Refrigerated Fruit Juices.
New Outlets for World Fruit Crops

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The fresh fruit juice sector, as part of the soft drink market, is booming: Europe is still far behind the USA. There are many labels but actually only two main types of juice products: freshly squeezed juices and flash-pasteurized juices.

the soft drink market

The European soft drink market is second worldwide behind the United States. The Japanese, despite their leading position in the world economy, are still modest soft drink consumers, with the average consumption per inhabitant only half that of Europeans.

Of all beverages, the soft drink line has shown the sharpest increase in sales. This market has experienced 5% yearly growth in the United States and Europe over the past 10 years. In contrast, tea and coffee consumption is decreasing in the United States and that of beer is leveling off in Europe (Fig. 1).

Western Europe consumes close to 7 Ml of fruit juices (2/3) and nectars (1/3) (Fig. 2). Imports account for 90% of these products consumed in Europe.

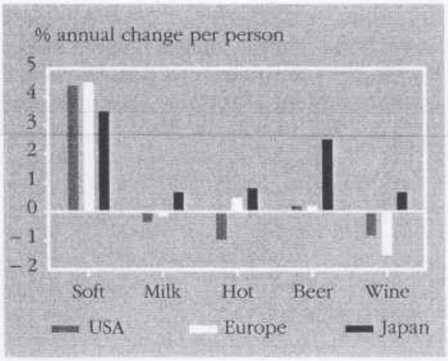

Figure 1
Worldwide drink consumption patterns. 1979-1989.

Germany is the European leader for all types of juices, with consumption exceeding 37 l/inhabitant/year (including former East Germany). Conversely, in Portugal juice consumption is barely 3 l/inhabitant/year. The European average is about 18 l (Fig. 3).

In France, where fruit juice consumption is low (9 l/inhabitant/year), the turnover in this line still exceeds 5 billion francs and the yearly growth rates (over 25% in volume) are promising.

The European fruit juice and nectar market has virtually exploded since the mid-1970s. Sales increased by more than 60% (in value) from 1987 to 1990.

refrigerated fruit juices are booming

In France, with annual sales growth of 125% between 1991 and 1992 and 80% between 1992 and 1993, the refrigerated fruit juice sector is expanding rapidly (Fig. 4).

This small segment of the market, which has been developing in France since 1985, was reactivated through the introduction of flash-pasteurized juices in 1990. Despite the good results over the last few years, this market only accounts for 3-6% of fruit juice and nectar sales (depending on the data source). The French market is still quite limited as compared to the British and US markets where fruit juice consumption peak at 20% and 50%, respectively, with yearly growth rates varying from 10% to 25%.

a wide variety of labels

A public awareness campaign would be needed to explain the broad range of fruit juice prices with which consumers are faced (4 to 18 F/l). The "refrigerated" and "fresh fruit juice" labels that are widely used on packages and special offers concern two entirely different types of fruit juices: fresh or freshly squeezed juices and flash-pasteurized juices (Fig. 5).

Freshly squeezed juices have a maximum 10-day best-before date (BBD) and has to be stored at 0-4°C. They are produced by squeezing the fruit near the sites of consumption, without adding any preservatives, water or sugar. They are real fresh fruit juices, which some manufacturers even prefer to call "raw" juices.

Flash-pasteurized juices are often made from fruit squeezed at the production site, followed by a heat treatment (called flash-pasteurization), of a few seconds at 70°C, before refrigeration. The BBD can be extended to 24 days with this light heat treatment. Some brands offer juices of this type prepared from frozen and even concentrated juices, which means that any fruit variety from any source can be used, thus reducing production costs.

The full taste quality of the product is preserved in freshly squeezed juices, whereas it is noticeably diminished by the heat treatment in flash-pasteurized juices.

Only freshly squeezed juices can be considered as real ready-prepared fresh fruit products. These juices retain the organoleptic features of the fruit, which are close to those of fruit juices that are squeezed just before consumption.

Further down the fruit juice taste quality scale come pasteurized juices, and then juices prepared from frozen concentrates.

