creased summer forage production and early seed maturation at Tifton, Ga. (Other forage cultivars of the hyacinth bean do not produce seed at this latitude.) It was tested as Tifton Elite Line No. 1. The germplasm was derived from crosses of the forage cultivar 'Ronalj' to line 67-13 (PI 316899), a bushy, early-maturing introduction from Brazil. Vigorous, early-flowering F3 lines were bulked to form Tifft-1.

Tift-1, a summer annual legume, has a semi-erect growth habit with some tendency to vining. Leaflets of the trifoliate leaves have a broad-ovate shape. Cream colored flowers are self-pollinated and are borne in racemes and have a distinct odor. Seed pods are flat or inflated. Seeds are fairly large (about 1 cm long) and vary in color from light to dark brown. The seed coat is smooth and the prominent hilum is white in color. Seed yields are good, but the seeds mature over several weeks. Forage yields of over 2 metric tons/ha have been obtained. Beef cattle graze Tift-1 more readily than do dairy animals.

Tifft-1 is very attractive to the corn earworm (Heliothis zea Boddie), tobacco budworm (H. virescens Fabricius), and other Heliothis spp., and has been used by Gross et al. to propagate these insects for research purposes.

Seed of the germplasm will be maintained at Tifton by USDA-ARS. Small quantities (up to 100 grams) will be made available to researchers who wish to evaluate this germplasm. Address requests to Dr. John D. Miller, USDA-ARS, Agronomy Dep. or Dr. Homer D. Wells, USDA-ARS, Plant Pathology Dep., both at the Coastal Plain Station, Tifton, GA 31793.

REGISTRATION OF A SOYBEAN GERMPLASM POPULATION

J. W. Burton and C. A. Brim

The soybean [Glycine max (L.) Merr.] population, NC-1, was developed cooperatively by the North Carolina Agricultural Research Service and the USDA-ARS. NC-1 is a composite population with high percent seed protein, made of eight advanced F2 families (lines) which were advanced without selection through the F5 generation. The lines are in Maturity Group VII and were derived in the seventh cycle of recurrent selection for increased percent protein in the seed in population IA. Population IA originated from a set of 247 F2 lines derived from a cross between the breeding lines D55-4110 and N56-4071. The details of the selection method have been described elsewhere. The eight lines making up NC-1 were originally tested and selected in the F2 generation and then advanced to the F5 generation. In the F5 generation they were tested along with two released cultivars, 'Ransom' and 'Bragg', in two replications at two locations. In those tests the eight lines had a mean percent protein of 49.4 and ranged from 47.9 to 50.2. Mean percent oil was 16.9. Yields of the eight lines ranged from 2,704 to 2,018 kg/ha with a mean of 2,273. Bragg and Ransom had protein concentrations of 42.1 and 43.6%, respectively, and yielded 2,771 and 2,778 kg/ha. Therefore, NC-1 should be useful as a source of high protein breeding lines that have good yield potential.

NC-1 has not been tested for disease susceptibility. However, both parent lines, D55-4110 and N56-4071 are resistant to the major foliar diseases, bacterial pustule caused by Xanthomonas phaseolorum (E. F. Smith) Dowson var. sojensis (Hedges) Starr and Burkholder, and target spot caused by Corynespora cassiciola (Berk. and Curt.) Wei. Both lines are also resistant to phytophthora root caused by Phytophthora megasperma (Drechs.) var. sojae A. A. Hildebrand. Pedigrees of the parent lines will be furnished upon request.

NC-1 is made of equal quantities of the eight lines. Quantities of 1,000 seeds will be furnished upon request from the Dep. of Crop Science, North Carolina State Univ., Raleigh, NC 27650. The seed stock will be renewed after 5 years of storage by planting and harvesting each of the eight lines in bulk.

REGISTRATION OF A4 GERMPLASM LINE OF SOYBEAN

J. W. Burton and C. A. Brim

The soybean [Glycine max (L.) Merr.] line A4 was selected cooperatively by USDA-ARS, the Iowa Agriculture and Home Economics Experiment Station, and the Puerto Rico Agricultural Experiment Station. It has a moderate resistance to brown stem rot [caused by Phialophora gregata (Allington and Chamberl.) W. Gams] and has desirable agronomic characteristics. It was released as a parent stock for soybean breeding programs.

A4 is an F3 plant selection from the cross L15 × AP68-1016. L15 is a high-yielding experimental line selected from the backcross 'Wayne' × 'Clark'. AP68-1016 was selected from a line moderately resistant to brown stem rot from the backcross 'Clark' × PI 84.946-2. PI 84.946-2 is the original source of moderate resistance to brown stem rot. F2 seed of the population was obtained from Improved Variety Research, Inc., which made the cross and advanced the population by single-seed descent.

A4 was evaluated in Iowa for brown stem rot resistance during 1971 to 1977 and for agronomic performance during 1973 to 1977. It was evaluated in the Uniform Soybean Tests, Northern States, during 1976 to 1977 under the designation A75-332035.

A4 has white flowers, brown pubescence, broad pods at maturity, and seeds with shiny yellow seed coats and brown hilum. It is of Group III maturity, averaging about 1 day earlier than 'Cal-land'. In comparison with Calland, A4 averages about 2% higher in seed yield in absence of P. gregata and is similar in lodging, height, seed quality, 100-seed weight, seed protein percentage, and seed oil percentage.

A4 is resistant to race 1 of phytophthora root [caused by Phytophthora megasperma (Drechs.) var. glycine A. A. Hildebrand], moderately resistant to pod and stem blight [caused by Diaporthe phaseolorum (Cke. & Elil.) var. sojae Wheim.], moderately susceptible to downy mildew [caused by Peronospora maniharum (Naoum.) Syd. ex Gaum.] and purple stain [caused by Cercospora kikuchii (T. Matsu. & Tomoyasu) Chupp.], and susceptible to bacterial blight [caused by Pseudomonas glycinea Coeper] and soybean mosaic virus.

Seed of A4 is distributed by the Committee for Agricultural Development, Iowa State Univ., Ames, IA 50011. Seed will be maintained by the Iowa Agriculture and Home Economics Experiment Station.