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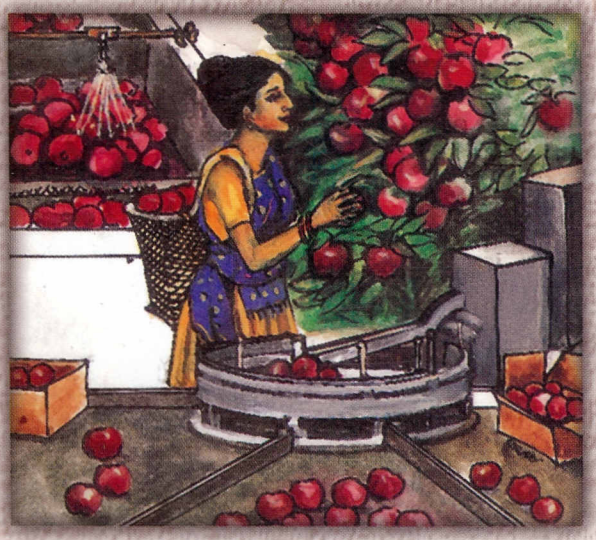

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Postharvest Management in Agriculture
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1556 VIJAY, S. 1993. **Changes in physico-chemical characteristics of litchi squash during storage at different temperatures**. *Indian Journal of Horticulture*, 50: 4, 327-322.

1557 VIJAY, S. 1994. **Efficacy of various preservatives for preserving whole tomato concentrate**. *India Food Packer*, 48: 1, 11-15.

1558 VIJAY, S; ANAND, JC. 1982. **Keeping quality of whole tomato concentrates from five varieties of tomatoes**. *Indian Food Packer*, 36: 6, 66.

1559 VIJAY, S. 1986. **Packaging of fruit juice in packaging of food products**. Indian Institute of Packaging, Bombay. pp 135.

1560 VIJAY, S. 1992. **Preparation and storage study of lime ginger cocktail at room and low temperatures**. *Beverage Food World*, 19: 5, 51-52.

1561 VIJAY, S; ANAND, JC. 1972. **Quality of sweet oranges grown in Rajasthan and processing of their juice**. *Indian Food Packer*, 26: 2, 17.

1562 VIJAY, S; ANAND, JC. 1977. **Whole tomato concentrate**. *Indian Horticulture*, 22: 2, 14.

WINE AND BEVERAGES

1563 ATTRI, BL; LAL, BB; JOSHI, VK. 1994. **Technology for the preparation of sand pear vermouth**. *Indian Food Packar*, 48: 1, 39-47.

1564 CHAU, HTN; PAL, RK; ROY, SK. 1989. **Studies on extraction of pulp and development of beverages from green mangoes**. *Indian Food Packer*, 43: 3, 27-34.

1565 CHIKKASUBBANNA, V; CHADHA, KL; ETHIRAJ, S. 1990. **Influence of maturity of Thompson seedless grape on the wine composition and quality**. *Indian Journal of Horticulture*, 47: 1, 12-17; 12 ref.

In 2-year studies, Thompson Seedless grapes were harvested at 5 successive weekly intervals, beginning at a Brix:acid ratio of 15, between mid-Feb. and mid-Mar. The grapes were processed and data are tabulated on must and wine composition. The titratable acidity, and tartaric acid, malic acid and ammonia contents of the must decreased with increasing grape maturity. The results of sensory analysis indicated that for wine making a Brix:acid ratio of 30-35 was optimum. This ratio could be used as an indicator of grape maturity.

1566 DHAWAN, SS; KAINSA, RL; GUPTA, OP. 1983. **Screening of guava cultivars for wine and brandy making**. *Haryana Agricultural University Journal of Research*, 13: 3, 420-423.

The cultivars Apple Colour, Allahabad Safeda, Banarsi Surkha, Lucknow-49 and Seedless were assessed for chemical composition of juice, wine and brandy and for recovery of brandy from wine. Highest wine alcohol content (5.81%) was obtained from Allahabad Safeda. The recovery of alcohol in brandy from wine was highest with Lucknow-49 (74.2%).

1567 GARG, SK. 1989. ***Kefir* - a cultured carbonated beverage**. *Indian Dairyman*, 41: 4, 198-200.

The microflora and preservation of *kefir* grains, methods used for preliminary activation of these grains and production of *kefir* starter, and *kefir* manufacturing methods, are briefly described. *Kefir* can be prepared from milk of cow, ewe, goat, camel etc. which contains lactic acid (0.9-1.1%), alcohol (0.5-1.0%) and CO (0.03-0.07%) with traces of acetaldehyde, propionaldehyde, 2-butanone, iso-amyl alcohol, diacetyl and acetone, and is considered to have a therapeutic value.

1568 JOSHI, VK. 1994. **A story about wine**. *Bevarage Food World*. Vol. 21 (Details not known).

1569 JOSHI, VK; SANDHU, DK. 1993. **Effect of different concentration of initial soluble solids on physico-chemical and sensory qualities of apple wine**. *Indian Journal of Horticulture* (Details not known).

