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Postharvest Management in Agriculture

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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

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Journal of Food Science and Technology - Mysore, 30: 4, 306-308.

Effect of pretreatments viz, heat application, chemical dipping and sulphur fumigation, during drying of apricots to prevent discolouration was investigated. Maximum yield was recorded in control followed by steam-blanching fruits. Lye-peeled apricots retained lower moisture than steam-blanching fruits. Maximum and minimum brownings were observed in untreated samples and the fruits subjected to sulphur fumigation, respectively. Non-enzymatic browning showed statistically significant differences among varieties and treatments. 'Chuli' - a wild variety had the maximum browning, while 'Sufraida' the least. Among various pretreatments, sulphur fumigation and lye-peeling were more effective than the rest, while 'Kaisha' variety was rated as the best.

682 SUD, G; BHUTANI, VP. 1989. **Effect of nutrients and growth-regulators on the nutrient status of 'New Castle' apricot (*Prunus armeniaca*) fruits under cold storage.** *Indian Journal of Agricultural Sciences*, 59: 6, 410-412; 7 ref.

In 2-year studies with the cv. Newcastle, 18 treatments involving H₃BO₃, CaCl₂, KNO₃, GA, MH and succinic acid 2,2-dimethyl hydrazide, in different combinations, were applied to the trees at the pit-hardening stage of fruit development. Changes in the nutrient composition of the fruits were assessed after 30 days of storage at 0°C. Data are tabulated on fruit N, P, K, Ca and Mg contents in fresh and stored fruits. N was highest in fruits previously treated with CaCl₂ at 0.5% and lowest in the control. The P content did not change appreciably with treatments or storage time. K increased during storage, especially in those fruits treated with 0.5% CaCl₂ + GA (50 p.p.m.). Ca and Mg also increased during storage but different treatments had no appreciable effect.

PEACHES

Storage and storage decay

683 BADYAL, K; SUMBALI, G. 1990. **Post harvest pathology of peach fruit from Jammu.** *Indian Jrl. of Mycology and Plant Pathology*, 20: 1, 79.

Rotted peaches from the local fruit market yielded isolates of *Botryodiplodia theobromae* and *Rhizopus oryzae*, both newly recorded in India.

684 JOSHI, VK; BHUTANI, VP. 1994. **Peaches.** *Handbook of World Fruits; Cultivation, Storage and*

Processing/edited by DK Salunkhe; SS Kadam. USA: Marcel Deckers,

685 KUMAR, J; SHARMA, RK; MISHRA, BP. 1987. **Effect of ethylene absorbent on shelf life of peach (*Prunus persica*) cv. Flordasun.** *Research and Dev. Reporter*, 4: 2, 218-222; 9 ref.

Fruits harvested at 2 maturity stages (half ripe and fully ripe) and packed in wooden boxes with paper lining pretreated with 500, 1000 or 2000 p.p.m. KMnO₄ (an ethylene absorbent) were stored at room temperature. All KMnO₄ concentrations were effective in reducing physiological weight loss and decay. TSS, acidity and ascorbic acid increased with increasing storage time (2-6 days).

686 MANGAT, GURDEEP SINGH. 1989. **Effect of calcium on post-harvest life of Flordasun peach (M.Sc: thesis).** Punjab Agricultural University, Ludhiana. 79 p.

Calcium nitrate @ 0.5, 1.0, 1.5, 2.0 and 2.5 percent was applied 4,3 and 2 weeks before harvesting of *Flordasun peach*. Second and third sprays were superimposed on the trees sprayed previously. Physico-chemical changes were recorded at harvesting time and after 14, 28 and 42 days of cold storage. The pre-harvest calcium nitrate sprays had no marked effect on fruit colour, and fruit and stone characters at harvesting. Organoleptic rating, total soluble solids and total sugars were higher, whereas acidity was lower in untreated fruits. Calcium content of the fruits got increased significantly with the increase in concentrations and spray intensities of calcium nitrate. All the calcium nitrate treatments decreased the physiological loss in weight, spoilage and acidity, but increased the total soluble solids and total sugars during 42 days in cold storage. Among the various concentrations, 2% was the best which maintained the highest organoleptic rating, total soluble solids and total sugars. In case of spray intensities, two sprays were adjudged the best as they maintained the highest organoleptic rating and total sugars, whereas total soluble solids and acidity were at par with three sprays. Physiological loss in weight and spoilage were minimum in fruits which received three sprays.

687 SHARMA, RK; KUMAR, J; RAN SINGH; MISHRA, BP. 1988. **Shelf life of peach as affected by different packing and cushioning materials.** *Research and Development Reporter*, 5: 1-2, 71-75; 5 ref.

