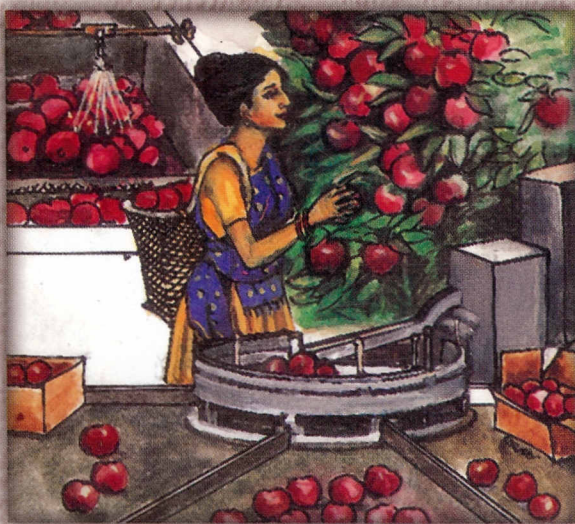




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Postharvest Management in Agriculture

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Postharvest Management in Agriculture **SAARC Bibliographical Database**

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This paper presents the results of a study which monitors the introduction of an agro-industrial technology for processing the starchy roots of cassava for animal feed. CIAT transferred the technology from Thailand to Colombia, where groups of farmers began building drying plants under the guidance of the Colombian Government's Integrated Rural Development Programme (DRI). DRI is a funding and co-ordinating programme that implements projects through existing agencies. It discusses management decision at different levels of the project and how those decisions directed or could have directed the benefits of the project to particular beneficiaries. The analytical approach is a simple paradigm: a variable that can be manipulated by a manager is correlated with some beneficiary characteristic. The paper concludes with a note on a related experience in Ecuador and the limits of management and monitoring.

504 SHARMA, P; CHATTERJEE, SK. 1982. Tuber rot of *Dioscorea prazeri* caused by *Fusarium solani* during storage. *Indian Phytopathology*, 35: 1, 165.

On the basis of isolation and pathogenicity studies, with *F. solani* isolates from stored tubers, *F. solani* is considered to be the pathogen of tuber rot.

505 WEERASINGHE, B; NAQVI, SHZ. 1985. Some comparative physiological studies on selected isolates of *Botryodiplodia theobromae* Pat. causing storage rot of yams cassava and sweet potato in Nigeria. *International Biodeterioration*, 21: 3, 225-228; 11 ref.

Host specificity of 3 isolates of *B. theobromae* from yam, cassava and sweet potato is reported. Physiological differences between the yam and sweet potato isolates were established in their growth on selected sugars, pattern of extracellular enzyme production and pathogenicity under different temperature and relative humidity regimes.

TOBACCO

506 CHATURVEDI, VK. 1990. A new method of grading and determining quality index of the jati tobacco (*Nicotiana tabacum* L.). *International Journal of Tropical Agriculture*, 8: 2, 101-108; 7 ref.

In a study in 1984-85 of leaves of tobacco cv. Chama and Podali collected from 5 villages in the Cooch Bihar district of West Bengal, the price of tobacco was positively correlated with area of brown patches (maturity index), oiliness and leaf weight, area and length, but negatively correlated with area of spots and blemishes. Path analysis showed that leaf weight and area of brown

patches were the main price determinants, and a new grading system and method of determining the quality index is presented using these quality measures.

507 KAUL, PK; SAXENA, NK; SHARMA, PD. 1990. Mycoflora of tobacco leaves and tobacco products. *International Journal of Ecology and Environmental Sciences*, 16: 2-3, 179-185; 7 ref.

Among the 14 fungal species (12 genera) isolated from tobacco leaves, the most common were *Alternaria alternata*, *Aspergillus fumigatus*, *A. niger*, *Cladosporium cladosporioides*, *Curvularia* [*Cochliobolus*] *pallescens*, *Epicoccum purpurascens* [*E. nigrum*], *Mucor*, *Penicillium* and *Rhizopus nigricans* [*R. stolonifer*]. The mycoflora of chewing and smoking tobacco was very similar to that of tobacco leaves. Chewing tobacco harboured more fungi than smoking tobacco and tobacco of low grade cigarettes more than expensive high grade cigarettes. Poorly processed chewing tobacco and poorly flue-cured smoking tobacco may introduce these microorganisms into human systems, resulting in health hazards.

508 KRISHNAMURTHY, S; RAGHAVAIHAH, CV; SARMA, CB; ATHINARAYANAN, R. 1990. A profitable innovation in curing cigar filler tobacco. *Tobacco Research*, 16: 2, 95-98; 3 ref.

In trials in 1985-87 the effects of curing tobacco in the sun or the shade and stringing the leaves on poles with 15, 20 or 22.5 cm between rows on leaf yield, burning quality, speed of curing and economics were studied. Shade curing gave higher whole leaf and total cured leaf yields than sun curing. Method of stringing did not affect yields, although 15 cm between poles and stringing the leaf gave the highest leaf yield. Burning quality was unaffected by curing method, but leaf burn was better with more space between the rows of strings. Curing in the shade with 15 cm space between rows gave a net saving of Rs.740/year compared with sun curing using the normal method of stringing on poles.

