Research Paper :

Aeromycoflora of store house and incidence of post-harvest diseases of mango (*Mangifera indica* L) at Udgir, Maharashtra

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International Journal of Plant Protection (April, 2010), Vol. 3 No. 1 : 94-98

SUMMARY

Aeromycoflora of mango store houses was studied by using Volumetric Tilak Air sampler for a period of two consecutive years. A total of 42 fungal spore types were identified. The predominant spore types included *Cladosporium*, *Penicillium, Pseudotorula, Rhizopus, Aspergillus*, *Alternaria, Nigrospora, Fusarium, Curvularia* and *Helminthospore*. Simultaneously, a systematic survey of post-harvest diseases of mango storehouses and fruit market was undertaken at weekly intervals for two consecutive years. The investigation showed that there were some relationship between the airspora of storage houses and the prevalence of fruit rots. Firstly there were some fungi, which were extensively prevalent both in the air and on spoiled fruits, e.g. *Cladosporium, Penicillium, Curvularia, Fusarium, Helminthosporium, Nigrospora* and *Aspergillus.* Secondly, those fungi which were more prevalent in the air but caused few rots e.g. *Alternaria, Fusarium, Pseudotorula* and *Curvularia.* Thirdly, the fungi that were less prevalent in the air but caused considerable fruit rot e.g. *Aspergillus niger, Colletotrichum gleosporioides, Botrydiplodia theobromae* and *Botrytis cinera*. Eleven fungi were isolated from spoiled mango fruits and found to be associated with post-harvest diseases of mango causing both quantitative and qualitative losses.

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Key words : Aeromycoflora, Mango, Storehouses and post-harvest, Diseases

Accepted :
March, 2010

Mango is one of the oldest and most important tropical fruits. Mango is called the king of fruits because of its delicious taste, richness in vitamins and rare sugars, and its relatively low cost, which the masses of India can offer. But mango like all other fruits is subjected to a number of diseases while they are in the field and the market. Ripened fruits are more suceseptible to attack by a variety of microorganisms. The fungi responsible for such post-harvest rots may originate within the enclosure of storage houses or they may be carried along with the packing materials like leaves, straw and baskets or may get associated with the surface of the fruits in the field (Meredith, 1961; Sullia and Khan, 1980; Panduranjan and Suryanarayanan, 1985).

In 1991, twelve retailers in a Mandi suffered a combined loss due to Rhizopus rot and Lasiodiplodia rot of Rs. 1,17,301 out of the total value of mangoes of Rs. 32,39,101 (Patil and Pathak, 1994). Johnson *et al.* (1993) have reported that the mango fruits are infected by *Lasiodiplodia theobromae* when fruits were inverted in soil after harvest to drain out the sap from the fruits. Keeping in view the significance of fruit rot problem, detail investigation was undertaken for a period of two consecutive years to determine the relationship between aeromycoflora of mango storehouses and incidence of post-harvest mango diseases.

MATERIALS AND METHODS

Air sampling by volumetric tilak air sampler:

Investigations on aeromycoflora of storage houses of mango fruits of Udgir city were carried out by operating Volumetric Tilak Airsampler. Volumetric Tilak Airsampler runs on an electric power supply (Ac 230 v.) and provides a continuous sampling for a weak. The air is sucked in through an exhaust tube at the rate of 5 liters per minute impinging on cellophane tape. A thin coating of white petroleum jelly was slightly coated on the cellophane tape. Cellophane tape was 1.5 cm in breadth and sticked on a slowly rotating drum. Thus, this coated tape, faced the orifice outward projecting tube 0.5 cm. away from it. The drum rotated continuously, slowly, when the sampler was operated. This was in a clockwise manner, which are continuous air sampling for eight days. The drum had markings