

Vol 3 Issue 9 June 2014

ISSN No : 2249-894X

*Monthly Multidisciplinary
Research Journal*

*Review Of
Research Journal*

Chief Editors

Ashok Yakkaldevi
A R Burla College, India

Ecaterina Patrascu
Spiru Haret University, Bucharest

Kamani Perera
Regional Centre For Strategic Studies,
Sri Lanka

Review Of Research Journal is a multidisciplinary research journal, published monthly in English, Hindi & Marathi Language. All research papers submitted to the journal will be double - blind peer reviewed referred by members of the editorial Board readers will include investigator in universities, research institutes government and industry with research interest in the general subjects.

Regional Editor

Dr. T. Manichander

Advisory Board

Kamani Perera Regional Centre For Strategic Studies, Sri Lanka	Delia Serbescu Spiru Haret University, Bucharest, Romania	Mabel Miao Center for China and Globalization, China
Ecaterina Patrascu Spiru Haret University, Bucharest	Xiaohua Yang University of San Francisco, San Francisco	Ruth Wolf University Walla, Israel
Fabricio Moraes de Almeida Federal University of Rondonia, Brazil	Karina Xavier Massachusetts Institute of Technology (MIT), USA	Jie Hao University of Sydney, Australia
Anna Maria Constantinovici AL. I. Cuza University, Romania	May Hongmei Gao Kennesaw State University, USA	Pei-Shan Kao Andrea University of Essex, United Kingdom
Romona Mihaila Spiru Haret University, Romania	Marc Fetscherin Rollins College, USA	Loredana Bosca Spiru Haret University, Romania
	Liu Chen Beijing Foreign Studies University, China	Ilie Pinteau Spiru Haret University, Romania
Mahdi Moharrampour Islamic Azad University buinzahra Branch, Qazvin, Iran	Nimita Khanna Director, Isara Institute of Management, New Delhi	Govind P. Shinde Bharati Vidyapeeth School of Distance Education Center, Navi Mumbai
Titus Pop PhD, Partium Christian University, Oradea, Romania	Salve R. N. Department of Sociology, Shivaji University, Kolhapur	Sonal Singh Vikram University, Ujjain
J. K. VIJAYAKUMAR King Abdullah University of Science & Technology, Saudi Arabia.	P. Malyadri Government Degree College, Tandur, A.P.	Jayashree Patil-Dake MBA Department of Badruka College Commerce and Arts Post Graduate Centre (BCCAPGC), Kachiguda, Hyderabad
George - Calin SERITAN Postdoctoral Researcher Faculty of Philosophy and Socio-Political Sciences Al. I. Cuza University, Iasi	S. D. Sindkhedkar PSGVP Mandal's Arts, Science and Commerce College, Shahada [M.S.]	Maj. Dr. S. Bakhtiar Choudhary Director, Hyderabad AP India.
REZA KAFIPOUR Shiraz University of Medical Sciences Shiraz, Iran	Anurag Misra DBS College, Kanpur	AR. SARAVANAKUMARALAGAPPA UNIVERSITY, KARAIKUDI, TN
Rajendra Shendge Director, B.C.U.D. Solapur University, Solapur	C. D. Balaji Panimalar Engineering College, Chennai	V.MAHALAKSHMI Dean, Panimalar Engineering College
	Bhavana vivek patole PhD, Elphinstone college mumbai-32	S.KANNAN Ph.D , Annamalai University
	Awadhesh Kumar Shirotriya Secretary, Play India Play (Trust), Meerut (U.P.)	Kanwar Dinesh Singh Dept.English, Government Postgraduate College , solan

More.....



FRUIT PROCESSING INDUSTRY IN INDIA

Dr. S. L. Patil

Associate Professor,
Head of Department Economics Sangola college, Sangola.

Abstract:

India is known to be a fruit basket of the world. After China, India has been considered as the second largest producer of fruits. Due to skilled manpower deficiency, poor cold storage facilities, inefficient post harvest management and minimal technological interventions, India is the second largest producer contributes only 1% of the global market of the fruit processing industry. In India, the wastage of fresh fruit, produce has been estimated to be of a very high order, i.e. around 30-35% of the total production during harvest, storage, grading, transport, packaging and distribution because of the challenges involved in the industry. With the creation of adequate specialized cold storage facilities, logistics infrastructure, skilled manpower and modern technological interventions, post harvest losses can be minimized resulting in higher returns to the major stakeholders of the entire fruit supply chain i.e. farmers and the consumers.

