

PROBLEMS AND PROSPECTS OF FRESH KINNOW /JUICE PROCESSING IN PAKISTAN

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Abstract

Kinnow / mandarin is the major fruit of our citrus industry. Due to its relished taste and appealing flavour, it is highly acceptable and more demanded in export market. Among citrus, Kinnow enjoys a share of 75-80 %. In the year 2002-2003 the total production of citrus fruits was 1816 thousand tones, with a share of 1410 thousand tones by Kinnow fruit. Pakistani Kinnow is one of the most demanded fruit in the offshore market comprising of Far East, Gulf, European and other countries, with the world export market share of 3.28%. In addition to whole Kinnow, Pakistan has also exported fruits and vegetables juices to USA, Japan, Netherland and other countries worth US\$ 3.1 million, in the year 2000-2001 and the share of Kinnow concentrate/ juice amounting to was US \$ 0.45 million only which requires revolutionary step to boost up the export of Kinnow concentrate/ juice. There are more than 40 fruit grading, waxing, and packing, in addition to 24 juice-processing, units in our country However, the consumption of processed Kinnow juice is minor because of the demand of fresh Kinnow juice by the consumers which is increasing every year. Mostly the consumers used to go to fruit shops to take this juice. So, there is a great need to exploit more national and offshore markets for frozen conce

Introduction:

Kinnow/ mandarin is the most dominant fruit in our citrus industry and one of the major fruits being exported by Pakistan. According to Economic Survey, Government of Pakistan⁽¹⁾, the total production of citrus fruits was 1816 thousands tones, with 1410 thousand tones of production shared by Kinnow.

The processed food and beverages industry is considered to be one of the largest industrial sectors in Pakistan. It accounts approx. 27% of total production and 16% total employment in the manufacturing sector. The total value

of production is over Rs. 46 billion. In spite of this greater contribution in the country economy, the processing level of fruits especially Kinnow is very low that is 1-2% of total Kinnow production⁽²⁾.

The world leading importers of Kinnow (Table-1) have the potential market with import quantity of 2.4 million tones. Due to its delicious taste and appealing flavour, Pakistani Kinnow is one of the most demanded fruit in the offshore market comprising of Far East, Gulf and other countries (Figure 1 & 2), with the world export market share of 3.28%⁽³⁾. In addition to whole Kinnow, Pakistan has also exported fruits and

vegetables juices to USA, Japan, Netherland and other countries worth US\$ 3.1 million during the year 2000-2001 and the share of frozen concentrated Kinnow (FCKJ)/ packed juice to was US \$ 0.45 million only⁽⁴⁾. In 2001, the Kinnow juice export to USA was worth 0.354 million US \$ (Figure 3)⁽⁵⁾.

There are more than 40 imported and locally fabricated Kinnow grading, waxing and packing units in our country. The cost of imported unit (Spanish, FOMESA) having capacity of 10 tons per hour is US\$ 250,000, whereas the locally fabricated unit having capacity of 2-3 tons per hours costs worth US \$ 38000 to 48000. In addition to this, there are 24 juice processing units in our country. (Table 2). The industries that are especially designed to process Kinnow as concentrated Kinnow juice are given in Table-3 along with their capacity. However, the consumption of processed Kinnow juice is minor because of the demand of fresh Kinnow juice by the consumers and is increasing every year. Mostly the consumers used to go to fruit shops to take this juice. So, there is a great need to exploit more national and offshore markets for FCKJ and single strength Kinnow juice.

Aesthetic & Analytical Values

This fruit is rich and inviting in appearance. Known the world-over for its special flavour, it is out-standing in its taste as well. The fruit is very juicy, fleshy and can be divided very easily into individual segments. The juice content ranging between 45-50% and sugar content is high – ranging between 11-13%. Each 100 ml of Kinnow juice contains 20-25 mg of Vitamin C as Ascorbic Acid. Its acidity value (determined as citric acid) range from

0.6-0.9%; and its total solids, from 14-15%. Regarding mineral properties, the fruit contains traces of calcium and phosphorous. On an average, the Kinnow carries within it 24 seeds; easily extractable by a slight jerk⁽⁶⁾.

