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RESEARCH PAPER

Effect of pre-harvest sprays and post-harvest dip of different chemicals on shelf-life of guava

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Abstract **:** A study was carried out to find out the effect of pre and post harvest applications of different chemicals on shelf life of guava fruits during storage. The data showed that the pre-harvest spray of 2.0 per cent calcium nitrate solution and post harvest dip in 2.0 per cent calcium nitrate solution (A_2B_3) recorded highest shelf life of guava fruits followed by pre-harvest spray of 2.0 per cent starch (potato) solution and post-harvest dip in 2.0 per cent calcium nitrate solution (A_3B_3). The lowest values of shelf life of guava fruit were recorded with pre-harvest spray of distilled water and post-harvest dip in any treatments.

Key Words **:** Guava, Shelf-life, Pre- harvest spray, Post-harvest dip

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INTRODUCTION

Guava (*Psidium guajava* L.) is one of the most important, highly productive, delicious and nutritious fruit gown commercially throughout tropical and subtropical region of India. In India guava is cultivated in an area of 0.16 million hectares with an annual production of 1.6 million tones and accounting for 5.26 per cent and 3.73 per cent of area and production, respectively. It occupies fifth position in terms of area and fourth position in terms of production among fruits of India. In M.P. the area under guava fruit is 4800 ha and production is about 95,000 MT (NHB, 2009). Though, successfully grown all over the country, Uttar Pradesh, Bihar, and Madhya Pradesh are the largest growers and produces best quality guava. Allahabad has the distinct reputation of growing best quality guavas in the world.

It is climacteric fruit and highly perishable in nature and should be marketed immediately after harvest, it can only be stored up to 2 to 3 days under ambient conditions. In order to minimize these losses and to increase the keeping quality, the study was carried out to evaluate the efficacy of different chemicals on shelf life of guava.

MATERIALS AND METHODS

The present investigation of pre and post harvest application of different chemicals effect on shelf life of selected variety guava fruits (*Psidium guajava* L.) was conducted during January 2007 to April 2008. The treatments consisted of 20 combinations of pre-harvest spray (5 levels) and post-harvest dip (4 levels) comprising three replications were tested under factorial RBD.

Single spray of calcium compounds, starch and copper oxychloride were carried out one month before harvesting in the first year on 10th December 2007 and in the second year on 2nd December 2008 with the help of foot sprayers using 0.1 per cent teepol as surfactant. The control trees were sprayed with water. The fruits were handled for sampling 30 days after spraying the chemicals (Bhanja and Lenka, 1994). As a post harvest dip, the harvested fruits were taken one month after the pre-harvest spray of fruits and were dipped for 2 minutes in chemicals dissolved in water as per the treatment.

RESULTS AND DISCUSSION

The data on shelf life of guava fruit after 9 days of storage were statistically analyzed year-wise separately and as average