

## Global Flavor Notes

# Soft Drink Flavor Preferences

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In the movie "Baby...Secret of the Lost Legend"<sup>†</sup> the leading characters, Susan and George, are in a jungle, surrounded by a tribe of hostile natives. Susan saves the day by impressing the tribesmen, showing them photos taken with an instant camera. Then the tribesmen invite George and Susan to share a meal in the village. In this scene, George politely forces down some kind of a primitive stew while hiding his disgust. To impress the villagers, George offers a high-tech chocolate fruit bar to the tribal leader, who samples it curiously. The leader then discreetly whispers something to a fellow tribesman, who diverts George's attention while the leader spits out the piece of fruit bar that he has been politely trying to consume.

In that particular scene, the movie captured the taste idiosyncrasies that existed about half a century ago, where each nation had its own peculiar taste preferences. More importantly, it illustrates the concept that technology has no influence on taste preference. The good news, however, is that nowadays, although the walls of taste difference and preference still exist among nations, the doors to a new taste experience are certainly more open than closed. In this global age, it is crucial for the flavor chemist, the food technologist and the marketer to understand taste diversities and transnational likes and dislikes. I believe such a

complex study should be tackled through analysis of the various global beverage segments. Therefore, taste acceptance should be analyzed in two major categories:

- Taste migration and acceptance.
- Beverage novelties acceptance.

### Taste Migration and Acceptance

**Sweet Taste:** Starting with the key basic, the sweet taste, it is obvious

that this is the one basic stimulus that is universally accepted. It is rather "how sweet" we like beverages that constitutes the transnational difference. Twenty years ago we surveyed **carbonated orange drink** in various countries to conclude that a preference for a high degree of sweetness, up to 17% soluble solids, was apparent in some areas around the equator. We repeated this study in 1994, and the results are mapped in Figure 1. It is apparent that the sweetness preference has narrowed down from the old wide range of preference of 10-17% to the range of 10-13% soluble solids. Nowadays, regardless of the country's position in relationship to the equator, it seems that there is a tendency for sweeter taste preference in the southern regions of continents.

**Acid Taste:** On the other hand, acid taste is closely related to sweetness and is inverse to it, that is, the sweeter the beverage the lower its acid content, also shown in Figure 1.

<sup>†</sup>1985 release by Disney Touchstone Films

**Bitter Taste:** Preferences for bitter tastes have not shifted significantly in recent years. Bitter beverages, such as **campari** and **angostura**, remain geographically restricted to Italy and very few other places. Likewise, the preference for tonic and bitter lemon is related to the preference for the addition of alcohol in those mixers.

**Salty Taste:** The preference for salt remains associated with savory. The exception is with sport drinks and some mineral waters, where these products are consumed for their functional benefits rather than for taste.

### Flavor Preference

**Carbonated Soft Drinks:** Shifting from simple and basic tastes to the more complex world of flavor preference, one has to segment the task. Starting with the subsegment of carbonated beverages and tabulating global flavor preference as shown in Tables I-III, it is clear that the number one preferred flavor all over the world is **cola**. The exceptions are China and Taiwan, where the preference is for **orange** and **sarsaparilla** respectively. I even believe that this preference will soon change in China due to the aggressive marketing of cola by the two giants.

The second flavor preference in the Pacific Rim is for the **lemon lime** taste, in Europe for orange with few exceptions, and in Latin America for a variety of tastes. The same survey conducted on fruit juice seems to demonstrate a similar uniformity in preference. Table IV shows European flavor preferences in fruit juices.

Do these tables imply that there are more similarities than differences? An explanation of this trend might be that these types of old conventional carbonates and fruit juices have acquired a more or less globally uniform taste through the years of their consumption. It would therefore be of interest to study the transnational flavor trend in recent novelties, namely in the new emerging functional and reward beverages.

**Functional Beverages:** Flavorwise there is one common denominator for this segment, which is that consumers all over the world have compromised on good taste, in favor of promised health benefits. A case in point would be the example of sport drinks, specifically the number one sports drink that is clearly just an acceptable tasting product.

Attempts have been made to improve the taste of functional drinks. Examples include the recent use of dairy components or fruits as a base to provide a twist. Specific examples are:

- **R'Activ** (a milk-based sport drink by Muller Dairy in Germany).

**Table I. Preferences for carbonated soft drinks in the Pacific Rim - 1992**

Country	First preference	Second preference	Third preference	Fourth preference	Fifth preference
Japan	cola	lemon-lime	cider	orange	grape
China	orange	lemon-lime	cola	lychee	mango
Taiwan	sarsaparilla	cola	orange	lemon-lime	
Philippines	cola				
Australia	cola	lemonade	mixers	lemon	grape
Indonesia	cola	lemon-lime	orange	grape	lychee

Source: Givaudan-Roure Affiliates

**Table II. Preferences for carbonated soft drinks in Europe - 1992**

Country	First preference	Second preference	Third preference	Fourth preference
Italy	cola	orange	gassose	lemon-lime
France	cola	fruits	lemonade	mixers/tonics
United Kingdom	cola	lemonade	fruits	mixers
Spain	cola	orange	soda	lemonade
Belgium	cola	orange	lemon-lime	mixers
Netherlands	cola	grape	fruits	lemon-lime
Austria	cola	citrus	herbal	fruit
Switzerland	cola			
Sweden	cola	grape	lemonade	lemon-lime
Greece	cola			
Norway	cola	orange	lemon-lime	lemonade
Denmark	cola	orange	lemon-lime	tonic
Ireland	cola	orange	lemonade	lemon-lime

Source: Leatherhead Food RA

- **Win 120** (a yogurt-based sport drink from Chichiyasul Nyugyo of Japan).
- **Vitafit 10** (a concoction of ten fruits to mask its offering of ten vitamins. This product is from Coop Konsumentendienst of Basle, Switzerland).
- **Multivitamin Fruechte-Nektar** (a 50% fruit blend of apples, oranges, passion fruits, guavas, pineapples, mandarins, mangos, lemons, bananas, apricots and limes by Elvis of Switzerland).

