

throws light on the evolution of Chaetophorales or an expression of certain specialized conditions, remains an open question till enough data to support either view is available.

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POST-HARVEST CHEMICAL TREATMENT OF APPLE FRUITS AGAINST ROT AND DETERIORATION

POST-HARVEST losses of apple fruits on account of infection by *Alternaria tenuis* have been reported by Grewal.³ During studies on microbial deterioration of apple fruits in transit and storage in recent years, the authors frequently encountered this fungus causing rot and decay which gives the fruits an unsightly appearance rendering them practically unfit for sale and consumption. A perusal of literature revealed that no worthwhile attempt has been made in this country to find suitable control measures against this disease. Studies of Dharam Vir¹ and Dharam Vir *et al.*² have shown that intensity of losses on account of such type of diseases occurring during transit and storage can be substantially reduced by suitable treatments. Results of the evaluation of three chemicals as post-harvest dip treatment for the control of this disease are presented.

EXPERIMENTAL

Three chemicals, *i.e.*, calcium propionate, allisan and thioacetamid, were used in the investigations. Apple fruits (variety Ambari) in healthy and firm condition were selected and each fruit was given a small cut at four uniform places (Fig. 1). This was followed by inoculations which were done by spraying the spore suspension of *A. tenuis* prepared in sterilized water, on to the fruits with the help of an atomiser. After 12 hours of incubation, fruits were divided into four lots, three of which were treated with different chemicals while the fourth was kept as control. The treatment was done by dipping the fruits in water solution of each chemical prepared in steriliz-

ed water at 1,000 ppm, for a period of 2-3 min. Fruits kept as control were subjected to the same procedure except that no chemical solution was used and instead the fruits were dipped in sterilized water for the same period. Fifteen fruits were used for each treatment. The fruits were later dried, closely packed together in cardboard boxes and incubated at room temperature (21-24° C). The boxes were periodically opened and fruits in various treatments were examined for the initiation of rotting around the cuts. It was observed that while in the untreated fruits, rotting initiated around the cuts on the third day, the treatment of fruits with thioacetamid suppressed the development of symptoms up to 35 days. Fruits treated with calcium propionate and allisan developed rotting on the sixth and 10th day respectively. These investigations clearly bring out the efficacy of thioacetamid as a post-harvest dip treatment for prolonging the storage life of apple fruits against rot and decay caused by this disease. The use of thioacetamid does not present any health hazard problems.



FIG. 1. Showing efficacy of thioacetamid for the control of apple rot. A and B represent respectively treated and untreated (control) fruits.

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