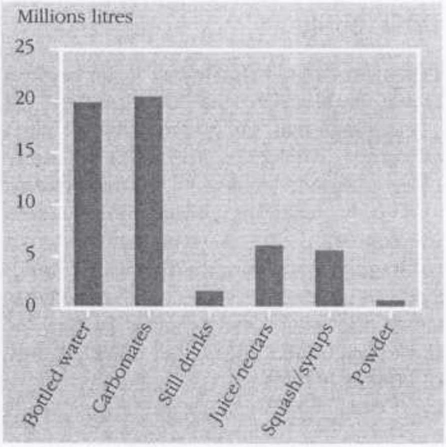

Figure 2
The European soft drink market in 1989.

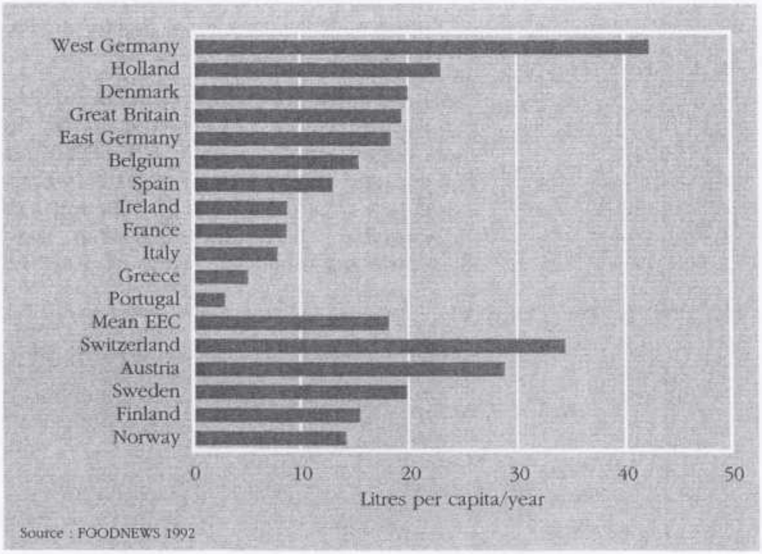

Figure 3
European fruit juice and nectar consumption in 1991.

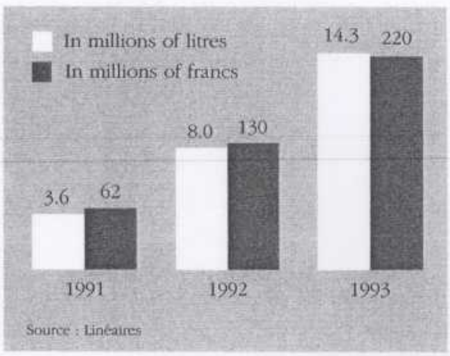

Figure 4
Variations in refrigerated fruit juice sales in large and small French supermarkets from 1991 to 1993.

packaging

Expansion of the fresh fruit juice market is dependent on the development of packagings that guarantee total product protection. Packaging specialists regularly offer different package closing systems and new materials. There are endless innovations, e.g. a complex external packaging system for double cap protection, a perfectly watertight retractable straw, the novel use of glass bottles for flash-pasteurized juices, and a wide range of container sizes.

health and natural products

All surveys confirm that the consumer craze for these new juice types is closely linked with the notions of dietary quality and natural products.

The French Direction Générale de la Concurrence, de la Consommation et de la Répression des Fraudes (DGCCRF) has been surveying the market since 1992 to detect occasional frauds. Hence, in November 1992, the magazine *Que choisir?* published the results of a test of 40 different orange juices, 10 of them were found to have suspiciously high sugar contents.

important constraints

Fruit producers and manufacturers who are obliged to provide their clientele with fresh fruit juices of consistent taste quality year-round are faced with major constraints. It means working throughout the year with a limited number of fruit varieties, and the need for consistency makes supply management extremely difficult.

Some manufacturers overcome this constraint by freezing freshly squeezed juice so that it can be stored for months. Others are conducting joint investigations with producers to develop techniques for lengthening the crop period or maintaining the fresh fruit under cold storage conditions.

