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Postharvest Management in Agriculture

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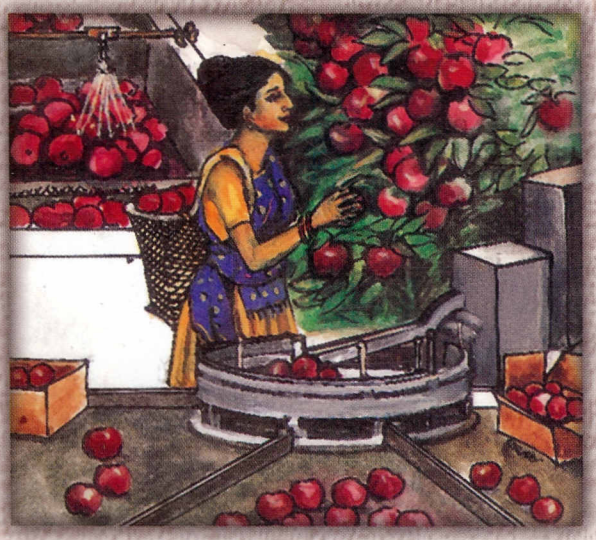

SAARC Agricultural Information Centre

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A S Chandel and R M Kamal

SAARC Agricultural Information Centre (SAIC)

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CONTENTS

912 ROY, SK; SINGH, RN. 1975. **Utilization of bael fruit for the preparation of different fruit products.** *Delhi Garden Magazine*, 27-28.

913 SHAILESH VERMA; SAVITA GUPTA; SINGH, RV; ABIDI, AB. 1991. **Changes in biochemical constituents of bael fruits infected with *Aspergillus* species.** *Indian Phytopathology*, 44: 3, 405-406; 10 ref.

During 1985-87, *Aegle marmelos* fruits severely affected by dry rot caused by *A. niger*, *A. fumigatus* and *A. luchuensis* were observed in markets and orchards of Faizabad, Uttar Pradesh, India. Inoculated fruits incubated for 7 d at 90% RH were analysed biochemically. Protein content was increased c. 2-fold in tissues infected with all 3 A. spp., total free amino acid content was maximum in healthy mature fruits and decreased by c. 50% in infected fruits, total phenol content was higher in infected tissues, and total sugar, reducing and non-reducing sugar contents were greatly reduced in infected tissues.

914 SINGH, RN; ROY, SK. 1984. **The bael cultivation and processing.** New Delhi: Publication and Information Division, Indian Council of Agricultural Research.

AMLA

915 VIJAY, S. 1986. **Effect of blanching on drying of *amla*.** *Ind.Fd.Pckr.*, 40: 4, 7-10.

916 VIJAY, S; ANAND, JC. 1989. **Nutritional and microbiological quality of carrot and *amla* preserves.** *Proceedings of Seminar on National Fruit and vegetable Murrabba Industry*. (New Delhi: 1989: 16 April).

917 VIJAY, S; ANAND, JC. 1985. **Relative humidity as affecting the quality of carrot and *amla* preserves during storage.** *Beverage Food World.*, 2: 26-28.

918 VIJAY, S; ANAND, JC. 1983. **Retention of nutrients in carrot and *amla* preserves.** *Indian Food Packer*, 37: 6, 64-67.

919 VIJAY, S; ANAND, JC. 1982. **Studies on the preparation of intermediate moisture *amla* preserve and changes during storage.** *Progr. Hort.*, 14: 2-3, 87-93.

BERRIES

Storage

920 MEDHI, G; SINGH, IS. 1982. **Effect of gibberellic acid on shelf-life of Beauty Seedless grape berries during cold storage.** *Journal of Research, Assam Agricultural Univ.*, 3: 2, 216-219; 9 ref.

At berry set the clusters were dipped for 30 seconds in solutions of GA3 at 20-60 p.p.m. After harvest the bunches were cooled and stored in perforated polyethylene bags at 0°C for up to 48 days. Grapes treated with GA3 at 40 p.p.m. stored best for 48 days, 12 days longer than non-treated control grapes.

921 RASTOGI, DINESH. 1990. **Variation in solasodine content in *Solanum laciniatum Ait.* at different growth intervals of plant and under post-harvest storage of berries and leaves (M.Sc: thesis).** Dr. Y.S. Parmar University of Horticulture & Forestry, Solan. 66p.

Investigations were undertaken to find out appropriate stage of economic parts, viz. berries and leaves of *Solanum laciniatum Ait.* at which there would be maximum solasodine content; to get information regarding the optimum drying conditions so as to minimise the degradation of solasodine during drying of herb; and to find out the best packing material in which there would be minimum possible loss of solasodine during storage. Per cent solasodine content in leaves was maximum (1.99%) when they were fully developed, dark green in colour and the plants were 257 days old. Solasodine percentage was maximum (4.24%) when the berries were 56 days old and the maximum solasodine absolute yield was obtained from 63 days old berries (362.3 mg/10 berries). The berry colour, nevertheless, was dark green at both these stages. The fully developed, green berries retained highest percentage (4.20%) of solasodine when dried in oven at 60° C registered maximum value (1.96%) in case of leaves. Polythene, cotton and nylon for berries, and plythene, cotton and paper for leaves proved the best packing material for storage. Solasodine loss was gradual and assumed significant dimensions at 30 days storage of leaves and berries.

