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Postharvest Management in Agriculture

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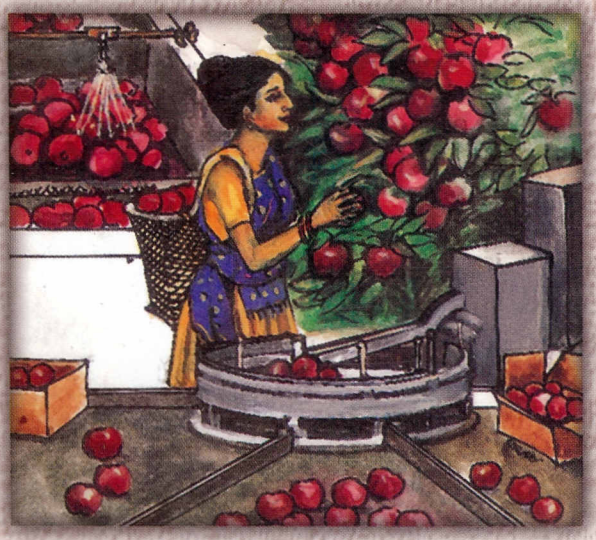

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CONTENTS

found to be infected by *Cordana musae* during storage. The causal organism was isolated and its pathogenicity was confirmed. The pathogen was isolated for the first time from diseased apple fruits in the Kumaun hills. Various injuries facilitate the entry of the pathogen during harvesting, packing and transportation.

667 VERMA, KD; GUPTA, VK; VERMA, HS. 1986. **Role of fungicides in the control of fruit spots and storage rots of apple**. *Advances in research on temperate fruits. Proceedings of the national symposium on temperate fruits*. (1984: 15-18 March: Himachal Pradesh Agricultural University, Solan, India). Solan, India: Dr. Y.S. Parmar University of Horticulture and Forestry, p. 411-414; 7 ref.

Sooty blotch (*Gloeodes pomigena*) and flyspeck (*Microthyriella rubri*) fruit spots were most effectively controlled by 3 pre-harvest sprays of difolatan (0.2%); Bavistin [carbendazim] (0.05%) was next most effective, followed by thiophanate methyl (0.1%). However, thiophanate methyl was better than the other treatments in controlling storage rots [unspecified]. Post-harvest dipping with Bavistin maintained fruit quality and prolonged shelf life.

PEARS

Postharvest handling

668 DI CESARE, LF; TESTONI, A; SANSOVINI, G. 1993. **Study on the volatile compounds of prickly pear during storage under normal and controlled atmosphere**. *Industrie Alimentari (Italy)*, 32: 317, 725-730, 733.

669 MANN, SS; BALJIT SINGH; SINGH, B. 1990. **Effect of Ethrel on ripening of fruits of Patharnakh pear harvested on different dates**. *Acta Horticulturae*, No. 279, 529-532; 4 ref.

Pyrus pyrifolia fruits harvested 140 or 150 days after initial set were treated with 250, 500 or 1000 ppm. Ethrel for 1 min. Fruit firmness and TSS, acids, starch, sugar, total phenolics and pigment contents were determined at 5, 10 and 15 days after treatment. At higher conc. of Ethrel, fruit firmness decreased more rapidly than in the controls. TSS tended to increase during ripening, the increase being greater with high Ethrel concentrations, while acidity decreased. Starch content decreased sharply during the initial 5-10 days with both harvesting dates. Pigments increased while phenolics decreased during ripening.

670 MANN, SS; KUSHAL SINGH. 1986. **Effect of post-harvest application of Ethrel on ripening and quality of Patharnakh pear**. *Advances in research on temperate fruits. Proceedings of the national symposium on temperate fruits*. (1984: 15-18 March: Himachal Pradesh Agricultural University, Solan, India). Solan, India: Dr. Y.S. Parmar University of Horticulture and Forestry, p. 311-314; 9 ref.

Harvested fruits were dipped in 0-1000 p.p.m. ethephon for 30 s and stored in polyethylene bags at 0-3.3°C for 7-15 days. Palatability was enhanced by ethephon, especially at 250 p.p.m., and the colour was improved (golden-yellow instead of green). Fruit firmness was reduced by ethephon in proportion to the concentration. TSS content was increased by ethephon but effects on acidity were variable.

671 RAI, RM; TEWARI, JD. 1987. **Effect on pre-harvest sprays of growth regulators on post-harvest physiological changes in pear**. *Progressive Horticulture*, 19: 1-2, 99-104; 7 ref.

Trees of the cv. Victoria were sprayed with Cycocel [chlormequat], Alar [daminozide], 2,4,5-T, or Alar + 2,4,5-T some 35 days after petal fall. After harvest the fruits were stored at room temperature and 60-80% RH. Treatment with Cycocel at 1000 and 2000 p.p.m. or Alar at 1000 and 2000 p.p.m. improved the storage life by inhibiting protopectin hydrolysis, ethylene production and respiration.

672 RANDHAWA, JS; DHILLON, BS; BAL, JS. 1984. **Effect of different treatments and date of harvesting on pectin methyl esterase activity during ripening of Patharnakh pear fruits, *Pyrus pyrifolia (Burm.) Nakai***. *Science and Culture*, 50: 12, 358-360; 7 ref.