Problems

There is a great need to expand the fruit juice market both on national and international levels. But there are certain problems being faced by growers, traders, exporters and processors. These problems are required to be solved on revolutionary, relentless and incremental basis. These problems⁽⁷⁾ are:

- High annual post harvest losses (35-40%) of fruits.
- The low processing level of fruit into juice (1-2%).
- Low yield of horticultural commodities as compared to world standards.
- Lack of Quality Management System, to meet the requirements of national and offshore markets.
- Limited resources or input facilities to the Kinnow growers.
- Lack of small and medium juice processing entrepreneurs.
- High rate of electricity for small and medium entrepreneurs.
- Unreachable facility of cold storage for the growers.
- Poor conditions of metalled roads from field to the markets.
- Lack of aggressive marketing campaigns to promote awareness regarding nutritional benefits and use of processed and packed Kinnow juice/ concentrate among the masses.
- Lack of restructuration and changes in the food marketing chain, in a context of increasingly consumer driven national and international market.

- Lack of promotion of the branded Kinnow juice in the offshore market.

Prospects /Opportunities of Kinnow juice Marketing

There are certain opportunities ⁽⁸⁾ available both in micro and macro environments, which are given below and required to be harvested:

- Opportunity to harvest the benefits from the national and global growing trend of consuming citrus/ Kinnow juice.
- Chances of representation in the liberal and open marketing under WTO implications.
- Opportunity to incorporate “Quality Culture” in juice processing units.
- Opening of income generation avenues at small and medium levels by establishing Kinnow-processing units.
- Opportunity to reduce post harvest losses and ultimate consistent trend of price stabilization for the farmers.
- Opportunity to launch comprehensive training programmes for nutrition education and processing at domestic and micro levels.
- Opportunity to revive about 80% sick/ closed fruit/ juice processing units.

Suggestions

Due to great scope in both national and global markets for fresh Kinnow fruit and its various products, there is a need to create cogent, consistent and interacted working environment. For this purpose following steps must be taken both by the private and public sectors.

- Developing defined company structure and methods of operation.
- Strategic planning to create quality culture and environment for

Marketing quality products at competitive price for both national and offshore markets.

- Selection of disease free root stalk and right varieties.
- Provision of rebates, subsidies and relaxation on taxes to the processors to improve cost-benefit ratio.
- Well coordinated publicity campaign by EPB and the private sector may be made to promote citrus and especially Kinnow juice.
- Participation of juice processing companies in various exhibitions must be promoted.
- Research and development of value added Kinnow based juice products and their innovative packaging, must be carried out by the interaction of research institutions and juice processing industries.
- Establishing Pakistan’s image as a premium quality supplier of Kinnow juice/ concentrate.
- Coordination with local and foreign agencies such as trade associations, chambers etc.
- Developing pre and post harvest procedures and regulations.
- Documentation of labour, fertilizers and pesticides must be carried out.
- Harvesting of fruit at right stage of maturity.
- Integrated chain of produce handling, processing, packaging and marketing at both local as well as offshore outlets is required.

Conclusion

Since Kinnow is the important horticulture produce playing a major role in the export of citrus fruits of our country. However, there is a need to exploit more market for the export of value added Kinnow fruit products, in addition to the revival of sick/closed

fruit processing units. Therefore, in the endeavors of extracting more benefits out of this potential crop in the most demanded environment, there is a need to pay great attention on the local and offshore markets.

