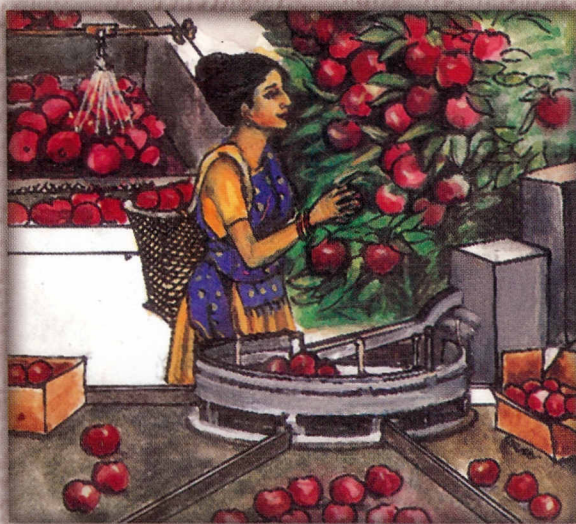




SAARC

Postharvest Management in Agriculture

SAARC Bibliographical Database



SAARC Agricultural Information Centre

Postharvest Management in Agriculture **SAARC Bibliographical Database**

A S Chandel and R M Kamal



SAARC Agricultural Information Centre (SAIC)

SAARC Agricultural Information Centre (SAIC)
BARC Complex, Farmgate, Dhaka 1215, Bangladesh

Published : 1995

Cover design : Mafruha Begum

Price : US\$ 5.00 for SAARC countries
US\$ 8.00 for other countries

Chandel, A S and Kamal, R M

Postharvest Management in Agriculture: SAARC bibliographical database.

Dhaka: SAARC Agricultural Information Centre, 1995.

ii, 231, xxxv p.

1. Postharvest technology, bibliography. 2. SAARC Agricultural Information Centre. i. Jt. Author.
ii. Title.

Published by : Director, SAARC Agricultural Information Centre (SAIC)

Printed at : Panir Printers, 9 Nilkhet, Dhaka 1205

CONTENTS

<i>Preface</i>	i
<i>Introduction</i>	ii
POSTHARVEST EQUIPMENTS	1
PACKING MATERIALS	14
AGRICULTURAL PRODUCE	25
CEREAL GRAINS	27
WHEAT	31
SORGHUM	35
MAIZE	36
BARLEY	38
MILLETS	38
RICE	39
SOYBEANS	60
VIGNA	62
LENTILS	66
STARCH CROPS	66
CASSAVAS	68
TOBACCO	70
COFFEE AND TEA	71
GARLICS	72
GINGERS	73
TURMERIC	75
SPICES	76
OILS	77
FRUITS	78
APPLES	83
PEARS	89
APRICOTS	90
PEACHES	91
PLUMS	92
PRUNUS DOMESTICA	94
CHERRIES	94
LITCHI CHINENSIS	94
CITRUS	95
ORANGES	97
KINNOWS	98
LEMONS	101

GUAVAS	102
SAPOTA	105
MANGOES	107
NUTS	115
COCONUTS	116
DATES	117
POMEGRANATES	118
PAPAYAS	118
JACKFRUITS	119
AEGLE MARMELLOS	120
AMLA	121
BERRIES	121
BANANAS	122
PINEAPPLES	126
ZIZIPHUS MAURITIANA	126
GRAPES	128
VEGETABLES	133
CARROTS	136
POTATOES	138
ONIONS	144
CAULIFLOWERS	151
TOMATOES	151
BRINJALS	156
PEAS	157
GROUNDNUTS	159
MUSHROOMS	162
OTHER VEGETABLES	163
FLORICULTURE	164
DAIRY SCIENCE	166
FOOD TECHNOLOGY	191
JUICES	205
WINE AND BEVERAGES	211
SEED TECHNOLOGY	213

Term Index

i

Author Index

xvi

microbiologically and had an acceptable sensory quality.

898 JOHN, PJ; NARASIMHAM, P. 1993. **Processing and evaluation of carbonated beverage from jackfruit waste (*Artocarpus heterophyllus*)**. *Jrl. of Food Process. and Pres.*, 16: 6, 373-380.