1570 JOSHI, VK; THAKUR, NS; THAKUR, KS. 1993. **Effect of different yeast strains on physico-chemical and sensory qualities of plum wine**. *24th Int. Hort. Cong.* (Tokyo, Japan).

1571 JOSHI, VK; THAKUR, NK. 1993. **Preparation and evaluation of citrus wine**. *24th Int. Hort. Cong.* (Tokyo, Japan).

1572 JOSHI, VK; SHARMA, R. 1993. **Screening of plum varieties for its beverages**. *24th Int. Hort. Cong.* (Tokyo, Japan).

1573 JOSHI, VK; SHARMA, SK; THAKUR, NS. 1993. **Technology and quality of sparkling wine with special reference to plum-an overview**. *Indian Food Packer*. Vol. 47?.

1574 JOSHI, VK; BHUTANI, VP; SHARMA, RC. 1990. **The effect of dilution and addition of nitrogen source on chemical, mineral, and sensory qualities of wild apricot wine**. *American Jrl. of Enology and Viticul.*, 41: 3, 229-231.

1575 KHURDIYA, DS; ROY, SK; MAJUMBER, PK. 1988. **Amrapali mango for beverage industry**. *Indian Hort.*, 32: 4, 23.

1576 KHURDIYA, DS; ROY, SK. 1984. **Anthocyanin - a quality index in jamun beverages**. *Indian Food Packer*, 38: 6, 71-76.

1577 KHURDIYA, DS; ROY, SK. 1981. **Utilisation of jamun fruit for beverages production**. *The Second Indian Convention of Food Scientist and Technologists*. Mysore: CFTRI, p. 22-23.

1578 NARAYANAN, KRA; KUMAR, A; PATIL, GR. 1993. **Kinetics of various deteriorative changes during storage of UHT soy beverage and development of a shelf-life prediction model**. *Food Science and Tech. - Lebensmittel - Wissenschaft & Technologie*, 26: 3, 191-197.

1579 RABBANI, A; SINGH, IS. 1989. **Evaluation of local sucking mango varieties for beverage industry**. *Acta Horticulturae*, No. 231, 715-720.

Seven 'sucking' mango cultivars (small-fruited, highly fibrous types which cannot be easily sliced) were assessed for flavour, total soluble solids (TSS), acidity, reducing and non-reducing sugars, vitamins A and C, total amino acids, and proportions of juice, peel, kernel and hard-shell. The fruits were processed as a 'ready to serve' (RTS) drink (10% juice, 14% TSS, 0.3% acidity), nectar (20% juice, 14% TSS, 0.3% acidity) and squash (25% juice, 45% TSS, 1.2% acidity). Cultivars Gaurjit and Safeda Jauhari had the best juice colour, flavour, highest vitamin A and C contents, and were most suitable for beverage production. Sakul and Sinduri fruits had the highest acidity. Yakuti, Gilas and Mithwa were assessed as slightly inferior to the other cultivars. Squash, preserved by SO_2, maintained its quality for up to 8 months, whereas pasteurized RTS and nectar were less acceptable after 2 and 4 months, respectively.

1580 RAO, MSS. 1985. **Scope for development of alcoholic beverage from cashew apple**. *Acta Horticulturae*, No. 108, 160-164.

Cashew apple juice contains sugar, protein, acid, large amounts of vitamin C and an astringent principle, polyphenolic in nature. Although one of the richest sources of vitamin C, the juice is not acceptable as a soft drink due to its high astringency. It is, however, suitable for alcoholic fermentation. Cashew wine contains about 4% alcohol but it is also astringent. Brandy, however, is not astringent but possesses the exotic flavour of cashew apple. It is suggested that the cashew apple, hitherto considered a waste, can be profitably utilized for alcoholic beverages.

1581 ROY, SK; KHURDIYA, DS. 1980. **Jumun a good source of beverages**. *Delhi Garden Magazine*, p. 16-17.

1582 SANDHU, DK; JOSHI, VK. 1993. **Technology quality and scope of fruit wines with special reference to apple**. *Indian Food Ind.*

1583 SHARMA, SK; JOSHI, VK. 1993. **Optimization of some parameters of secondary fermentation of sparkling wine**. *Jrl. of Food Sc. and Technology - Mysore*. Vol. 30 (Details not ascertainable).

1584 SHUKLA, KG; REVIS, B. 1985. **Enological qualities of some orange cultivars grown in Garhwal hills**. *Journal of Food Science and Technology, India*, 22: 1, 72-73; 6 ref.

The chemical compositions of the fresh juices and the matured wines prepared from 5 mandarin cultivars (*Dancy tangerine*, Kara, Kinnow, Nagpur Santara and Wilking), 1 tangelo cv. (Minneola), 1 orange cv. (Malta Common) and from *Citrus maderaspatana* (cv. Vadlapudi) are tabulated. All cultivars were considered suitable for wine making. Cv. Nagpur Santara was judged best, followed by Minneola, Kara and Wilking.

1585 SINGH, P; SINGH, IS. 1994. **Physico-chemical changes during storage of litchi (*Litchi chinensis*) beverages**. *Indian Journal of Agricultural Sciences*, 64: 3, 168-170.

