Six soybean [Glycine max (L.) Merr] germplasm lines were developed by the Georgia Agricultural Experiment Stations and released in 2005: G95-Has339 (Reg. No. 344, PI 644054), G95-Has551 (Reg. No. 345, PI 644055), G95-Has1452 (Reg. No. 346, PI 644056), G95-Has1536 (Reg. No. 347, PI 644057), G95-Has2539 (Reg. No. 348, PI 644058), and G95-Has4243 (Reg. No. 349, PI 644059). They were selected within the productive soybean cultivar ‘Haskell’ (Boerma et al., 1994) with differences in seed protein, seed oil, seed weight, plant height, lodging, or maturity. These lines have utility as parents to develop elite breeding populations or use in the study of genetic and physiological mechanisms responsible for conditioning the phenotypes of the selected variants within Haskell.

The six Haskell-derived germplasm lines were developed by growing single plants in 1995 from 1994 Haskell Foundation seed in a replicated-3 honeycomb design (Fasoulas and Fasoula, 1995). The honeycomb trial was planted in three-seeded hills with a spacing of 0.90 m between hills to eliminate the negative effect of interplant competition on selection efficiency (Fasoula and Fasoula, 1997, 2000; Fasoula and Tollenaar, 2005). Each hill was thinned to one plant per hill and the trial had the density of 1.4 plants m². Plants were grown to maturity, harvested by hand, and threshed on site (Fasoula and Boerma, 2005). Seeds from each single plant were tested for chemical composition, and divergent selection of plants for high or low protein and oil content was performed (Fasoula and Boerma, 2005). In 1996, 40 lines derived from single plants contrasting most for protein or oil content, plus four entries of Haskell were planted in a three-replicate randomized complete block design near Athens, GA. Plots were one row 3.5 m long with 0.76 m between rows. Data recorded for maturity, seed weight, seed protein content.

In 1997, the 32 most divergent lines for the four Haskell entries were grown in a three-replicate complete block design near Athens and Plains, GA (Fasoula and Boerma, 2005, 2007). Plots were two rows 4 m long with 0.76 m between rows. Data were collected for seed weight, seed protein and oil, maturity, lodging. In 1998, the most divergent Haskell-derived lines were planted in a similar experiment near Athens (Fasoula and Boerma, 2005, 2007). The experimental unit was the same as in 1997. Data were combined across years in five environments (Table 1). The experimental unit was the same as in 1997. Data were combined across years in five environments (Table 1). In 1998, the most divergent Haskell-derived lines for each trait were selected for release. To provide a conservative test of significance (low probability of a Type I error) for the Haskell-derived lines with Haskell, the line × environment interaction mean square was used as the error term. LSD was calculated at the α = 0.001 probability level (Table 1).

G95-Has551 averaged 8 g kg⁻¹ higher seed protein, 9 g kg⁻¹ lower seed oil, 38 mg seed⁻¹ greater seed weight and was 9 cm taller than Haskell. It matured six days later than Haskell. Seed protein and oil, plant height, lodging, and seed yield were similar to those of Haskell. G95-Has4243 averaged 20 mg seed⁻¹ greater seed weight than Haskell when tested across three years in a total of five environments (Table 1). G95-Has339 averaged 5 days later than Haskell, while it was similar to Haskell in seed protein, seed oil, seed weight, plant height, lodging, and seed yield. G95-Has2539 was more susceptible to lodging (3.6 vs. 3.1 rating, where 1.0 is all plants erect and 5.0 is over 80% of plants lodged flat) than Haskell. It matured six days later and had greater lodging resistance (2.2 vs. 3.1 rating, where 1.0 is all plants erect and 5.0 is over 80% of plants lodged flat) than Haskell. G95-Has1536 produced larger seed weight and was 9 cm taller than Haskell. G95-Has1452 was 8 cm taller than Haskell and had 14 mg seed⁻¹ greater seed weight than Haskell. It was similar to Haskell in seed protein and oil content, maturity, lodging, and seed yield. G95-Has551 averaged 8 g kg⁻¹ higher seed protein and 10 mg seed⁻¹ greater seed weight than Haskell when tested across three years in a total of five environments (Table 1).