Edible bulbs of ripe jackfruit (*Artocarpus heterophyllus* Lam.) are consumed for their fine taste and pleasant aroma. The edible portion is about 30% by weight. About 50% of fruit, composed of rind and unfertilized floral parts, which are also rich in jackfruit flavor, are usually discarded as waste, because they are fibrous. A process for the preparation of clarified juice has been developed and involves treatment of the jackfruit waste with pectic enzyme at 0.3% concentration (vw), incubation for 2 h at 40C and subsequent filtration, giving about 60% yield of clarified juice having 23° Brix and 0.15-0.20% acidity. Sensory evaluation of ready-to-serve (RTS) beverages (12% juice, 15° Brix sugars and 0.3% acidity) without and with carbonation at 3 levels (CO₂ gas pressures 0.775, 2.092 and 3.685 kg/cm²) by a 15-member trained panel revealed that the product was highly acceptable either without or with carbonation at 0.775 kg/cm², compared to higher levels of carbonation. It is concluded that preparation of beverage from jackfruit waste as a byproduct, besides processing of bulbs and seeds, brings about the effective utilization of jackfruit to over 80%.

AEGLE MARMELOS (BAEL)

899 KUMAR, KR; SUBRAMANIAN, BG; INDIRAMMA, AR. 1993. **Studies on the storage characteristics of kodbale - a popular Indian spicy savoury**. *Journal of Food Science and Technology - Mysore*, 30: 4, 269-274.

Moisture sorption isotherm of Kodbale, a popular Indian spicy savoury was found to be sigmoidal in shape; typical of a starchy food. The equilibrium moisture content at 56% RH was found to be 10.01% (dry basis), which was critical from the point of view of crispness and acceptability. The Brunnauer-Emmett-Teller (BET) and Guggenheim-Anderson-de Boer (GAB) - monolayer moisture content was 4.60%. The product packed in polyamide, based coextruded film and metallized polyester-polyethylene laminate with ambient air and nitrogen gas flushing indicated shelf-life of 60 to 80 days, when stored at 38°C and 90% RH. At 27°C and 65% RH storage condition, the shelf-life was about 120 days. Gas flushing and polyamide based material gave added protection against deteriorative changes.

900 ROY, SK. 1985. **Bael (*Aegle marmelos*)**. (Fruits of Indian Tropical and Subtropical: /edited by TK Bose. Calcutta: Naya Prakash.

901 ROY, SK. 1992. **Bael fruit (*Aegle marmelos* Correa)**. *Tropical and Subtropical Fruits*/edited by ES Philip; TC Harvey; N Steven. Florida: Ag. Science Inc.

902 ROY, SK; SINGH, RN. 1979. **Bael fruit (*Aegle marmelos*) - a potential fruit for processing**. *Economic Botany*, 33: 2, 208-212.

903 ROY, SK; SINGH, RN. 1979. **Preliminary studies on storage of bael fruit (*Aegle marmelos*)**. *Progressive Horticulture*, 2: 31.

904 ROY, SK; PANDEY, RM; SINGH, RN. 1973. **Preliminary studies on the availability of ripe bael fruits (*Aegle marmelos*) in off-season**. *Ind. J. Hort.*, 29: 3&4.

905 ROY, SK; SINGH, RN. 1972. **Process bael for sure market**. *Indian Hort.*, 17: 3, 7.

906 ROY, SK; SINGH, RN. 1979. **Studies on changes during development and ripening of bael fruit (*Aegle marmelos*)**. *Punjab Hort. J.*, 20: 3&4, 190-197.

907 ROY, SK; SINGH, RN. 1979. **Studies on the induced ripening of bael fruit (*Aegle marmelos*)**. *Punjab. Hort. J.*, 20: 1&2, 74-82.

908 ROY, SK; SINGH, RN. 1977. **Studies on utilization of bael fruit (*Aegle marmelos* Correa) for processing-I. Physico-chemical characteristics of different cultivars**. *Indian Food Pack.*, 32: 6,3-8.

909 ROY, SK; SINGH, RN. 1978. **Studies on utilization of bael fruit (*Aegle marmelos* Correa) for processing II. Extraction of bael fruit pulp**. *Indian Food Packer*, 33: 1, 5-9.

910 ROY, SK; SINGH, RN. 1978. **Studies on utilization of bael fruit (*Aegle marmelos* Correa) for processing III. Preparation and preservation of bael fruit products**. *Indian Food Packer*, 33: 5, 9-14.

911 ROY, SK; SINGH, RN. 1978. **Studies on utilization of bael fruit (*Aegle marmelos* Correa) for processing IV. Storage studies of bael fruit products**. *Indian Food Packer*, 33: 6, 3-9.

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.