sistance to common rust caused by Puccinia sorghi Schw. in Illinois and Hawaii. The Rp,17 gene was derived from Trisacrum dactyloides (L.) L. It is a single dominant gene that is located on the short arm of chromosome 10 when backcrossed into maize. Additional information relating to the usefulness of Rp,17 and experimental data leading to its discovery have been published. Plants containing the gene express an immune, chlorotic-flake reaction when exposed to field or greenhouse infections of the disease. LB Oh43 Rp,17 has been backcrossed from T. dactyloides to Z. mays for 15 generations with the last backcrosses utilizing Oh43 as female. This heterozygous line should be a useful source of Rp,17, which has the basic phenotype typical of inbred Oh43. Maturity is AES 600.

Breeder seed is currently from a backcross-eights generation to Oh43 and can be obtained in germ plasma amounts from Pfister Hybrid Corn Company, El Paso, IL 61738.

REGISTRATION OF BS23 MAIZE GERMPLASM
(Reg. No. GP 94)
W. A. Russell

This maize (Zea mays L.) synthetic variety was developed in the research program conducted cooperatively by the Iowa Agric. and Home Economics Exp. Stn. and USDA-ARS. It has been evaluated for agronomic traits in a diallel and was released because of its potential value in breeding programs. Breeder seed is maintained by the Committee for Agricultural Development, Dep. of Agronomy, Plant Evolution Laboratory, Univ. of Illinois, Urbana, IL 61801.

A maize composite that included teosinte (Zea mexicana) and maize germplasm was obtained from a private breeder for use in research for prolific maize. The proportion of teosinte germplasm and the maize stocks are not known. Inbred lines of the two-ear type were developed and evaluated for agronomic performance with a double-cross tester. Eight lines were selected and recombined to give the basic phenotype typical of inbred Oh43. Maturity is AES 600.

The eight germplasms were developed by phenotypic mass selection in Georgia and Puerto Rico to increase the frequency of resistant plants and to enhance yield in the progeny of material collected in Peru in 1974. The eight were among 18 accessions rated as resistant or moderately resistant among a collection of 700 genotypes exposed to a natural rust epiphytotyic at Tifton, Ga. in 1970. They were evaluated during natural outbreaks of rust at the USDA winter nursery in Puerto Rico during 1977, 1978, and 1979. Selection was repeatedly practiced for testa color and other phenotypic traits in heterogeneous material. Selected lines were sent to CRIS for evaluation and were compared to rust-susceptible cultivars in the post-entry quarantine area in 1979. The trial was repeated in the 1979-1980 post-rainy season, using a triple lattice design and inoculated infector rows. Disease was assessed in each of six environments: the eight released germplasms had resistance to rust greater than that of any standard United States, Asian, African, or South American cultivar in these tests. Accession data and testa color for the eight germplasm lines are documented in Table 1.

Seven of the eight germplasms (Tifrust-5 through Tifrust-11) are valencia type peanuts (Arachis hypogaea-fistigatio-fistiforta). Common features include the erect (bunch) habit of growth, a sequential branching pattern, inflorescences in some main stem leaf axils, and fruits (pods) with moderate to prominent reticulation. They differ primarily in plant size and vigor, maturity, color of foliage and standard petals, or testa color.

Tifrust-5 (GP 22) plants are large, sparsely branched, average 63 cm in height and mature in 145-155 days. Foliage is medium green and standards orange. Seed average 475 mg. Plants are moderately resistant to both early leafspot caused by Cercospora arachidicola Hori and late leafspot caused by Cercosporidium personatum (Berk. & Curt.) Deighton. Tifrust-6 (GP 23) plants have few lateral branches, average 64 cm tall and 140 days to maturity. Foliage is light green and standards orange. Seed are small (377 mg), with some dormancy at harvest. Plants are low-yielding and moderately susceptible to both leafspots.

Tifrust-7 (GP 24) plants are large with large leaves, average 95 cm in height and have the extreme fastigate branching characteristic of some valencias. Foliage is medium green, stems are green, and standards orange. Maturity averages 145 days and seed average 495 mg. Plants have relatively good yields and are susceptible to both leafspots.

REGISTRATION OF EIGHT PEANUT GERMPLASM LINES RESISTANT TO RUST
(Reg. No. GP 22 to GP 29)

Ray O. Hammons, 1 P. Subrahmanyan, 2 V. R. Rao, 3 S. N. Nigam 4 and B. W. Gibbons 5

Exotic peanut (Arachis hypogaea L.) germplasms were developed by the Crop Research Unit, USAID-ARS, in cooperation with the Coastal Plain Station of the Univ. of Georgia and the Int. Crops Res. Inst. for the Semi-Arid Tropics, India, and released to breeders in July 1981. The lines, designated Tifrust-5 through Tifrust-12, were identified as resistant to the rust fungus caused by Puccinia arachidicola Sp. in field trials in Georgia, Puerto Rico, and India.

The eight germplasms were developed by phenotypic mass selection in Georgia and Puerto Rico to increase the frequency of resistant plants and to enhance yield in the progeny of material collected in Peru in 1974. The eight were among 18 accessions rated as resistant or moderately resistant among a collection of 700 genotypes exposed to a natural rust epiphytotyic at Tifton, Ga. in 1970. They were evaluated during natural outbreaks of rust at the USDA winter nursery in Puerto Rico during 1977, 1978, and 1979. Selection was repeatedly practiced for testa color and other phenotypic traits in heterogeneous material. Selected lines were sent to CRIS for evaluation and were compared to rust-susceptible cultivars in the post-entry quarantine area in 1979. The trial was repeated in the 1979-1980 post-rainy season, using a triple lattice design and inoculated infector rows. Disease was assessed in each of six environments: the eight released germplasms had resistance to rust greater than that of any standard United States, Asian, African, or South American cultivar in these tests.

Accession data and testa color for the eight germplasm lines are documented in Table 1.

1 Registered by the Crop Sci. Soc. of Am. Accepted 9 Nov. 1981. Cooperative investigations of USAID-ARS, the Univ. of Georgia Coastal Plain Station, and the Int. Crops Res. Inst. for the Semi-Arid Tropics (ICRISAT).
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4 We wish to acknowledge the contribution of Dr. L. D. Tripp, presently of Texas A&M Univ., College Sta., Tex., who made the original collections in Peru, and the initial seed increase in Oklahoma.