Fully ripe fruits of cv. Flordasun were stored at room temperature in wooden or cardboard boxes with shred-

ded paper, paper lining or egg trays as cushioning materials. Cardboard boxes with egg trays were best; they gave minimum weight and decay losses. The quality parameters such as TSS, acidity and ascorbic acid were also maintained, and fruits were marketable even after 6 days of storage.

688 SHARMA, RK; SANDOOJA, JK; SINGHROT, RS; SINGH, JP. 1986. **Studies on the shelf life of peach cv. Flordasun as affected by various packing materials.** *Haryana Journal of Horticultural Sciences*, 15: 3/4, 188-195; 5 ref.

Fully ripened fruits were held in wooden boxes or bamboo baskets (lined with dried grass or paper) or in egg-trays packed into cardboard boxes. The least weight loss and decay, and the best fruit quality were obtained with egg-trays.

689 SHARMA, RL. 1994. **Efficacy of post-harvest fungicidal treatments on brown rot of peach.** *Indian Journal of Mycology and Plant Pathology*, 24: 1, 60-61.

690 SINGH, RS; PRASHAR, M. 1989. **Post-harvest spoilage of peach and plum fruits in north India due to *Aspergillus*.** *Journal of Research, Punjab Agricultural University*, 26: 1, 62-64; 9 ref.

Infected peaches and plums were collected from a market in Ludhiana, Punjab, India. The pathogens were isolated, purified and identified. Pathogenicity was confirmed by using the pin-prick method on injured and uninjured fruits. Fungi associated with fruit rot were identified as *A. flavus*, *A. fumigatus*, *A. japonicus* [*A. japonicus*], *A. niger* and *A. terreus*.

691 SINGH, RS; PRASHAR, M. 1984. **Studies on *Rhizopus* rot of peach and its control.** *Indian Journal of Mycology and Plant Pathology*, 14: 2, 185-187; 4 ref.

R. stolonifer caused losses in peach fruits during storage and transit in Ludhiana. Fruit rot developed at 20 and 25°C, with no infection at 10 or 35°. Rot progressed rapidly at RH 80% and above. The best control was given by actidione followed by boric acid.

692 SUMBALI, GEETA; MEHROTRA, RS. 1982. **Post-infectious changes in the ascorbic acid content of some stored pome and stone fruits.** *Indian Journal of Mycology and Plant Pathology*, 12: 2, 247-248; 7 ref.

Ascorbic acid content declined gradually in healthy fruits and more rapidly in infected fruits. The content in peach fruits fell from 20.8 mg/100 g fresh wt to 2 mg

after 10 d of pathogenesis by *Aspergillus niger*, compared with a loss of only 24% in similarly stored healthy tissues. In pears infected by *Sclerotium rolfsii* and apples by *Gliocladium roseum* the reduction was very rapid, with complete depletion after 8 and 10 d, respectively. The loss in storage of noninfected pear and apple fruits was 32 and 43%, respectively. The possible reasons for the decline are discussed.

PLUMS

Storage and storage decay

693 BADYAL, K; SUMBALI, G. 1990. **New fruit rot of plum from India.** *Indian Journal of Mycology and Plant Pathology*, 20: 1, 78.

Plums in the local fruit market in Jammu were affected by *Aspergillus niger*, causing circular, brown, water-soaked lesions on the fruit surface. Pathogenicity was confirmed by pin-prick inoculation.

694 BAL, JS; BINDRA, AS; BAJWA, GS; MINHAS, PPS. 1990. **Studies on harvesting and handling of plum.** *Acta Horticulturae*, No. 283, 179-188.

Physical and chemical changes during ripening of cultivars Kala Amritsar and Titron were followed in order to find the optimum time for harvesting and subsequent storage. Fruit weight and breadth increased until maturity. Fruits with a specific gravity of < 1 were considered ripe and it is suggested that this could be a useful indicator of maturity. TSS increased continuously and the increase was most rapid from 8 weeks after fruit set until maturity; this corresponded with a decrease in acidity. Vitamin C concentration in Kala Amritsar increased up to week 10 then declined slowly. It is suggested that fruits of the cultivar Triton should be picked in the last week in May for local consumption and 1 week earlier for more distant markets. Fruits of Kala Amritsar, picked when ripe and pretreated with a 3-6% wax emulsion, could be stored at room temperature for 4 days in paper bags. Fruits pretreated with a 3-6% wax emulsion for 30 s and placed in perforated polyethylene bags (100 gauge) could be stored for up to 40 days in a cold store (30-35°F, 85-90% RH).

695 BHUTTANI, VP; JOSHI, VK. 1994. **Plum.** *Handbook of World Fruits; Cultivation, Storage and Processing*/edited by DK Salunkhe; SS Kadam. USA: Marcel Deckers.

696 CHOPRA, SK; MISRA, SS; BHUTANI, VP; KASHYAP, AS. 1986. **Effect of nutrients, growth**