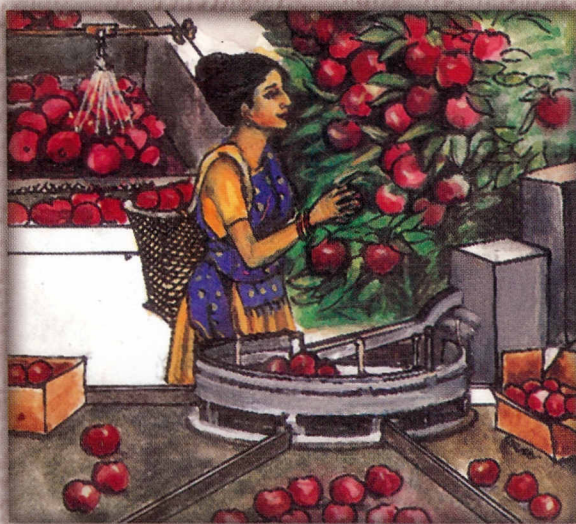




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# Postharvest Management in Agriculture

## SAARC Bibliographical Database



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# **Postharvest Management in Agriculture** **SAARC Bibliographical Database**

*A S Chandel and R M Kamal*



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and results in infected seeds becoming rancid. Of 18 cultivars listed as having resistance to seed infection by *A. flavus* or aflatoxin production, only J-11 is widely grown in India. Regulations concerning trade in affected commodities are discussed. Preventive and curative measures for controlling aflatoxin contamination are listed.

## MUSHROOMS

### Postharvest handling

1214 JOSHI, VK; CHAUHAN, SK. 1994. **Postharvest technology of mushroom.** *Intensive Agric.* (Details not ascertainable)

1215 LAL, BB; SHARMA, KD. 1994. **Postharvest technology of mushrooms**/edited by KL Chadha. New Delhi: Indian Council of Agricultural Research.

1216 MAINI, SB; ROY, SK. 1986. **Post harvest problems of mushrooms.** *National Workshop on Mushroom.* (1986: 23-24 Sept). Division of Fruit & Hort. Technology, Indian Agricultural Research Institute, New Delhi.

1217 VIJAY, S; ANAND, JC. 1986. **Post harvest care of mushrooms.** *Ind. J. Mushroom*, 10-11: 1&2, 7.

### Preservation

1218 ROY, MK; BAHL, N. 1984. **Gamma radiation for preservation of *Agaricus bisporus*.** *Mushroom Journal*, No. 136, 124-125; 8 ref.

Mature, unopened fruiting bodies were harvested, placed in perforated polyethylene bags, irradiated at doses of 250, 400 or 550 krad, and stored at 15° ± 1°C. After 2 weeks' storage the number of opened caps was 8-12% in irradiated treatments and 95% in non-irradiated controls. Irradiated buttons showed no or negligible growth and spoilage during storage whereas controls continued to grow and many [unquantified] became unmarketable due to spoilage. There was very little difference between treatments in weight loss (16-19%), colour, and cap firmness during storage.

1219 ROY, MK; BAHL, N. 1984. **Studies on gamma radiation preservation of *Agaricus bisporus*.** *Mushroom Journal*, No. 144, 411-414; 11 ref.

Data on weight loss, percentage of caps open, colour and texture are presented for mushrooms irradiated at 0-400 krad and stored at 1-25°C in perforated polyethyl-

ene bags. Irradiation at 250 krad was sufficient for satisfactory storage at 15° for 9-10 days.

1220 SATHE, AV; DIGHE, SANGITA. 1987. **A simple and economic method for long-term preservation of mushroom culture.** *Current Science, India*, 56: 10, 485; 3 ref.

The method described, for use with *Pleurotus pulmonarius* [*P. ostreatus*], involves taking 3 mm diameter discs from agar cultures of the fungus in Petri dishes and storing the discs at room temperature in glass tubes (9 X 75 mm) containing 1 ml of liquid paraffin and plugged with non-absorbant cotton [cotton wool], the mouths of the tubes being covered with tin foil; all materials used in handling and storing the fungus are sterilized prior to use. Cultures stored in this way remained viable for 8 years. The method is considered suitable for developing, tropical countries.

### Storage

1221 MAINI, SB; SETHI, V; DIWAN, B; MUNJAL, RL. 1987. **Pretreating mushrooms to enhance their shelf life and marketability.** *Proceedings Int. Conf. on Science and Cultivation Technology of edible fungi.* Srinagar: R.R.L. pp. 215.

1222 RAI, RD; SAXENA, SANJEEV. 1989. **Biochemical changes during post-harvest storage of button mushroom (*Agaricus bisporus*).** *Current Science*, 58: 9, 508-510; 12 ref.

Button mushrooms (3.5±0.2 cm cap diameter) with a differentiated but non-stretched velum were harvested, cleaned and packed in 100-gauge-thick, perforated polyethylene bags, then stored at 5°C and 85-90% RH, 10° and 70-75% RH, or 15° and 55-60% RH. Chemical composition and protease activity were determined daily for 4 days. Changes in chemical composition during storage are tabulated. Total sugar, protein and phenolic compound contents decreased during storage, particularly at higher temperatures. The activity of polyphenol oxidase [catechol oxidase] (PPO; which catalyses the browning reaction) at 15° was almost twice that at 10° and 5°. It is concluded that increased browning at higher storage temperatures is due to the direct effect of temperature on enzyme activity.