An experiment was conducted during 1986 and 1987 on storage of litchi (*Litchi chinensis Sonn.*) beverages at Faizabad. There was a gradual decrease in organoleptic score and chemical changes during their storage at room temperature. The ready-to-serve drink and nectar were acceptable up to 3 months. Squash could be maintained up to 4 months. Chemical change during storage led to the formation of off-flavour and discoloration of beverages.

1586 SURESH, ER; ETHIRAJ, S; NEGI, SS. 1985. **Evaluation of new grape cultivars for preparation of wine**. *Journal of Food Science and Technology, India*, 22: 3, 211-212; 4 ref.

The compositions of the musts and wines of 3 white cultivars (Arkavati, Arka Hans and Arka Kanchan) and 1 red cultivar (Arka Shyam), prepared from grapes harvested in 1979 to 1982, are tabulated. All produced good quality dry wines and all except Arka Hans produced good quality sweet wines. The dry wine of Arka Kanchan had a typical muscat flavour, that of Arka Hans had a neutral flavour and might be useful for brandy production.

1587 VIJAY, S; ANAND, J; SAXENA, SK. 1980. **Kinnow orange in juice and beverage making**. *Ind. Hort.*, 25: 3, 13.

1588 VIJAY, S. 1990. **Lactic fermentation of black carrot juice for spiced beverage**. *India Food Packer.*, 44: 3, 7-12.

SEED TECHNOLOGY

1589 AGRAWAL, PK. 1988. **Seed storage and packaging**. *Quality Seed Production: ICARDA Publication*/edited by AJG van Gastel; J Kerley. International Center for Agricultural Research in the Dry Areas, Aleppo, Syria. No. 124, p. 55-72; 15 ref.

Structural factors, e.g. presence of glumes, hard seed strategies and environmental factors, e.g. seed moisture content, RH, temp., presence of fungi, mites and insects, together with genetic and preharvest factors affecting seed viability in storage are considered. The design of bulk storage facilities taking into account prestorage preventative measures, care during storage and the particular problems of germplasm storage are examined. Different packaging materials and safe seed moisture contents for seed storage of 18 species of vegetables are discussed.

1590 ASWATHAIAH, B; DELOUCHE, JC. 1988. **Development and reversibility of hardseededness in *Vicia spp***. *Seed Research*, 16: 2, 157-161; 7 ref.

Development of hardseededness and its reversibility was studied in seeds of vetch cv. Vanguard. Hardseededness was established as whole seed moisture content dropped below 12% during initial drying and was reversed by exposing seeds to alternating levels of high and low RH for periods of 12-45 d. The percentage of hard seeds increased when the seeds were transferred from high (60-70%) to low (near 0%) RH, and decreased when they were transferred from low to high RH.

1591 BASU, RN. 1994. **An appraisal of research on wet and dry physiological seed treatments and their applicability with special reference to tropical and sub-tropical countries**. *Seed Science and Technology*, 22: 1, 107-126.

Physiological seed treatments for improved performance include presowing, prestorage and midstorage wet and dry treatments. As a presowing treatment, osmoconditioning of seeds, especially for vegetables, using polyethylene glycol has shown more consistent positive effects on seed performance than the conventional 2 to 3 cycles of 24 h wetting-drying treatments. Similar benefits are obtained with low-temperature holding of partially imbibed seeds. Single short-duration soaking for 4 to 8 h, followed by light air-drying also improves the overall germinability, rapidity and synchrony of germination of nonleguminous seeds. For leguminous seeds, instead of soaking-drying, moisture equilibration at 100% relative humidity for 24 to 48 h, or preincubation with moist sand (5% moisture content; 3 kg sand per kg of seed) for 16 to 24 h, or matriconditioning with highly porous, chemically inert, water insoluble, inorganic carriers like Micro-Cel E, are recommended. Prestorage dry-dressing of freshly harvested seed using the common bleaching powder calcium oxychlorite at the rate of 3 g per kg of seed, or mixing al the same rate with an inert carrier like calcium carbonate containing very low concentrations of iodine or alcohol, would improve storability of many dry-stored agricultural and horticultural seeds. Midstorage hydration-dehydration treatments which include short-term soaking-drying for low and medium vigour seeds and dipping-drying, moisture equilibration-drying and moist sand conditioning-drying for medium and high-medium vigour seeds, are very effective in extending storability and subsequent field performance. The seed following hydration must be thoroughly dried back before restorage. Use of very low concentrations of chemicals such as potassium or sodium phosphate (mono- and dibasic, 10(-4) M) gives some additional advantage over water. The beneficial effects of the treatments on germinability are also reflected upon field emergence, crop growth and final agricultural productivity. More recently, beneficial effects of chemicals like ferrous sulfate (2 x 10(-3) M) and 3-methyl-2-benzothiazolinone hydrazone (MBTH, 10(-4) M) on pre- and post-storage germinability have been recorded. The mode of action of the different dry and wet seed treatments is yet to be clearly understood, but evidence so far indicates that retention of better membrane functions and a reduced production of toxic metabolites including volatile aldehydes, presumed to be products of free