In Australia, Valencia orange producers go as far as delaying the crop period by 4 months. However, this extension affects the next crop yields, which can be 30% lower than normal. Obviously production

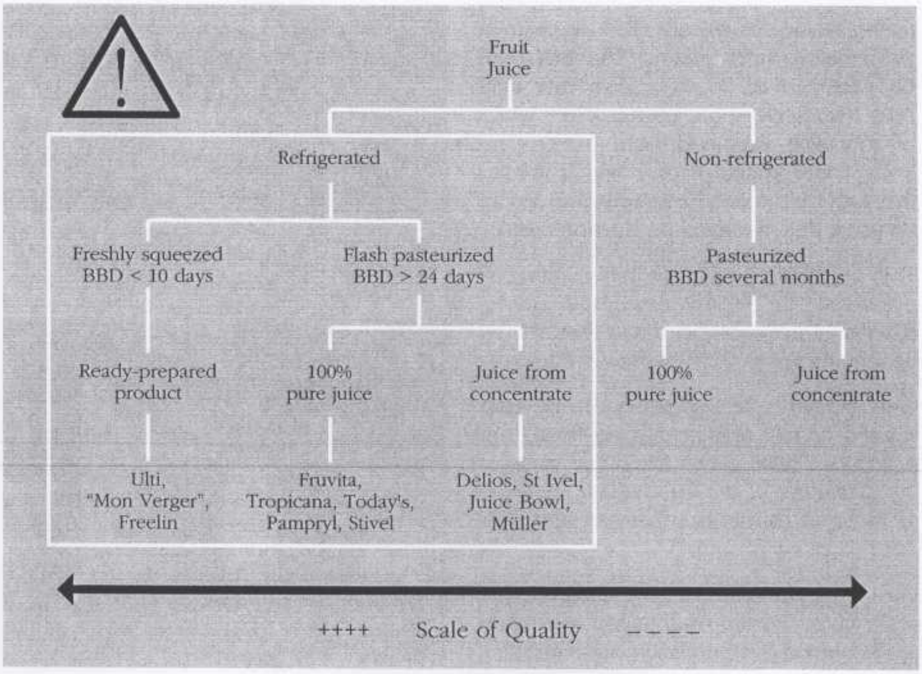

Figure 5
Flowchart for various types of fruit juice.
BBD: best-before date.

costs are markedly affected by such production decreases.

Cold storage of fruit with a suitable fungicide can lengthen a fruit's storage life from 6 to 12 weeks postharvest.

Production costs for refrigerated fruit juices are much higher than that for long-life juices, i.e. from 50% to 100% higher, depending on whether the juice is flash-pasteurized or freshly squeezed.

prime opportunities

Manufacturers were forecasting a 20-40% sales increase for fruit juices in France for 1994. These growth rates are quite high, even though they are 4- to 5-times lower than the rates obtained since 1991. Some distributors predict a leveling-off period which will enable product consolidation.

The wide variety of fruit juice labels, such as "fresh", "freshly squeezed", "pure juice", "multivitamin" and "light pasteurized", has led to marked differences in selling prices and in the locations where these products can be found in stores (ready-prepared fruit and vegetables, dairy products or drinks departments).

Producers with high production costs or low tonnage output can no longer be competitive on the same markets as large international fruit juice producers. They must resolutely turn towards this very quality-oriented fruit juice market.

The outlets handle the refrigerated fruit juice market and the frozen fruit juice market developed by some Israeli and French manufacturers.

Orange and grapefruit juices account for more than 80% of the market, followed by fruit cocktail, grape and apple juices (Fig. 6). Some manufacturers have placed all of their hopes on refrigerated pineapple juice, which has not yet been available.

Innovative producers and food manufacturers still have many options available, which should allow them to overcome the handicaps that restrain this promising sector.

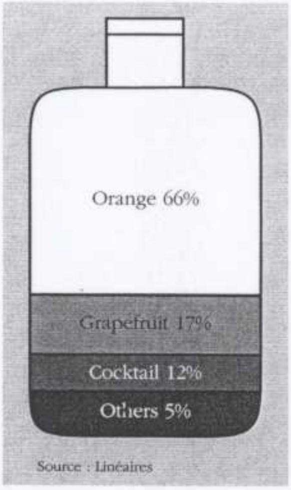

Figure 6
Refrigerated fruit juice. Breakdown of the French market on a flavour basis.