AN UNRECORDED ROOT ROT OF CAULIFLOWER CAUSED BY *MACROPHOMINA PHASEOLINA* (TASSI) GOID

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A SEVERE root rot of cauliflower (*Brassica oleracea* L. var. *botrytis*) was regularly observed beginning from seedling to the harvesting period of the crop during 1980, 1981. Disease, although severe, was randomly distributed in the fields, plants showing dwarf appearance with rotting of underground parts. Infection of the stem usually occurred at or below the soil level and the infected tissues became soft and water soaked bearing circular to oblong, sunken lesions with a brownish boarder, extending down to root with the advancement of the disease. Infected portion of the stem became constricted and girdled near the soil surface and ultimately resulted in the collapse of the seedlings.

The fungus was identified as *Macrophomina phaseolina* (Tassi) Goid (pycnidial stage) and *Rhizoctonia bataticola* (Taub.) Briton-Jones (sclerotial stage). Root rot and damping-off of cauliflower due to other pathogens have been reported earlier[2–5] but there is no record of occurrence of this disease due to *M. phaseolina* and forms a new record for India.

Pathogenicity test was performed in earthen pots. Appearance of the disease took place after 10–12 days and seedlings collapsed within 4 weeks (Fig. 1).

FIG. 1. Healthy and diseased plants (due to *M. phaseolina*) growing in experimental pots.

Living culture has been deposited at C.M.I., Kew, Surrey, England (IMI 255804).

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VERY EARLY MATURING STRAINS IN RICE

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VERY early maturity in productive strains is an important economic attribute. Gangadharan and Misra[1] reported very early mutant by gamma-ray treatment of a hybrid culture. The present strains under report are obtained through hybridization.

Certain derivatives of 70–80 days maturity were isolated from the cross ARC 12422 × ARC 12751 where both the parents belonged to North East India. The two parents, *viz.*, ARC 12422 and ARC 12751 have flowering duration of 89 and 129 days respectively. The F_1 was intermediate and flowered in 107 days. In F_2 generation 15·2% of segregants flowered earlier than the early parent. However, only very few segregants were of very early maturity having maturity duration below 80 days. The productive lines of very early maturity could be isolated through intensive selection between F_6 to F_{10} generation. The selections exhibited varying plant height and grain size.

Three selections, *viz.*, CR 289-1008, CR 289-1144 and CR 289-1208 showed the maturity of 70, 75 and 77 days respectively. The lines exhibited quick growth and good vigour in vegetative stage. In wet season of 1980 they showed computed yield of 2·7, 2·5 and 3·3 t/ha respectively. They also showed promising performance in rainfed upland condition. CR 289-1008 and CR 289-1144 are intermediate in stature (104 and 108 cm respectively) while CR 289-1208 is a semi-dwarf (77 cm).

Such very early maturing productive strains with high yield potential are agriculturally significant and have scope in multiple cropping and to grow a crop in short period where rainfall or irrigation facility exists for a short period.

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