References

1. Government of Pakistan 2002-03. Economic Survey, Finance Division, Islamabad.
2. Board of Investment, 1994. Government of Pakistan, Islamabad.
3. Directorate of Agriculture, 2002. Marketing Information System, to Facilitate Export of Agriculture Crops/Products, Directorate of Agriculture (Economics & Marketing), Punjab, Lahore, Publ. # 2.
4. Ismat S, 2003. Fruits and Juices Exports to USA, The NEWS, Lahore.
5. Export Promotion Bureau, 2003-04 Pakistan Export Stastics, Statistical Section, Govt. of Pakistan.
6. Pakistan Premier Export House, 2001. Kinnow mandarin, Trading Corporation of Pakistan.
7. UNCTAD Mission 2003 Increasing Exports and Domestic Distribution of Perishable Products. Pakistan Trade and Transport. Facilitation Project. PP- 12-13.
8. APO Project 2001 Multi-Country Study Mission on Rural-Based Food Processing Industry. Resource and Country Papers, SME-OSI-00, March 6-13.

Table 1: Leading World Importers of Kinnow (2000-2001)

#	Countries	Exports Quantity	
		(Mt)	%Share
World		2,303,907	100.00
1	Germany	400,385	17.38
2	France	294,362	12.78
3	United Kingdom	215,019	9.33
4	Poland	153,237	6.65
5	Russian Federation	113,503	4.93
6	USA	96,296	4.18
7	Canada	94,205	4.09
8	Netherlands	91,326	3.96
9	Belgium	71,295	3.09
10	Italy	67,197	2.92
11	Indonesia	59,730	2.59
12	Saudi Arabia	53,000	2.30
13	Malaysia	45,763	1.99
14	Czech Republic	45,679	1.98
15	Sweden	43,567	1.89

Source: MIS, Directorate of Agriculture (Economics and Marketing), Punjab, Lahore

Table 2: Major Fruit Processing Units with Capacity

#	Name	Total Tonnage
1	Sunflow Cit-Rus Ltd, Sargodha.	95,000
2	Citro Pak Pvt., Ltd. Sargodha.	60,000
3	Fresh Juices Phool Nagar.	40,000
4	Hyderabad Beverages, Hyderabad.	30,000
5	Shezan Intl., Lahore, Hattar, Karachi.	30,000
6	Nestle' Milk Pak Ltd. Sheikhpura.	30,000
7	Indus Fruit Juices, Phool Nagar.	26,400
8	Tops Foods & Beverages, Rawalpindi.	20,000
9	Malik Food Industry, Kot Lakhpat, Lahore.	15,000
10	Shaheen Foods, Khushab.	15,000
11	Sinsas Enterprises	14,250
12	Langar-e-Sulaimani, RY.Khan.	14,250
13	National Fruit Juices	14,100
14	Standard Fruits Ltd. Lahore.	13,200
15	Bambino Food Industry, DG.Khan.	7,500
16	Fruit Sap, Lahore.	7,500
17	FADCO, Karachi.	6,000
18	Pakistan Fruit Juices Co., Lahore, Multan.	5,000
19	Ali Hassan Corporation, RY. Khan.	5,000
20	Monolisa Pvt, Ltd. Karachi.	3,500
21	Kamran Distributors,	3,000
22	Popular Food Industry, Hyderabad.	2,000
23	Benz Industries, Lahore.	1,800
24	Mitchells Ltd., Renala Khurd.	-
Total		458,500

Source: APO Project, SMEDA, Lahore.

Table 3: Kinnow Concentrate Processing Industries

#	Name of Industry	Capacity (Tonnes/day)	Product
1	Citro Pak Pvt.Ltd. Sargodha	500	Frozen concentrated Kinnow juice
2	Sun Flow Citrus Juice Pvt Ltd. Sargodha	550	-do-
3	AM Foods Pvt Ltd. Ahmad Nagar, Jhang.	250	-do-
4	Pakistan Fruit Juice Company, Pvt Ltd. Multan	150	-do-
5	Fresh Juices, Pvt. Ltd. Phool Nagar.	180	-do-
6	Indus Fruit Products Pvt. Ltd. Phool Nagar.	200	-do-

Source: APO Project, SMEDA, Lahore.