

Grain storage: The role of fungi in biodeterioration

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SUMMARY

The role of fungi associated with cereal grains in storage, in bringing about their deterioration, has been a subject of great interest for long time. The annual estimated losses of the stored food grains are 10-12 million tones. With a view to study the concentration of food grain biodeteriorating fungi and their role in deterioration was studied by operating volumetric Tilak air sampler for a period of one year. All the trapped airborne fungal spores have been categorized under the group 'spore type' and pollen grains, insect parts, plant parts, hyphal fragments and unidentified spore types were categorized under artificially formed group 'other type'. In all 78 types of airborne components were trapped, of which 73 being fungal in origin. Deuteromycotina, the biggest toll (with 40 components) contributed the highest percentage 61.61 per cent to the total airspora, it was followed by Ascomycotina (24 components) 13.81 per cent, Zygomycotina (4 components) 11.09 per cent, other types (5 components) 7.52 per cent, Basidiomycotina (4 components) 5.18 per cent and Myxomycotina (1 component) 0.7 per cent. The data of daily indoor temperature, relative humidity, etc. was recorded regularly and correlated with concentration of biodeteriorating fungi.

Key Words : Food grains, Biodeterioration, Airborne fungal spores, Tilak air sampler

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