REGISTRATION OF GERMLASMS

tributes to the development of a new cultivar or hybrid. Seed stocks of KS145, syn 2 are maintained by the Dep. of Agronomy, Kansas State Univ., Manhattan, KS 66506.

REGISTRATION OF FOUR GUAYULE GERMLASMS
(Reg. No. GP1 to GP4)

H. M. Tysdal, A. Estilai, I. A. Siddiqui, and P. F. Knowles

Four different guayule (Parthenium argentatum Gray) germplasms, Cal-1, Cal-2, Cal-3, and Cal-4 were developed jointly by the California Department of Food and Agriculture, Division of Plant Industry, and the University of California, Davis and were released in 1982.

Cal-1 (Reg. No. GP1) was developed from open-pollinated seeds collected from F2 and BC1 plants of the interspecific crosses made between guayule and its tree-like relative, P. tomentosum DC4. The 4 ha breeding nursery near McFarland, Calif. was found to be heavily infested with Verticillium albo-atrum Reinke and Berth and more than 70% of the plants were killed by the disease in the spring and early summer of 1981. All of the plants which contributed seeds to Cal-1 were highly resistant to the wilt. They were also extremely variable with respect to height, spread, mode of branching, leaf characteristics, flowering date, degree of blooming, head size, seed size, and the degree of seed production. They averaged two times larger than plants from guayule varieties of the same age, growing in the same nursery. Some of the larger plants were approximately four times as large as the largest guayule plants. The maximum rubber content was 3.5% for the 15- to 16-month-old plants. Cal-1 is considered to be a valuable source of vigor, increased biomass production, and resistance to Verticillium wilt.

Cal-2 (Reg. No. GP2) was developed in the same manner as Cal-1 with P. fruticosum Less. replacing P. tomentosum in the interspecific crosses with guayule. The F2 and the BC1 plants contributing seeds to Cal-2 were also highly variable in all of the morphological characteristics mentioned above. Although they were smaller than plants that established Cal-1, on average, they were larger than guayule materials of the same age. Only the resistant plants which survived the heavy infestation of Verticillium wilt were used to produce Cal-2. The 15- to 16-month-old plants ranged from 0 to 1.5% in their rubber contents. Cal-2 is an additional source for vigor, disease resistance, and increased biomass production for developing superior guayule strains.

Cal-3 (Reg. No. GP3) is the progeny of 12 diploid guayule plants which were allowed to reproduce in an isolation plot in Shafter, Calif. Of the approximately 1,100 seedlings planted in October 1980 more than half were rogued on the basis of their poor growth. The remaining 416 plants were sampled for rubber as early as June 1981 when they were only 9 to 10 months old. Chromosome counts were made for plants with the highest percentage of rubber and 12 plants ranging from 1.49 to 3.54% rubber were the most susceptible to the disease and them were killed in some of the rows. Since no chromosome counts were made for these plants and since most of them were adjacent to the segregating generations of crosses, Cal-4 is expected to be highly variable in chromosome number and morphological characteristics, and primarily a source for resistance to Verticillium wilt.

Limited quantities of the above germplasms are being maintained by the Guayule Project, USDA Cotton Res. Stn., 17053 S. Sepulveda Blvd., Shafter, CA 93263.

REGISTRATION OF BICOLOR-1 LUPINE GERMLASM
(Reg. No. GP 2)

John D. Miller and Homer D. Wells

BICOLOR-1 lupine [Lupinus hispanicus ssp. bicolor S. Gladstones] was released jointly by ARS-USDA and Univ. of Georgia Agric. Exp. Stn. in February 1982. It has volunteered every year since then without serious winterhardy than most lupines. Bicolor-1 traces to seed obtained from B. Edwards, Univ. of Florida, from Dimitri Panousis and introduction was first grown at Tifton, Ga. in 1974. It is a source of disease resistance for an interspecific hybrid program involving yellow lupine (L. luteus L.), also a winter annual. It has volunteered every year since then without serious winterkill. Seed increases were made after the strain's N-fixing potential and adaptation became known.

Bicolor-1 is rather decumbent and remains in the cool weather, but the flowering stalks are semi-erect for instance, terminal racemes, are cream-colored then becoming luteus to which it is related taxonomically. Flowers, borne in terminal racemes, are cream-colored then becoming luteus to which it is related taxonomically. Bicolor-1 is not as successful in open-pollinated seeds from which it is related taxonomically. Bicolor-1 is not as successful in open-pollinated seeds from which it is related taxonomically. Bicolor-1 is not as successful in open-pollinated seeds from which it is related taxonomically. Bicolor-1 is not as successful in open-pollinated seeds from which it is related taxonomically. Bicolor-1 is not as successful in open-pollinated seeds from which it is related taxonomically.