seed Stocks Available (if applicable): Estimated to be 500 bushels for 1991 planting.
- 11. Amount of Cutting or Bud Material Available for Vegetatively Propagated Material for Nursery Distribution (if applicable): Not applicable to soybean.
- 12. Is There Likely to be Unusual Difficulty Encountered in the Production of Any Class of Seed Stocks? Explain. No
- 13. Three Suggested Names for the New Cultivar: Doles, Benning, Alexander, Boggs, Cook, Gartrell, Iverson, Wofford, Harris, Haskell, or Byard.
- 14. Name Approved by Plant Cultivar and Germplasm Release Committee:

RECOMMENDED BY:

A. <u><i>H. Roger Boerema</i></u> Originating Scientist	B. <u><i>David E. Kessel</i></u> Department Head
C. <u><i>James Perret</i></u> Chairperson, Division or Commodity Committee	D. _____ Division Chairperson
E. _____ Chairperson, GAES Plant Cultivar and Germplasm Release Committee	F. _____ Associate Director of the Appropriate Station

APPROVED:

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Director of Experiment Stations