Focus

Head smut (Sphacelotheca reiliana) has been found for the first time in corn in Minnesota by E. L. Stromberg, USDA, APHIS, University of Minnesota, St. Paul, on 1 August in irrigated field plots in Wadena County, about 150 miles northwest of St. Paul. Infected plants have also been found in four commercial fields in the same county.

Wheat stem rust race 15-TNM (Puccinia graminis f. sp. tritici), the number one race during the past 10 yr, was not found in surveys made during the 1980 season by A. P. Roelfs and D. Long, USDA, SEA, University of Minnesota, St. Paul. Instead, race 151-QFB was the most commonly identified race in Mexico and the United States. The first rust of the season was recorded 10 June in Texas, 16 days later than usual. By mid-July, only a few commercial fields in the north-central states had rust. No losses are foreseen. (Cereal Rust Bull. 5 August 1980)

Cauliflower mosaic virus DNA cloned in a bacterial plasmid was used to infect turnip plants by S. H. Howell, L. L. Walker, and R. K. Dudley of the University of California, San Diego. To infect plants, the cloned viral DNA must be excised from the recombinant plasmid, according to the investigators, who demonstrated that the cauliflower mosaic virus can serve as a vehicle for introducing foreign DNA into plant cells. (Science Vol. 208, No. 4449, 1980)

Ten species of Pythium have been grouped on the basis of serologic relationships determined with double diffusion techniques by J. Krywienczyk and C. E. Dorworth of the Canadian Forestry Service, Sault Ste. Marie, Ontario, Canada. The groups are: 1) P. aphanidermatum and P. butleri (apparently identical), 2) P. coloratum and P. dissotocum, 3) P. pyrilobum, and 4) P. debaryanum, P. irregulare, P. mamillatum, P. sylvaticum, and P. ultimum. (Can. J. Bot. Vol. 58, No. 12, 1980)

The flax rust fungus, Melampsora lini, does not have a simple (+) and (-) mating system, according to G. J. Lawrence of the University of Adelaide, South Australia. Genetic control of mating types in this rust is similar to that in the mushroom Schizophyllum commune, in which two factors, each controlled by two linked loci, determine the mating type. (Science Vol. 209, No. 4455, 1980)

Spinach latent virus, a new seedborne virus of spinach, was named and characterized as an ilarvirus by L. Bos, H. Huttinga, and D. Z. Maat of the Research Institute for Plant Protection, Wageningen, Netherlands. Spinach is the only proven natural host, but no symptoms were observed in plants grown from infected seed in any of the 17 spinach cultivars tested. In naturally infected spinach, rates of seed transmission are as high as 50%. (Neth. J. Plant Pathol. Vol. 86, No. 2, 1980)

Resistance of Perlita muskmelon to wilt caused by Fusarium oxysporum f. sp. melonis race 4 is controlled by a single dominant allele, report F. W. Zink, W. D. Gubler, and R. G. Grogan of the University of California, Davis. Most cultivars are susceptible to race 4, and its occurrence in the San Joaquin Valley is a serious threat to muskmelon production in California. (American Society for Horticultural Science Annual Meeting, 30 July 1980)

Black seeds are more resistant to damping-off than are fawn-colored seeds of Scots pine (Pinus sylvestris), but seed quality is not related to seed coat color, according to A. P. Grzywacz of the Institute of Forest and Wood Protection and J. Rosochacka of the Institute of Basic Chemical Sciences, Warsaw, Poland. Black seed coats have more fatty acids with fungicidal properties (eg, erucic acid) than do fawn-colored ones. These acids alone or combined with other factors apparently condition resistance of seeds to preemergence damping-off. (Eur. J. For. Pathol. Vol. 10, No. 2-3, 1980)