

## Research Paper

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## Effect of post harvest treatments on quality of *Jamun* (*Syzygium cuminii* Skeels) fruits during storage

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**Abstract :** An investigation was carried out at Department of Horticulture, B. A. College of Agriculture, Anand Agricultural University, Anand during month of June, 2009 to see the effect of post harvest treatments on quality of *Jamun* fruits. The *Jamun* fruits were treated with growth regulators GA<sub>3</sub> (50 and 100 ppm), chemical CaCl<sub>2</sub> (1.0 and 1.5%) and Paraffin wax along with control and kept in with or without perforated polyethylene bag. The experiment was carried out in Completely Randomized Block Design (Factorial) with twelve treatments and replicated thrice. Among these, treatment of CaCl<sub>2</sub> 1.5 per cent with perforated polyethylene bag proved to be the best post harvest treatment than the rest of the treatments. The treatment effectively reduced the physiological loss in weight as well as spoilage loss and thereby useful in maintaining good balance between ascorbic acid and sugar content of fruits during storage. The treatment also showed little change in TSS, pH and acidity content and hence, it can be useful in post harvest management of *Jamun* fruits.

**Key words :** *Jamun*, GA<sub>3</sub>, CaCl<sub>2</sub>, Paraffin wax, Perforated polyethylene bag

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The *Jamun* (*Syzygium cuminii* Skeels) is one of the most hardy fruit crops and can easily be grown in neglected and marshy areas, where other fruits plants cannot be grown successfully. The fruit is good source of iron, sugars, minerals, protein and carbohydrate etc. Fully ripened fruits are eaten as fresh fruit and can be processed into beverages like jelly, jam, squash, wine, vinegar and pickles. Fruits are used as an effective medicine against diabetes, heart and liver trouble (Singh, 2001). Leaf extract of *Jamun* reduces the radiation induced DNA damage in the cultured human peripheral blood lymphocytes (Prince *et al.*, 2003). Therefore, the *Jamun* fruits are having high value in terms of therapeutic and nutrition.

The role of plant growth regulators in various physiological processes such as seed germination, flowering, fruiting, seed development, fruit ripening and yield etc. in different crop plants is well established. The plant growth regulators are known to regulate and modify various physiological processes within the plant. Use of gibberallic acid (GA<sub>3</sub>) and CaCl<sub>2</sub> are effective as a post

harvest treatments and used on large scale in a number of fruits. GA<sub>3</sub> acts as antisenescence agent and thereby enhance the shelf-life of fruits. While chemical CaCl<sub>2</sub> extends the storage life of fruits by maintaining their firmness and minimizing the rate of respiration, protein breakdown and rotting incidence (Bangerth *et al.*, 1972, Scott and Wills, 1975).

### RESEARCH METHODS

The present investigation was carried out at Department of Horticulture, B.A. College of Agriculture, Anand Agricultural University, Anand in Completely Randomized Block Design (Factorial) with three replications during June, 2009. Total twelve treatments consisted of GA<sub>3</sub> (50 and 100 ppm), CaCl<sub>2</sub> (1.0 and 1.5 %) and Paraffin wax along with control and kept in with and without perforated polyethylene bag were taken for the studies.

The healthy, undamaged and uniform size fruits were obtained from twenty year old *Jamun* tree cv. PARAS. The treatments of GA<sub>3</sub> and CaCl<sub>2</sub> were given by dipping