

# Focus

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The International Rice Research Institute and the Chinese Academy of Agricultural Sciences began collaborating in 1980 to develop hybrid rice and, by cross-pollination on male-sterile lines, have obtained seed yields of 450-1,500 kg/ha in experimental plots. Hybrid rice needs only 16-25% of the seed rate of conventional cultivars, appears to have greater yield potential, and is more widely adapted. Genes for disease and insect resistance can easily be incorporated into commercial cultivars. A problem is that seed set is only 15-45%. (IRRI Rep. December 1980)

A "nematode bank" established by K. B. Eriksson of the Swedish University of Agricultural Sciences, Uppsala, supplies nematodes to plant breeders of cultivars resistant to nematodes. Species maintained on monoxenic plant tissue culture (some for 15 yr) include Aphelenchoides fragariae, Ditylenchus destructor, D. dipsaci, and Pratylenchus; attempts are being made to include Globodera and Heterodera spp. (EPPO Bull. Vol. 10, No. 3, 1980)

More than 90% of the corn grown in Georgia, Mississippi, Missouri, North Carolina, South Carolina, and Tennessee--but less than 30% of corn samples from Illinois, Iowa, and Ohio--had detectable aflatoxin before harvest, according to a cooperative study by personnel from USDA/SEA, state experiment stations, and Funk Seeds International. (Crop Sci. Vol. 20, No. 6, 1980)

A method of screening corn for resistance to ear rot caused by Gibberella zeae was developed by P. M. Enerson and R. B. Hunter of the University of Guelph, Ontario. Inoculated ears were enclosed in polyethylene bags 7-10 days after 50% of the plants had extended silks. Bags were removed 5-6 wk after inoculation, and ears were rated for symptoms at harvest. (Can. J. Plant Sci. Vol. 60, No. 4, 1980)

Fusarium nivale, F. poae, and F. tricinctum grown on cracked corn produced refusal factors in pig bioassays, report R. F. Vesonder, J. J. Ellis, and W. K. Rohwedder of the Northern Regional Research Center, Peoria, IL. T-2 toxin was detected in corn fermented with F. poae, and T-2 toxin plus vomitoxin were produced by F. tricinctum (previously identified as F. moniliforme). (Appl. Environ. Microbiol. Vol. 41, No. 1, 1981)

Continuous or daily pasteurization (60-80 C) of fungicide dips can reduce infection of lemon fruit after packing, according to S. C. Morris of the New South Wales Department of Agriculture, Gosford, Australia. Heat kills decay-causing spores of Penicillium that escape the fungicide and retards or prevents development of resistance to the fungicide. (HortScience Vol. 15, No. 6, 1980)

Breeding snap beans for resistance controlled root knot (Meloidogyne incognita) as effectively as fumigating the soil with DBCP, report J. E. Watt, G. Fassuliotis, and A. W. Johnson of USDA/SEA and the Coastal Plain Experiment Station, Tifton, GA. In areas where the root-knot nematode is economically important, snap bean production costs would be lower with use of resistant cultivars than with use of nematicides. (J. Am. Soc. Hortic. Sci. Vol. 105, No. 6, 1980)

Cole crops with multirace resistance to the club root pathogen, Plasmodiophora brassicae, were developed from induced mutation by gamma radiation and interspecific hybridization between Brassica napus and B. oleracea subsp. capitata, report M. S. Chiang and R. Crête of Agriculture Canada, St.-Jean. The dominant gene(s) for resistance to race 2 was transferred to new lines. (Phytoprotection Vol. 61, No. 3, 1980)