Fruits of this cv., which produces very hard pears, were harvested at weekly intervals between 22 July and 12 August in one year and between 15 July and 15 August in another year. Some fruits were dipped for 2 minutes in Ethrel [ethephon] at 500 or 1000 p.p.m., some were wrapped in newspaper enclosing CaC2 at 1 or 2 g/5 kg fruit and some were held at 21-24°C. The fruits were sampled for enzyme activity, and fruit firmness was assessed after 12 days. The data are tabulated. The highest enzyme activity and lowest fruit firmness were observed in fruits harvested on the last dates and ripened with 2 g CaC2.

673 SANDHU, SS; RANDHAWA, JS. 1988. **A note on the effect of fungicides on the storage behaviour**

of pear cv. Patharnakh. *Haryana Journal of Horticultural Sciences*, 17: 1-2, 63-64; 4 ref.

Mature fruits harvested on 3 Aug. and treated with Aureofungin at 100, 200 or 300 p.p.m. or Bavistin [carbendazim] at 500, 1000 or 1500 p.p.m. were packed in perforated polyethylene bags and stored at 0 to 3°C for 75 days. Data are tabulated on fruit physiological weight loss, decay [pathogen unspecified], TSS, acidity and total sugar content. Decay was least (4.59%) in fruits treated with Bavistin at 1000 p.p.m.

674 SHARMA, RL. 1990. **Efficacy of pre-harvest fungicidal sprays in controlling post-harvest diseases of China pear**. *Plant Disease Research*, 5: 1, 109-111; 6 ref.

Pre-harvest sprays with carbendazim (1000 p.p.m.) gave the best control of decay in China pear [*Pyrus pyrifolia*] caused by *Botrytis cinerea*, *Monilinia laxa*, *Penicillium expansum* and *Phacidiopycnis pyre*. The next most effective treatment, thiabendazole, is not available in India.

675 SHARMA, SUSHIL; AGARWALA, RK; SHARMA, S. 1987. **A note on post-harvest biochemical changes in pear fruits due to *Glomerella cingulata***. *Haryana Journal of Horticultural Sciences*, 16: 3-4, 227-228; 6 ref.

Total soluble solids, titratable acidity, total sugars, reducing sugars, total phenols and ortho-dihydric phenols declined faster in fruits inoculated with 7-d-old cultures of *G. cingulata* than in uninoculated controls.

676 SHARMA, SUSHIL. 1986. **Ammonia and sulphur dioxide fumigation of pear fruits in the control of bitter rot of pear caused by *Glomerella cingulata***. *Indian Journal of Mycology and Plant Pathology*, 16: 1, 73-74; 5 ref.

All the test fumigants were effective in checking the decay; the best results were achieved with SO_2 fumigation using sodium metabisulphite followed by ammonia-producing chemicals.

677 SHARMA, SUSHIL; AGARWALA, RK; SHARMA, S. 1990. **Post-harvest biochemical changes in pear fruits due to *Glomerella cingulata***. *Haryana Journal of Horticultural Sciences*, 19: 1-2, 137-138; 6 ref.

A gradual decline in total soluble solids and titratable acidity occurred with increase in incubation period in both inoculated and uninoculated fruits, but the rate was more pronounced in diseased than in healthy tissues. The loss of total reducing and nonreducing sugars was greater in inoculated than in healthy fruits. The reduction of ortho-dihydric phenols was greater than total phenols in both inoculated and control fruits.

678 TEWARI, DK; BIHARI LAL; ARYA, ARUN; AGARWAL, RASHMI. 1987. **A new storage-rot of nakh caused by *Cytospora ambiens* and its chemical control**. *Indian Phytopathology*, 40: 2, 254-256; 3 ref.

A previously unreported rot of pear fruits was observed in Nov. 1981 during a survey of fruit markets of Faizabad. The causal organism was isolated and identified, and pathogenicity confirmed experimentally. The rot was controlled by Bavistin and benomyl at 1500 p.p.m.

APRICOTS

Drying and storage

679 SHARMA, RC; KAUL, KL; JINDAL, KK. 1990. **Studies on post-harvest diseases of apricot and chemical control of whiskers rot**. *Indian Phytopathology*, 43: 3, 385-388; 13 ref.

Of 7 postharvest apricot diseases recorded (caused by *Rhizopus stolonifer*, *Penicillium expansum*, *Aspergillus niger*, *Alternaria alternata*, *Trichothecium roseum*, *Aspergillus flavus* and *Cladosporium herbarum*) causing heavy losses during storage and marketing in Solan and Rajgarh, Himachal Pradesh, India, whiskers rot (*R. stolonifer*) was the most prevalent and severe. Storage of apricots at 5°C reduced losses due to fungal pathogens. At this temp. only *P. expansum* could infect the fruit. Six fungicides (benomyl, carbendazim, dicloran, diphenylamine, sodium o-phenylphenate and thiabendazole) were applied as post-inoculation dip treatments to control *R. stolonifer*. Only dicloran provided complete control.

680 SHARMA, RL; KAUL, JL. 1989. **Effect of post-harvest fungicidal treatments on brown rot of apricot**. *Pl. Disease Research*, 4: 1, 54-58; 7 ref.

In tests of 4 systemic and 3 non-systemic fungicides on cv. New Castle fruits inoculated with *Monilinia laxa* and *M. fructigena*, the best control (89.5%-100%) was given by carbendazim at 750 p.p.m. Non-systemics were less effective than systemics. The fungicides were more effective as protectants than as curative treatments.

681 SHARMA, TR; SEKHON, KS; SAINI, SPS. 1993. **Colour changes during drying of apricot**.