

Focus

The technique of producing hybrids from clonal parents has been patented by Agrigenetics Corp., Denver. This is one of the first U.S. patents where modern biotechnology has been used for improving crop production. The technique permits either or both parental lines to be heterozygous. The company expects to increase genetic diversity of hybrids, reduce seed production costs, and improve plant vigor. (Genet. Eng. News Vol. 2, No. 4, 1982)

In 1982, wheat leaf rust was epidemic throughout most of the soft red winter wheat area and in southern Texas (with heavy losses in some cultivars) and severe in the hard red winter wheats. The disease was less severe in the spring wheats of the northern Great Plains and the Pacific Northwest. The most common leaf rust races so far are UN-2, UN-3, and UN-17. (Cereal Rust Bull., 4 August 1982)

Of five emerging technologies potentially applicable to commercial production of corn in the United States by 2000 A.D., plant growth regulators are expected to provide the largest gains, according to K. M. Menz and C. F. Neumeyer of the University of Minnesota, St. Paul. Next in order are photosynthetic enhancement, cell or tissue culture, and nitrogen fixation. Genetic engineering technology is not advanced enough for evaluation. (BioScience Vol. 32, No. 8, 1982)

Flubenzimine, a new acaricide developed by G. Zoebelen, D. Dörntlein, and I. Hammann of Bayer A.G., Leverkusen, West Germany, controls mites, including organophosphate-resistant strains, and can be used on pome and stone fruits, citrus fruits, grapes, vegetables, cotton, and tea. (Pflanzenschutz-Nachr. Vol. 33, No. 3, 1980)

Vesicular-arbuscular mycorrhizae connect the root systems of neighboring plants of different species in a community of annual plants and probably mediate nutrient transfers among them, according to N. Chiariello and H. A. Mooney of Stanford University and J. C. Hickman of the University of California at Berkeley. (Science Vol. 217, No. 4563, 1982)

A new species of root-knot nematode named Meloidogyne cruciani was found on tomato in the Virgin Islands by R. García-Martínez, A. L. Taylor, and G. C. Smart, Jr., of the University of Florida, Gainesville. M. cruciani's host range is similar to that of M. incognita race 2. (J. Nematol. Vol. 14, No. 3, 1982)

A causal relationship between greater root cortex death and susceptibility of wheat to common root rot caused by Cochliobolus sativus was suggested by J. W. Deacon and S. J. Lewis of the School of Agriculture, Edinburgh, Scotland. High populations of bacteria in the rhizosphere were also related to cortical death, and time of root cortex death was determined genetically. (Plant Soil Vol. 66, No. 1, 1982)

Colletotrichum lagenarium race 2 infection causes high peroxidase levels and lignification in resistant, but not in susceptible, watermelon plants, report S. Love and B. B. Rhodes of the Edisto Experiment Station, Blackville, SC. Lignification was implicated as a resistance mechanism. (American Society for Horticultural Science Annual Meeting, August 1982)

Fusarium semitectum and other nonpathogens in immature cottonseed are not detected until the seed mature, according to A. Ciegler, M. Klick, and L. Lee of the USDA Southern Regional Research Center, New Orleans. They suspect catechin in seed prevents fungal growth until the catechin polymerizes at seed maturity. (Appl. Environ. Microbiol. Vol. 44, No. 2, 1982)