
SHORT SCIENTIFIC NOTES

Maize Pathotype of *Corticium rolfsii* in India

During survey of Kunihar block of Solan District Himachal Pradesh, the presence of small, globose, brown to dark brown, mustard seed like sclerotia on leaf sheath and rind surface near the ground level of maize plants was observed. Isolations from single sclerotium as well as from small sterilised bits of diseased tissue taken on PDA, invariably yielded pure culture of *Sclerotium* (*Corticium*) *rolfsii*. This fungus hitherto unreported on maize was found to cause seed rot, seedling and sheath blights, rind infection and cob rot infection. Ear rotting was by far the most destructive part of the disease. The mycelium entered the kernel at the base and both embryo and endosperm were attacked, as a result of which starch-grains of the kernels were completely destroyed. The average size of the sclerotia on host plant ranged from 0.50 to 0.65 mm in diameter, while in culture sclerotia attained bigger size and ranged between 0.65 to 1.44 mm in dia.

Overwintering of the fungus occurred as dormant mycelium in old plant debris and also as sclerotia in soil. Till date, only two cereals, viz., Wheat and Rice were known to harbour this fungus.

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First Record of Downy Mildew of Onion

During the past 4-5 years, severe outbreak of downy mildew of onions compelled many cultivators to abandon its cultivation in some pockets of Kashmir valley. In some areas of severe infection, the disease wiped out 60-100% of the crop.

The prevalence of downy mildew on onion has never been reported earlier from any part of India, as such, this report forms the first record of the disease.

The disease is at its peak in cool, muggy, and rainy weather. Initial symptoms are observed on the tops which die back. Primarily, the diseased

parts attain a peculiar violet tint which change to greenish grey colour with age. Foliage including the stalk-bearing flowers wither and bulb becomes moist and spongy. The yield is considerably reduced.

The pathogen responsible for the disease has been identified as *Peronospora destructor* (Berk.) Casp. The sporangiophores, which are aseptate, are dichotomously branched, bearing elliptical sporangia, measuring $20-27 \mu \times 45-60 \mu$. They are thin walled and sub-hyaline. Specimen deposited with IARI, New Delhi, under reference No. HC 10-32346.

At the experimental station, Shalimar, and in the farmers' fields, it was observed, that, although the disease could not be entirely kept under check by the foliar spraying, yet 3-4 sprayings with N-Tetrachloroethyl-thio-4-cyclohexene-1, 2 dicarboximide (DIFOLATAN) gave very promising results. The above fungicide not only reduced the percentage infection of the disease but also increased the net yield of the crop.

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New Host for *Colletotrichum dematium* (Pers. ex. Fr.) Grove and *C. gloeosporioides* Penz.

Colletotrichum Cda. is known to cause anthracnose, die-back, fruit rot, storage rot, leafspot, petiole rot, etc., in plants. During the course of a study¹, 84 different isolates of *Colletotrichum* were recovered from various hosts. It was found that all the isolates belonged to either of the two commonly occurring species of *Colletotrichum*, i.e., *C. dematium* and *C. gloeosporioides*. The followings are new host records for the above two species :

Colletotrichum dematium (Pers. ex. Fr.) Grove :
Alocasia macrorrhiza, *Aralia spinosa*, *Bignonia unguisati*, *Calotropis procera*, *Canna indica*, *Dalbergia sissoo*, *Dioscorea bulbifera*, *Ficus rumphii*, *Hamelia patens*, *Holoptelea integrifolia*, *Ixora parviflora*, *Livistona rotundifolia*, *Pongamia glabra*, *Rhoeo discolor*, *Ricinus communis*.

Colletotrichum gloeosporioides Penz : *Aralia balfourii*, *A. bipinnatifida*, *A. cordata*, *Aralia* sp., *Bridelia retusa*, *Canna* sp., *Clerodendron inermae*, *Cordyline terminalis*, *Dracaena terniflora*, *Ficus bengalensis*, *Gomphrena globosa*, *Ixora* sp., *Jasminum pubescence*, *Jatropha curcas*, *J. podagrica*, *Manihot* sp., *Ouigenia dalbergioides*, *Pithecolobium dulce*, *Plumeria rubra*, *Samania saman*, *Sansevieria roxburghiana*, *Vitis vinifera*.

Hosts common for both the species : *Albizia lebbeck*, *Canna zebryna*, *Chonemorpha macrophylla*, *Gerbera lanuginosa*, *Hippeastrum johnsonii*.

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Cane-Rot of Ramie by *Rhizoctonia bataticola* (Taub.) Butl. in India

The author observed for the first time in Assam the cane-rot disease caused by *Rhizoctonia bataticola* (Taub.) Butl. on ramie (*Boehmeria nivea* Gaud.) which yields the strongest known vegetable fibre of commercial importance¹. The symptoms of the disease appear as necrotic lesions on the leaves which rapidly increase and cover the entire leaf-blade. The leaves then shrink, roll, adhere to the canes and ultimately shed off. Brown, sunken, circular or elongated lesions are also common on the surface of the cane especially at the basal region. They increase in size and several such lesions coalesce and girdle the canes. When lesions form streaks along the length of the cane without girdling, the entire cane becomes shrivelled resulting in complete drying. Root system becomes weak and turns brown. A number of canes may be infected in the clump. The disease is prevalent during rainy season on mature clumps where the

fungus exists as a brown mycelium and forms small black sclerotia.

The fungus was isolated in pure culture and its pathogenicity tested successfully on 30 days old ramie plants (Variety : R 1411). Breaking of canes of ramie caused by *R. solani* has been reported from Florida², but this is the first record of *R. bataticola* on ramie in India.

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Viral Diseases of Sunflower (*Helianthus annuus* L.)— New Records from India

Besides a Mosaic virus disease of sunflower reported from Austin, Texas (Arnott and Smith¹, 1967 b), no viral disease so far has been reported from India. Recently during the survey of sunflower fields (1976-77), there were three distinct viral diseases, viz., Yellow ring mosaic, Mosaic and Yellow spot on sunflower plants. In the first two cases the plants gave severe mosaic symptoms accompanied with stunting of plant and malformation of young leaves. In plants with Yellow ring mosaic symptoms, the flowering was either absent or the size was found to be greatly reduced.

Yellow ring mosaic and Mosaic were readily transmitted by sap as well as leaf and cleft graft. In sap transmissions, the standard sap extracted in phosphate buffer (pH 7.2, 0.02 M) with Na₂SO₄ (0.1%), using carborundum powder (600 mesh) as an abrasive, gave best results. The virus in both the cases gave chlorotic local lesions on *Chenopodium amaranticolor*. The Yellow spot virus could be transmitted only by grafting.

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