KEYWORDS:

Fruit Processing Industry; Post-harvest management; Cold Storage facilities

INTRODUCTION

Fruit Processing Industry

Fruits comprise vitamins, proteins, minerals and dietary fibers. Fruits are perishable in nature and there is a need to process fruits in order to increase their storage or shelf-life significantly. Fruit processing is done to add value to the fresh fruits produce in a number of ways viz. canning, drying, freezing and new ingredient creation. There are various forms of processed fruits:

- Pre- prepared fresh (includes fruit salads, having a shorter storage life as they include added ingredients, such as sauces and flavorings)
- Canned (includes canned pineapple, peaches, apricots, pears and mixed fruits) Frozen (includes Frozen mangoes, berries and pineapple having a longer shelf life, convenience, easy storage)
- Dried (includes dried apricots, apples and prunes with shorter life cycles than fresh fruits)
- Juiced (includes fresh fruit juices)

Central Food Technological Research Institute, Mysore proposed fruit processing process layout for the production of fruit juice (as given below). It consists of four steps. In the first step, washing, cleaning, grading and peeling of matured and fully ripe fruits is done. Thereafter, juice is extracted from

fruits and then it is filtered to remove seeds, fibers, etc. This juice is then processed, sterilized and bottled after adding preservatives.

History of Fruit Culture

Fruits are undoubtedly an oldest food item. Prior to the practice of organised agriculture, pre-historic nomads lived on wild game, wild fruits and berries. There are many references to fruits in ancient literature. The earliest fruit cultivated by man seems to be the date palm, which has been mentioned in records of long ago as 7000 B. C. Pomegranate is also one of the oldest fruit brought under cultivation and records dating back to 3500 B. C. No doubt, man has been interested in fruits from very early times (R. Singh, 1998).

In India also the cultivation of fruits dates back to ancient times. Fruits have figured prominently in the life of India. In the fourth century B. C. and even in the pre Buddhist period, horticulture was an important vocation in India. A reference to land suitable for grape cultivation has been made in the Arthashastra, believed to have been written in the fourth century B. C. mango, banana, fig, grape and date were the favourite fruits of that era.

Many delicious fruits are indigenous to India, but many more have been introduced from foreign lands. Mango, banana, phalsa, jackfruit, bael, anola and some citrus fruits like lemons and citrons seem to be indigenous to India. Litchi, loquat, persimmon, peach and sweet orange have come from China. Guava, papaya, sapota, custard apple and pineapple have been introduced from the tropical parts of America. Apple, pear, plum, cherry, almond, apricot, walnut, grape, pomegranate and pista chionut have been introduced from the Central Asiatic regions. (R. Singh, 1998).

Cultivation of Fruit

Even though fruits have been cultivated in India for a very long time, their commercial cultivation as an industry is still in its infancy. In the past, fruits were cultivated as backyard plants or as border trees along fields to meet the needs of the family. Where regular plantation of fruit trees existed, their area was very small. Negligence of the fruit trees was a characteristic feature of our fruit culture. In early stage local varieties of fruits were used but without any commercial view. In the nineteenth century, several European settlers and missionaries did pioneering work in introducing new varieties from the UK, France and the East Indies and establishing commercial orchards. (R. Singh, 1998)

The development of fruit growing on commercial lines has taken place only during the past half century. The statistics on fruit culture is not very reliable in that period. After independence, from 1950 to now-a-days the data of area and production of some important fruits in India is given in Table.

Area and Production of Fruits in India

Sr. No.	Fruit	Area 000 Ha			% over 1950	Production 000 tonnes			% over 1950
		1950	1985	2001		1950	1985	2001	
1	Mango	943.5	1063.5	1487	57.6	7925.4	9337.5	10504	32.54
2	Banana	141.1	282.2	480	240.18	1890.7	4364.3	16378	766.24
3	Citrus	100.8	244.0	527	422.82	685.4	1952.3	4651	578.58
4	Guava	52.4	162.1	151	188.17	238.2	1474.8	1710	617.88
5	Grapes	1.2	12.5	44	3566.67	9.8	275.7	1138	11512.24
6	Pineapple	1.0	56.2	76	7500.00	6.0	771.7	1025	16983.33
7	Apple	1.7	168.2	238	13900.00	5.1	1005.6	1047	20429.4
8	Others	160.4	548.0	1274	694.26	898.2	4583.6	25421	2730.22
	Total	1402.1	2536.7	4277	205.04	11708.8	23764.8	61874	428.44

Source : Chadha (1986) Fruit Production in India, FAO Consultancy Report and India Info line Studies on Food Processing Industry, 2001.

