

Seed borne fungal pathogens associated with common Egyptian seeds and their efficiency to produce saponin hydrolase enzyme

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Abstract :Seed borne fungi are a serious problem worldwide causing diseases and poor quality on many imported crops. Several fungal isolates were isolated from seed samples collected from commercial markets in Egypt. Seeds of different crop cultivars collected or stored were contaminated with fungi ranging from 37.50 to 100% with an average of 72.224% on PDA medium. The fungal infection showed high infection in cotton and peanut seeds, where detected 100% infection followed by broad bean seeds (93.75%) and lentil (92.85) without significant difference. Also, regarding the total fungal count as cfu, it is clear that the fungal count per 100 seeds was ranged from 129.1 to 831.3 cfu/100 seeds on PDA with an average of 327.707cfu/100 seeds. Moreover, mungbean seeds showed low fungal densities than the corresponding figures of different seed cultivars. The following 20 fungal species belonging to eleven genera were observed and identified as *Aternaria alternata*, *Alternaria tenuis*, *Aspergillus amstelodami*, *Aspergillus flavus*, *Aspergillus ochraceus*, *Aspergillus niger*, *Aspergillus parasiticus*, *Aspergillus regulosus*, *Aspergillus ruber*, *Aspergillus sydowii*, *Aspergillus terreus*, *Chaetomium globosum*, *Fusarium graminearum*, *Fusarium oxysporum*, *Fusarium solani*, *Helminthosporium sativum*, *Mucor* spp., *Macrophoma phaseolina*, *Nigrospora sphaerica*, *Penicillium* spp., *Rhizoctonia solani* and *Rhizopus nigricans*. Saponin hydrolase screening results showed that 20 fungal isolates (66.67%) had the ability to produce saponin hydrolase enzyme, furthermore, only 2(10%) isolates had a high ability to produce saponin hydrolase enzyme in the medium, including 2 isolates of *Aspergillus flavus* which produce 64.26 U/ml and 52.23 U/ml.

Keywords: Seed borne fungi. Saponin hydrolase, Soyasapogenol B.