

Fungi associated with seeds of pulses collected from Lahore and their effect on seed germination

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Abstract

Seeds of four pulses viz. chickpea [*Cicer arietinum* L.] black and white, mungbean [*Vigna radiata* (L.) Wilczek], mashbean [*Vigna mungo* (L.) Hepper] and lentil (*Lens esculenta* Moench), collected from different shops of Lahore, were analyzed for associated mycoflora. Seven fungi comprising of *Aspergillus niger* van Tieghem, *A. flavus* Link ex Gray, *A. fumigatus* Fresenius, *A. terreus* Thom., *Fusarium equiseti* (Corda) Saccardo, *Syncephalastrum racemosum* Cohn ex Schroeter and *Rhizopus* sp. were isolated. Maximum fungal species i.e. 5 were isolated from black chickpea. The frequency of occurrence of these fungal species in black chickpea was also high ranging from 3-25% in surface sterilized seeds and from 10-50% in unsterilized seeds. From white chickpea three species viz. *A. niger*, *A. fumigatus* and *Rhizopus* sp., ranging from 3-7% were isolated only from unsterilized seeds. The same three species were isolated from seeds of lentil with 3-20% frequency of occurrence. Four fungal species namely *A. niger*, *A. terreus*, *F. equiseti* and *S. racemosum* were isolated from mungbean seeds. These species were generally externally seed-borne. Only one species viz. *A. niger* was found associated, both externally and internally, with mashbean seeds. *A. niger* was found to be the most abundantly occurring fungal species associated with seeds of all the four test species with 3-50% frequency of occurrence. High infestation of fungi on the seeds of black chickpea adversely affected the germination.

Key words: seed-borne fungi, pulses, chickpea, mungbean, mash bean, lentil.