Recent Data Of Area and Production of Fruits in India
(Area in 000HA, Production in 000MT)

Fruit	2006-2007		2007-2008	
	Area	Production	Area	Production
Banana	604	20998	647	23205
Mango	2154	13734	2205	13792
Citrus	798	7145	843	7574
Papaya	72	248	80	2686
Apple	252	1624	264	2002
Guava	176	1830	178	1975
Grapes	65	1685	64	1677
Sapota	149	1216	150	1238
Pineapple	86	1382	80	1216
Pomegranate	117	840	122	868
Litchi	65	403	69	418
Others	1016	6244	1071	6862
Total	5554	59563	5775	63503

Source:- NHB Data.

In the table indicates that there has been an increase of about 205 per cent in the area under fruits and about 428 per cent increase in the production from 1950 to 2001. Table No. 2.1(A) also indicates that there has been an increase in area and production of fruits in year 2006-2007 and 2007-2008 in India.

The state wise performance of area and production of fruits for 1986-87 shows that Uttar Pradesh stands first in India with 26 per cent share in total area followed by Andhra Pradesh with 11 per cent, Kerala and Karnataka stands third rank with 6 per cent, Maharashtra's position was 8th with 3.26 per cent share in total area. But this picture has now shows a dramatic change during the years. During the recent past, various states have taken several measures to encourage fruit production. Exemption from the ceiling on land under the fruits, land reforms laws and there is no income tax on agricultural earnings was given greatest impetus to fruit growing industry.

TYPES OF FRUIT PROCESSING TECHNOLOGIES

- Traditional Processing Technology: Basically, processing technologies which are traditional in nature are implemented in the conservation of horticultural produce. Major categories of processed products produced by these technologies are fruit preserves, fruit juices. Freezing, thermal processing, dehydration, and drying technologies come under this processing type only.
- Modern Processing Technology: Modern Processing Technology is applied in the processing of trimmed and packed produce, prepared fruits. Minimal Processing and Non- Thermal Processing Technologies are used.

REFERENCES

- [1] A Brief Report on Food Processing Sector in India, October 2013.
- [2] Annual Report of Ministry Of Food Processing Industries, Government of India, 2011-12
- [3] Bachmann Janet and Earles Richard (2000), Postharvest handling of fruits and vegetables, Appropriate Technology Transfer for Rural Areas, pp 1-8.
- [4] Bledsoe Gley, (2009), Cold chain and storage action plan, Chemonics International, US aid from the American people, Private sector competitiveness enhancement program pp 1-50
- [5] Cold Storage and Cold Chain – ‘the growth catalysts’, ET Roundtable on Cold Storages and Cold Chains, 2013.
- [6] Human Resource and Skill Requirements in the Food Processing Sector (2022) – A Report, 2011.
- [7] IBIS World Industry Report: Global Fruit & Vegetables Processing, August 2013, IBISWorld Inc. (“IBISWorld”)
- [8] J, Jenny. January (2002), Postharvest Management of Fruit and Vegetables, Sydney Postharvest Laboratory Information Sheet.
- [9] Kachru R.P., 2012, Agro- Processing Industries in India- Growth, Status and Prospects, Innovaciones Alimentarias INNOVAL C.A.
- [10] Marketing and Food Safety: Challenges in Postharvest Management of Agricultural/ Horticultural Products in Islamic Republic of Iran, APO and FAO, 2006.

Publish Research Article

International Level Multidisciplinary Research Journal For All Subjects

Dear Sir/Mam,

We invite unpublished Research Paper, Summary of Research Project, Theses, Books and Books Review for publication, you will be pleased to know that our journals are

Associated and Indexed, India

- ★ Directory Of Research Journal Indexing
- ★ International Scientific Journal Consortium Scientific
- ★ OPEN J-GATE

Associated and Indexed, USA

- DOAJ
- EBSCO
- Crossref DOI
- Index Copernicus
- Publication Index
- Academic Journal Database
- Contemporary Research Index
- Academic Paper Database
- Digital Journals Database
- Current Index to Scholarly Journals
- Elite Scientific Journal Archive
- Directory Of Academic Resources
- Scholar Journal Index
- Recent Science Index
- Scientific Resources Database

Review Of Research Journal
258/34 Raviwar Peth Solapur-
413005, Maharashtra
Contact-9595359435

E-Mail-ayisrj@yahoo.in/ayisrj2011@gmail.com