

# Studies on post-harvest fungal diseases of sapota (*Achras sapota* L.) in fruit market of Palam dist-parbhani, Maharashtra, India

Dhondiram P. Gadgile<sup>1\*</sup>, P. V. Pawar<sup>2</sup>

<sup>1,2</sup>Department of Botany, Madhavrao Patil Arts, Commerce and Science College, Palam Tq- Palam Dist. Parbhani, Maharashtra, INDIA.

Email: [gadgiledp@gmail.com](mailto:gadgiledp@gmail.com)

## Abstract

The survey of post-harvest fungal diseases of sapota fruit in the Palam fruit market Dist-Parbhani (M.S.) was conducted. Black mouldrot, *Penicillium* rot, *Alternaria* rot, soft rot, *Cladosporium* rot, were common post-harvest fungal diseases of sapota fruits. The present study also revealed that post-fungal infection is mainly due to injury during harvesting, storage and handling.

**Key Words:** Sapota, post –harvest, fungi, Palam.

## \*Address for Correspondence:

Dr. Dhondiram P. Gadgile, Department of Botany, Madhavrao Patil Arts, Commerce and Science College, Palam Tq- Palam Dist. Parbhani, Maharashtra, INDIA.

Email: [gadgiledp@gmail.com](mailto:gadgiledp@gmail.com)

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## INTRODUCTION

Sapota (*Achras sapota* L.) is delicious fruit (Arya, 1993). It is nutritious fruit. India, Mexico, Guatemala and Venezuela are largest sapota producing countries (Atmaselvi *et al.*, 2014). In India, it is important fruit next to mango, banana, citrus and grapes (Bhale *et al.*, 2013). Sapota fruit is affected by several pathogens. Fungi are most important microbe responsible for post-harvest spoiling of sapota fruit. Post-harvest fungal diseases reduce quality of sapota fruit. Information on post-harvest fungal diseases of sapota in Palam (M.S.) fruit market is not available. Hence aim of this research was to study post-harvest fungal diseases of sapota fruit in Palam (M.S.) fruit market.

## MATERIALS AND METHODS

Fungal diseased fruits of sapota were collected from fruit market of Palam Dist; Parbhani (M.S.) and carried to Laboratory of Department of Botany, Madhavrao Patil Arts, Commerce and Science College, Palam Dist; Parbhani (M.S.), India. Surface sterilized pieces of infected fruits were inoculated on potato dextrose agar (PDA) medium and incubated at 25°C for 10 days. After 10 days of incubation fungi were isolated. Isolated fungi were identified based on morphological characters of spores or conidia under microscope.

## RESULTS AND DISCUSSION

The findings obtained from this survey have confirmed that sapota fruits are decayed by fungal pathogens. Black mould rot, *Penicillium* rot, *Alternaria* rot, soft rot and *Cladosporium* rot were common post-harvest fungal diseases of sapota fruits in Palam fruit market (Table 1). The present survey also demonstrated that fungal infection is mainly due to injury during harvest, transport and handling. Wagh and Bhale (2012) reported that sour rot, *Cladosporium* rot, Blue mould rot, *Rhizopus* rot, and *Aspergillus niger* rot are common post-harvest fungal diseases of sapota in fruit market of Thane District of Maharashtra state. Rinkey Pallavi *et al.* (2014) also reported that soft rot is common post-harvest fungal disease in fruit market of Nagpur (M.S.), India. The results of this study can be used to develop suitable post-

harvest control methods to minimize the post-harvest loss of sapota fruit.

**Table 1:** Post-harvest fungal diseases of sapota in Palam fruit market

Fungal diseases	Causal organisms	Symptoms
Black mould rot	<i>Aspergillus niger</i>	Water soaked lesions develops on fruits which later becomes blackish brown. Diseased fruit emits a fermented odour.
<i>Penicillium</i> rot	<i>Penicillium italicum</i>	Infected portion of the fruit become soft. In later stage it is covered with bluish powdery growth of <i>Penicillium italicum</i> .
<i>Alternaria</i> rot	<i>Alternaria alternata</i>	Brown spots develop on fruits.
Soft rot	<i>Rhizopus arrhizus</i>	Water soaked lesions occurs on Fruits. The fruit becomes soft.
<i>Cladosporium</i> rot	<i>Cladosporium oxysporum</i>	Orange red circular spots developed on fruit.

### CONCLUSION

It can be concluded that, black mould rot, *Penicillium* rot, *Alternaria* rot, soft rot and *Cladosporium* rot are major post-harvest fungal diseases of sapota fruits in Palam fruit market. Surface injuries are mainly responsible for fungal

infection in sapota fruit. Therefore safety measure should be taken at the time of harvest, transport and storage.

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