
Proceedings of American Peanut Research and Education Association 12:53 (1980)

Disease Resistance Breeding at ICRISAT. R. W. Gibbons, S. N. Nigam, J. P. Moss, D. J. Nevill, and S. L. Dwivedi. ICRISAT, India.

Disease resistance breeding is a major goal of the ICRISAT peanut improvement program as fungicides and spraying equipment are often beyond the means of the small farmer of the semi-arid tropics.

Of the foliar diseases, rust and leafspots are receiving the highest priorities. Resistance to the late leafspot, Cercosporidium personatum, and rust, Puccinia arachidis, has been found in cultivars from the germplasm collection. Some cultivars are resistant to both pathogens. These cultivars have been used extensively in hybridization programs.

Diploid wild Arachis species, which are resistant to Cercospora arachidicola and C. personatum, are also being utilized in the breeding program. Interspecific hybrids at the hexaploid level are rated for leafspot resistance and are backcrossed to A. hypogaea in order to produce near tetraploid breeding lines.

Other programs include breeding for resistance to Aspergillus flavus and other pathogens affecting roots and fruits. The germplasm collection is also being screened for sources of resistance to peanut mottle virus (PMV) and tomato spotted wilt virus (TSWV).