509 PANDEY, PH; BHOLE, NG. 1990. Drying characteristics of Indian tobacco. *Proceedings of the International Agricultural Engineering Conference and Exhibition*. (Bangkok, Thailand: 1990: 3-6 December)/edited by VM Salokhe and SG Ilngantilebe. Bangkok: Asian Institute of Technology, p. 553-560.

The drying characteristics of tobacco using unheated and heated air were determined using a laboratory model tobacco drier designed and developed at the College of Agricultural Engineering, Pusa Bihar. Single tobacco plants, mature and green leaves were dried at 4 temp

(30 (unheated air), 42, 56 and 71°C) at a constant blower speed of 2000 rev/min. Results are presented.

510 SRIVASTAVA, RP; CHAUDHARY, N. 1990. Changes in higher fatty acids during air-curing of Dixie Shade wrapper tobacco. *Tobacco Research*, 16: 2, 139-140; 9 ref.

Changes in higher fatty acid composition of wrapper tobacco cv. Dixie Shade leaves collected from top, middle and bottom stalk positions were recorded at harvest, 15 and 30 d after harvest and at the end of curing. Composition of palmitic, oleic, linoleic and linolenic acids increased and myristic acid and stearic acids decreased during air-curing. Linolenic was the predominant fatty acid and constituted about half of the total fatty acids of the matured and cured leaf. Palmitic and stearic acids were higher in bottom leaf positions, and top leaves contained more myristic acid.

511 SRIVASTAVA, RP; CHAUDHARY, N. 1990. Quantitative changes in the polyphenolic constituents of Dixie shade wrapper tobacco from harvesting to ageing. *Tobacco Research*, 16: 2, 99-102; 18 ref.

Changes in chlorogenic acid and rutin were studied during air-curing, fermentation and aging of wrapper tobacco cv. Dixie Shade leaves collected from the top, middle and bottom stalk positions. Chlorogenic acid and rutin increased during the 1st 10 d of curing but decreased subsequently. Chlorogenic acid content decreased during fermentation but rutin remained unchanged. Leaves from the upper stalk positions contained more chlorogenic acid and rutin than lower leaves.

512 VARMA, SK; VERMA, RAB; JHA, AK. 1991. Ecotoxicological aspects of aspergilli present in the phylloplane of stored leaves of chewing tobacco (*Nicotiana tabacum*). *Mycopathologia*, 113: 1, 19-23; 22 ref.

Nine different species of *Aspergillus* were isolated from the phylloplane of stored chewing tobacco of different ages. Maximum number of species were isolated from 12- and 18-month-old leaves. *A. ruber*, *ochraceus*, *flavus* and *nidulans* were usually associated with older leaves while *A. niger*, *A. fumigatus* and *A. flavus* were isolated from 6-month-old leaves. Approx. 18% of aspergilli were found to be mycotoxigenic. Sterigmatocystin was produced by 3 species. *A. ochraceus* produced patulin and ochratoxin. All aflatoxigenic strains of *A. flavus* produced aflatoxin B1 but none of the isolates of *A. flavus* produced aflatoxin G2.

COFFEE AND TEA

513 BARMAN, TS. 1990. Postharvest storage of tea seeds. *Proceedings of the International Congress of Plant Physiology*. V. 2. (New Delhi: 1988: 15-20 Feb)/edited by SK Sinha; PV Sane; SC Bhargava; PK Agrawal. New Delhi: Society for Plant Physiology and Biochemistry, p. 1392-1395.

The recalcitrant, desiccation-sensitive seeds of tea remain viable for a period of one year when sealed in polyethylene bags and stored in a controlled environment at 4°C and 40-45% RH. Freshly harvested seeds contain 40% moisture and at this level the germination is around 100%. Seeds stored under normal ambient conditions lose moisture at a rapid rate and, at 23% moisture content, germination is reduced to 46%. The critical moisture level in seeds for maintaining viability was 30%, where the germination was 86%. Surface steril. with 0.1% HgCl₂ before cold storage enabled viability to be retained for a longer period. Microbial contaminants in seeds punctured by seed bugs [*P. latus*] were difficult to control either by surface steril. or by cold storage.

514 BOSE, SC. 1988. Requirement of heat for agricultural products and agro-based industries. *Food-energy nexus and ecosystem. Proceedings of the second international symposium on food-energy nexus and ecosystem*. (New Delhi: 1986: 12-14 February)/edited by TK Moulik. New Delhi: Oxford & IBH Publishing, p. 458-474.

This paper is concerned with the need and usage of heat for the processing of agricultural products. Detailed study was carried out and indicates that heat is primarily required for drying of agricultural products to improve their keeping quality; processing/curing of cash crops to make them marketable; production of downstream products like parboiled rice, refined oil etc. The rationale for the use of improved methods of drying is examined. Processing of three major commodities is assessed in detail in relation to energy requirements: tea, tobacco, paddy. It concludes that most cereals have to be processed before use which requires energy; most cereals are dried by direct exposure to sunshine but processing of cash crops uses coal and fuelwood at the farm level.

515 CHAUDHURY, R; LAKHANPAUL, S; CHANDEL, KPS. 1990. Germination and desiccation tolerance of tea (*Camellia sinensis* (L.) O. Kuntze)