

Identification of selected vegetable seed-associated fungi and their susceptibility to fungicides

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Seed-associated fungi have the potential to cause diseases in seeds or developing plants. They may reduce seed germination, vigor, and yield performance in crops. The present study aimed to identify fungi from the seeds of ten vegetable crops and evaluate their susceptibility to fungicides. The fungal strains were isolated from surface sterilized and non-surface sterilized seeds of cucumber (*Kalpitiya white*), tomato (*Rajitha*), capsicum (*CA-8*), brinjal (*SM-164*), okra (*Haritha*), snake gourd (*TA-2*), bitter melon (*MC-43*), radish (*Beeralu*), pumpkin (*Meemini*) and spinach (*Yoda*) using agar plate method. The fungal strains were morphologically identified using CMI descriptions followed by DNA sequencing-confirmation using the ITS1 and ITS2 regions with single spore cultures. Antifungal activity of Thiram (80% w/w wettable powder), Captan (50% w/w wettable powder) and Mancozeb (80% w/w wettable powder), (0, 2, 4, 6 and 8 gL⁻¹) on the isolated fungi was evaluated using well diffusion inhibition assay on PDA. From the nine fungal species identified, *Aspergillus niger*, *A. flavus*, *A. fumigatus*, *Mucor indicus*, *Gilbertella persicaria* and *Rhizopus oryzae* are known to be plant pathogens while *A. terreus*, *Talaromyces pinophilus* and *Penicillium citrinum* are reported as potential biocontrol species. In general, 6 gL⁻¹ of Thiram was required to inhibit the growth of *M. indicus*, *G. persicaria* and *R. oryzae* (6-11 mm inhibition) and 2 gL⁻¹ of all three fungicides was adequate to inhibit the growth of other six fungal species (4-26 mm inhibition). The results of the present study can be applied to manage the seed-associated fungi of studied vegetable crops in Sri Lanka.

Key words: *Fungi, fungicides, seedborne, vegetable crops*

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