

Fungitoxicity of aqueous extracts of allelopathic plants against seed-borne mycoflora of maize

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Abstract

Efficacy of aqueous leaf extracts of three allelopathic plants viz. sunflower (*Helianthus annuus* L.), sorghum [*Sorghum bicolor* (L.) Moench] and *Melia azedarach* L. was tested against seed-borne fungi of maize (*Zea mays* L.). Mercuric chloride was used as a reference standard. Four species fungi viz. *Aspergillus niger* van Tieghem, *A. fumigatus* Fresenius, *Penicillium* sp. and *Rhizopus arrhizus* A. Fischer, were isolated from the contaminated stored maize grains. Mercuric chloride as well as the aqueous extracts of the three test allelopathic plant species significantly inhibited the growth of seed-borne fungi. Aqueous extracts of sunflower and *M. azedarach* exhibited maximum toxicity. Antifungal potential of *M. azedarach* extract was highly pronounced against *A. fumigatus* and *Penicillium* sp. resulting in complete suppression of these storage fungi. Similarly sunflower extract completely arrested the growth of *A. niger* and *R. arrhizus*. Generally surface sterilization of maize grains for 20 minutes was more effective in controlling seed-borne fungi as compared to surface sterilization for 10 minutes.

Key words: Maize, seed-borne fungi, fungitoxicity, allelopathic plant extracts, sunflower, sorghum, *M. azedarach*.