

## ASSOCIATION OF *FUSARIUM MONILIFORME* SHELDON WITH SEEDLING BLIGHT AND PREMATURE STALK ROT (WILT) OF PEARL MILLET

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*Fusarium moniliforme* Sheldon (IMI No. 323802) was observed in the range of 1.5-7.5 per cent as seed borne during seed mycoflora studies of pearl millet [*Pennisetum glaucum* (L.) R. Br.] by standard agarplate (PDA) and blotter methods. Isolation and purification of the fungus was done and its role on emergence (mortality) and vigour of seedlings was determined using blotter and pot methods.

Three sterilised blotters of size, equal to the internal diameter of the Petri dish (9 cm) soaked in sterilised distilled water and sterilised soil (autoclaved for consecutive three days) filled in pots previously washed in running tap water, dipped in five per cent copper sulphate solution and rewashed with sterilised water were used as substratum in blotter and pot methods, respectively. Two hundred surface sterilised and slightly moistened pearl millet seeds were contaminated by rolling on ten days old culture of the fungus. Equal number of surface sterilised seeds without culture smear served as control. The pre-emergence mortality was expressed as per cent seeds which failed to germinate because of their rotting due to test fungus whereas post-emergence mortality was based on seeds which germinated but later on failed to produce radicle and plumule and died.

Seedlings from inoculated seeds showed both pre and post-emergence mortality with chlorotic spots on the leaves. In pots, those plants that survived emergence mortality, later succumbed to infection and wilted prematurely. Wilted plants showed discolouration and browning of leaf sheaths with pinkish-white fungus growth developed on the affected parts. On splitting open such plants revealed a general red to brown discolouration and disintegration of internode tissues. Symptoms similar to those expressed on inoculated plants were also observed on the diseased plants at farmers fields. In nature, disease symptoms were observed generally appearing at the anthesis in a patchy and localised manner. Isolations made from internodes of such affected plants on potato dextrose agar (PDA) medium yielded *F. moniliforme*.

A review of literature indicated that *F. moniliforme* has previously been reported as seed borne on pearl millet and is known to cause head mould (Luttrell 1954)

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in U.S.A. while in India it cause twisted top or top rot (Ramakrishnan 1963), seedling blight (Krishnaswamy 1962), reduction in seed germination, rot, wilting and drying of seedlings (Konde et al. 1980. Singh and Agarwal 1986). Association of *F. moniliforme* with premature stalk rot leading to wilting of pearl millet plants has so far not been reported from India or elsewhere.

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