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RESEARCH PAPER

Effect of inoculum density of *Aspergillus niger* on quality of acid lime (*Citrus aurantifolia* swingle) during storage

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Abstract : Acid lime (*Citrus aurantifolia* swingle) is available year the round either to use as fresh, stored for a short duration or in the preparation of pickles or other value added products to be consumed for a longer period. It is highly rich in vitamin C as antioxidant. It is infected by different fungal pathogens during transit and storage causing enormous loss both in quality and quantity. *Aspergillus niger,* an wound pathogen infect lime during storage. Inoculum density of a pathogen is critical for any successful infection and subsequent progression affecting fast deterioration in the quality of fruits. Eight different inoculum densities from 10^1 to 10^8 per ml of spore suspension were tested. Inoculum density determined the incubation period as revealed by 72 hours at 10^1 conc. and 48 hours at 10^2 conc. however, no discernible symptom appeared before 48 hours of incubation. Therefore, critical threshold limits for infection is below 10^1 spore conc. per ml. The loss in physical weight, vitamin C content, Titrable acidity and TSS of fruit juice reduced along with increased conc. of in inoculums load with maximum at 10^6 but with an obvious pH increase.

Key Words : Spore load, PDI, *Aspergillus niger*, Postharvest, Acid lime

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