1223 SUMAN, BC; JANDAİK, CL. 1992. **Influence of storage temperature on productivity of the spawn of *Agaricus bisporus* (Lange) Singh.** *Indian Journal of Mycology and Plant Pathology*, 22: 3, 289-290.

## Processing

1224 VIJAY, S; BHAGWAN J; BEHAL, N. 1991. Low cost technology for processing mushrooms. *Indian Food Packer*, 45: 6, 22-26.

1225 VIJAY, S; ANAND, JC. 1978. Processing of mushroom. *Ind. Mushroom Sci.*, 1: 225.

## OTHER VEGETABLES

1226 BHARGAVA, KK; GUPTA, HCL. 1991. Removal of phorate residues from bhindi fruits. *Andhra Agri. Journal (India)*, 38: 4, 392-393.

1227 BIHARI LAL; DOLLY GOEL; LAL, B; GOEL, D. 1989. A new rot of *Abelmoschus esculentus*. *Indian Phytopathology*, 42: 3, 482.

*Curvularia oryzae* was isolated from fruits of *A. esculentus* collected in markets in Allahabad, Uttar Pradesh, India. Symptoms were observed and pathogenicity was confirmed.

1228 DEORE, BP; BHARUD, RW. 1989. Physico-chemical status of spinach (*Beta vulgaris L.*) as influenced by preharvest spray of growth substances and storage methods. *Annals of Plant Physiology*, 3: 2, 163-171; 9 ref.

GA at 20 p.p.m., ascorbic acid at 0.5%, IAA at 20 p.p.m., urea at 0.25%, a water spray and no treatment (control) were applied to spinach beets in the field. After harvest the leaves were stored for 24, 48 or 72 h in closed bamboo baskets, perforated plastic bags, under a wet cloth or in open bamboo baskets. Data are tabulated on the % moisture loss, and mean ascorbic acid, chlorophyll and total acids contents. The smallest moisture losses from the leaves at 24, 48 and 72 h (9, 18.8 and 29.7%, respectively) were recorded in batches treated with GA and stored under a wet cloth; the corresponding losses for the control leaves stored in open baskets were 20.15, 30.1 and 50.45%

1229 KUMAR, J; ARORA, SK; MEHRA, R. 1988. Effect of antisenescence regulators on shelf life of ridge gourd (*Luffa acutangula L. Roxb.*). *Crop Research Hisar*, 1: 1, 124-127; 5 ref.

Tender fruits of the cv. HRG-14 were harvested, dipped in GA3 (10 and 50 mg/litre) or BA (10 and 50 mg/litre) and stored at 0.5°C for up to 9 days. At the end of storage the least physiological weight loss, lowest decay and the best fruit quality were obtained with BA at 50 mg/litre.

1230 PRASAD, MM; ROY, AK; KRISHNA, A. 1988. Biochemical changes in muskmelon fruits by fruit-rot fungi. *Indian Phytopathology*, 41: 4, 641-643; 10 ref.

Melons were inoculated with *Fusarium semitectum* [*F. pallidoroseum*] or *Curvularia lunata* [*Cochliobolus lunatus*] and incubated at  $25 \pm 1^\circ\text{C}$  for 6 d. Total and non-reducing sugars increased in healthy fruits up to 4 d and then declined; reducing sugar concn gradually declined from day 1. Inoculated fruits showed a considerable loss in total, reducing and non-reducing sugars, especially fruits inoculated with *F. pallidoroseum*. Protein concn decreased in all fruits but decreased more rapidly in fruits inoculated with *F. pallidoroseum*. Phenol content initially increased in all incubated fruits and then declined. It is concluded that higher rotting rates result in greater degradation in total sugar, reducing sugar, non-reducing sugar, protein and phenol.

1231 RATH, GC; MISHRA, D; NAYAK, NC. 1990. A note on fungi causing rotting of cucurbits in Orissa markets. *Orissa Journal of Agricultural Research*, 3: 2, 161-162; 7 ref.

During 1988-89, >300 rotten samples of 7 cucurbits (*Coccinia indica* [*C. grandis*], *Luffa acutangula*, *Trichosanthes anguina* [*T. cucumerina*], cucumber, *Cucurbita maxima*, *Benincasa hispida* and *Momordica dioica*) were collected from markets throughout Orissa in India. The results revealed that 171 of the samples were rotted by fungi and 145 samples were rotted by non-fungal agents. The fungi were identified as *Aspergillus flavus*, *A. niger*, *Fusarium oxysporum*, *F. solani*, *Geotrichum candidum*, *Phytophthora sp.*, *Rhizoctonia solani*, *Rhizopus arrhizus* and *Rhizopus stolonifer*. Of these fungi all except *R. stolonifer* are new to Orissa.

1232 ULLASA, BA. 1984. Two post-harvest diseases of water-melon caused by *Phytophthora nicotianae* and *Fusarium oxysporum*. *FAO Plant Protection Bulletin*, 32: 4, 145.

Descriptions are given of the previously unrecorded fruit rots caused by these fungi, pathogenicity of which was confirmed experimentally.

1233 UPADHYAYA, GIRJESH; ROY, AN. 1987. Efficacy of certain chemicals in the control of species of *Fusarium* in stored ashgourd. *Pesticides*, 21: 5, 25-