

Effect of post harvest treatments on storage life of banana (*Musa paradisiaca* L.) cv. GRAND NAINA

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ABSTRACT

Banana is one of the major fruit crops grown in Gujarat with high productivity. "GRAND NAINA" variety of banana has been popularized because of high yield potential with quality fruits against so popular "BASRAI" bananas. Post Harvest life of banana fruit is short for its perishable and climacteric nature. Physiological *vis-à-vis* biochemical changes occur during ripening. The research was carried out at the Department of Pomology, ASPEE College of Horticulture and Forestry, Navsari Agricultural University, Navsari to study the effect of some chemicals and growth regulators on post harvest life of banana cv. GRAND NAINA. Results revealed that GA₃ 150 ppm and Waxol 8% significantly reduced physiological weight loss, delayed ripening, reduced percentage of ripe fruits, increased marketable fruits (%) with firm flesh for longer time, extended shelf life.

Key words : Post harvest, Banana, Storage life, GA₃, Waxol, AgNO₃, CaCl₂

Banana (*Musa paradisiaca* L.) is one of the most important fruit crops of the world. In India, banana is predominant and popular among the people as they are relished and consumed by all kind of people. In Gujarat, banana cultivation increases day by day and it is believed that Basrai banana is being replaced by new banana variety Grand naine which is becoming popular among Gujarat banana growers due to its high yield potential with quality fruits.

Since banana is a perishable climacteric fruit and ripens after harvest, post harvest biochemical changes occur and continue up to senescence. Attempts were made to delay ripening using different chemicals and growth regulators. Biochemical changes in banana cv. Lacatan through post harvest treatment were studied by Rao and Chundawat (1986). Since then the information on commercially grown variety GRAND NAINA with post harvest treatment is not available from South Gujarat region. With a view to find out the suitable chemical on storage life of banana, the study was carried out at Department of Pomology, ASPEE College of Horticulture and Forestry, Navsari Agricultural University, Navsari during 2002-03.

MATERIALS AND METHODS

The experiment was conducted in Completely Randomized Design with three repetitions. There were five chemicals with different concentrations *viz.*, GA₃ (50,100,150 ppm), Kinetin (10, 15 and 20 ppm), CaCl₂ (0.5, 1.0 and 1.5 %), AgNO₃ (0.2, 0.4 and 0.6 μ m) and

Waxol (4, 6 and 8 %) with water dip as control. The uniform sized banana hands were dipped in each solution for 30 minutes and then air dried for 30 minutes. Distilled water was used for water dip treatment. The fruits were kept at an ambient temperature for recording the observations.

RESULTS AND DISCUSSION

The results obtained from the present investigation as well as relevant discussion have been presented under following heads:

Physiological wt. loss (%):

Data pertaining to weight loss percentage as shown in Table 1 revealed that on 3rd day of storage, GA₃ 150 ppm reduced the physiological loss of weight (3.53 %) which was at par with GA 100 ppm (3.80 %), GA₃ 50 ppm (4.05 %), Waxol 8% (4.01) and Waxol 6% (4.25%) over control. Similar results were obtained on 6th and 9th day of storage. While, GA₃ 150 ppm was effective to minimize the weight loss at 14.72 % and 18.43% on 12th and 15th day of storage, respectively compared to control. In general, GA₃ at all concentrations and Waxol at 8 and 6% reduced the physiological weight loss. Reduction of weight loss might be due to the reduction in respiratory activities through GA₃ as well as Waxol. Rao and Chundawat (1986) and Patil and Hulamani (1988 b) found the similar results which are in conformity with the present findings.

All the concentrations CaCl₂ and AgNO₃ did not