922 REDDY, PCE; REDDY, KS; REDDY, KR. 1989. **Effect of storage conditions on the shelf-life of grape berries.** *Indian Phytopathology*, 42: 4, 594-596.

Pachadraksha grapes stored at 8-10°C and wrapped in a polythene sheet (100 gauge), had min. wt yield losses (10.52%) after 50 d and no disease was recorded. It is concluded that shelf-life of grapes could be extended to up to 50 d by using cold storage.

BANANAS

Ripening

923 KUMAR, S; SINHA, SK. 1992. **Alternative respiration and heat production in ripening banana fruits (*Musa paradisiaca var. mysore kadali*)**. *Journal of Experimental Botany*, 43: 257, 1639-1642.

The involvement of alternative respiration in thermogenesis during the ripening of banana (*Musa paradisiaca var. Mysore Kadali*) fruits, attached to a bunch, has been examined. The temperature of the youngest (unripened) banana fruit increased from 27.0±0.2°C to 30.8±0.1°C and the total respiration (in nmol oxygen min-1 g-1 dry wt.) increased from 139.6±5.5 to 167.3±7.0 at the fully ripened stage. Although the capacity for alternative respiration showed little change. the actual operation of this pathway increased from 38 to 73% (rho = 0.38 to 0.73) during ripening. Similar results were obtained in fruits along the central axis at different stages of ripening. It is suggested that alternative respiration may contribute to the temperature rise observed in ripening banana fruit.

924 WASKAR, DP; ROY, SK. 1992. **Post-harvest ripening changes in banana**. *Agricultural Reviews (India)*, 13: 1, 36-42.

Postharvest handling

925 INIBAP, MONTFERRIER-SUR-LEZ, FRANCE. 1990. **Banana and plantain R & D in Asia and the Pacific**. *ASPNET Book Series*/edited by RV Valmayor. No. 2, 189 p.

This publication is the proceedings of a regional consultation on banana and plantain R & D networking, held at Manila and Davao, Philippines, 20-24 Nov. 1989. The Workshop was the second step in the establishment of a regional network for Asia and the Pacific. The contributions at the Workshop comprised an overview of INIBAP and its global banana and plantain networks, a discussion of the rationale of the Asia-Pacific Banana and Plantain R & D Network, and country reports on banana and plantain research and production from Australia, China, Indonesia, Malaysia, Philippines and Thailand. The country reports cover the following aspects: production, cultivars, germplasm collections, cropping systems, domestic and export markets, postharvest handling technology, processing and utilization, pests and diseases, and adverse environmental factors; they also list research institutions and current research and development programmes. A country paper report from India, and a banana mission report compiled by Dr. R. V. Valmayor describing the present status of banana and plantain in different countries in Asia, are included in the appendices.

926 RAO, VNM. 1984. **Banana**. Indian Council of Agricultural Research, New Delhi, India. 61 p.

This booklet deals with the origin, distribution, uses, food value, area and production, botany, morphology, nomenclature, classification, important clones of India, climate, soil, propagation, planting, manuring, irrigation, cultivation, packing, transport, preservation, pests, diseases and breeding of bananas.

927 ROY, SK. 1992. **Post-harvest handling, marketing and export of banana**. *Golden Jubilee Symposium on optimisation of productivity and Utilisation of Banana*. (Pune: 1992: 22-23 Sept.) Hort. Soc. India & MPKV.

928 THOMAS, P; JANAVE, MT. 1992. **Effect of temperature on chlorophyllase activity, chlorophyll degradation and carotenoids of Cavendish bananas during ripening**. *Int. Journal of Food Science and Technology*, 27: 1, 57-63; 26 ref.

Changes in chlorophyllase activity, and chlorophyll and carotenoid content of Giant Cavendish banana fruit peel were measured during ripening at tropical temperatures (30-34°C) and at 20° to relate them to the greenish and yellow colours of fruits ripened at these temperatures. At 30-34° fruits remained green on ripening due to incomplete chlorophyll degradation while at 20° complete degreening occurred and fruits turned yellow. Peel total carotenoid content remained constant during ripening and did not change with temperature. Free xanthophylls decreased while xanthophyll esters increased on ripening at 20° and at 30-34°. Chlorophyllase activity increased during ripening and paralleled the respiratory climacteric, although activity was not consistently related to the differential degradation of chlorophyll at these temperatures. Exogenous application of ethylene and Ethrel accelerated ripening, but had no effect on chlorophyllase levels, chlorophyll degradation or carotenoid content of fruits ripened at either 30-34° or at 20°.