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EFFECTS OF AIRBORNE FUNGAL PATHOGENS ON SUNFLOWER AND SAFFLOWER: AN AEROMYCOLOGICAL INVESTIGATION



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Abstract :

*Airborne fungal pathogens significantly influence the health and productivity of oilseed crops such as sunflower and safflower. Yet, their distribution and concentration in the atmosphere, and the subsequent impact on plant health remain inadequately understood. This study aims to bridge this knowledge gap through a quantitative aeromycological investigation. We collected and identified airborne fungal spores using a Burkard Spore Trap and molecular techniques over two growing seasons. Dominant pathogens included *Alternaria* species, *Botrytis cinerea*, *Sclerotinia sclerotiorum*, and *Phoma**

species. Our findings reveal a strong correlation between spore concentrations and plant health metrics such as disease incidence, plant biomass, and crop yield. The study underscores the importance of aeromycological studies in developing effective disease management strategies for sunflower and safflower crops and prompts further research on the influence of changing climatic conditions on fungal spore distributions and plant health.

Keywords: Airborne Fungal Pathogens, Aeromycology, Sunflower, Disease Management