Nevertheless, one phrase describes all these beverages—“barely acceptable.” I don’t care how many juices are blended to cover up the taste of vitamins and minerals. The consumer must be drinking these products plainly and clearly for health benefits, leaving joyless taste buds behind. The beverage processors who developed these drinks intimately understood consumer behavior. They won acceptance through clear health benefits positioning. They

**Table III. Preferences for carbonated soft drinks in the Americas - 1992**

Country	First preference	Second preference	Third preference	Fourth preference	Fifth preference
Canada	cola	lemon-lime	ginger ale	orange	
United States	cola	lemon-lime	orange	root beer	ginger ale
Mexico	cola	orange	apple	lemon-lime	grape
Argentina	cola	lemon-lime	orange	grapefruit	tonic
Brazil	cola	guarana	orange	lemon-lime	fruits
Chile	cola	orange	lemon-lime	lemon	ginger ale
Venezuela	cola	orange	apple	lemon-lime	pineapple
Uruguay	cola	lemon-lime	orange	grapefruit	tonic
Peru	cola	orange	lemon	cola champagne	guarana
Ecuador	cola	orange	apple	lemon	fruits

Source: Givaudan-Roure Affiliates

**Table IV. Preferences for fruit juices and nectars in Europe - 1992**

Country	First preference	Second preference	Third preference	Fourth preference
Germany W.	apple	orange		
Italy	pear	peach	apricot	blends
France	orange	apple	grapefruit	grape
Spain	peach	pineapple	orange	apple
Belgium	orange	apple	grapefruit	grape
Netherlands	orange	apple	grape	tomato
Austria	orange	apple	blends	
Switzerland	orange	apple	grape	blends
Sweden	orange	apple		
Greece	orange			
Norway	orange	apple	blends	
Ireland	orange	apple	grapefruit	pineapple

Source: Leatherhead Food RA

did not waste their time trying to make these drinks as enjoyable as the dessert drinks.

**Reward Beverages:** On the opposite side of the spectrum, and in contrast to the functional beverages, is the newly emerging class of delicious tasting drinks. In this case, the one common denominator for this reward segment is pleasurable taste. What started with simple blends of two fruits has led to the more complex and exotic combinations of flavor notes. Its evolution from simple to complex mixtures can be illustrated in a few examples.

In the beginning, mixtures of fruits were offered to consumers in various countries. Examples of these duo-blends are the "FRICA" products by Frutera Industrial C.A. of Venezuela, where the beverage is offered in **Apple**

and **Passion, Pear and Passion**, and **Apple and Pineapple** blends.

This duo-mixing is evolving into the multipleasure of trio-blending in several global products. The latest launch of such a rainbow of taste is by Tropicana in France. Their Twister is appearing in the creative melange of **Orange-Strawberry-Banana**, and of **Orange-Mandarin-Papaya**.

Following this trend, the British introduced a line of dessert milk beverages<sup>1</sup>—an indication of the global tendency in creating more sophisticated blends for a climax of a "multi-pleasurable" taste. This beverage is offered by St. Ivel Westway and includes:

- **Tennessee Toffee** (a smooth toffee and mocha taste).
- **Mississippi Mud** (a symphony of chocolate and marshmallow).
- **Louisiana Peach** (a harmony of peach, vanilla and orange).

Around the globe, an interesting phenomenon has evolved from the blending of flavor notes. It seems that there is a global thirst for more and more flavors. Flavorful products, such as coffee and tea, are being flavored with extra taste. No genius could have conceived of this parade of fruit-flavored teas of the '90s. This is not a local American phenomenon, since peach-flavored tea is in Switzerland as well as other countries.

This global consumer acceptance of the trend I call "Flavor the Flavored" is encouraging the launches of flavored lemonade and ginger ale, as apparent from the following few examples:

- Canada Dry of Japan offers **Ginger Ale Perilla**. This is a ginger ale flavored with Japanese plum (ume) and lemon.
- Cadbury of USA launches a complete line of **fruit-flavored ginger ale**; flavor range includes grape, lemon, cranberry, raspberry and cherry.
- Coca-Cola, Snapple and Ocean Spray offer **raspberry-, strawberry- and cranberry-flavored lemonades**.
- 7UP introduces in Canada **7UP Framboise** and **7UP à La Lime** as a raspberry- and lime-flavored 7UP.

### Beverage Novelties Acceptance

A major concern to marketers is to identify beverage novelties that can successfully migrate from one country to another. Such novelties, whether called "new age" or "lifestyle" beverages, are popping up in several parts of the world—some with great success.

### Functional beverages from Japan

### Functional beverages from Switzerland

**Successful Migrations:** We see on the global scene, from Toronto to Tokyo, a parade of flavored teas, flavored coffees, flavored milk and exotic blends of juices. Many other similar products are constantly being introduced from one corner of the globe to the other.

An excellent case study is the successful global introduction of iced tea. In the '90s, it is the hottest beverage in the USA, Japan, Taiwan, China and several regions of Europe. This example might provide some insights into the reasons for the ease with which some novelties cross the oceans. Consider the fact that a conservative region such as Switzerland has the highest per capita consumption of iced tea in Europe (Table V). Thanks to Migros' (the Swiss giant supermarket and food processor) aggressive marketing and the launching of a powdered instant drink in 1983, consumption reached 1.3 million liters in its first year, to peak at the 6 million liters mark in 1984. Clearly this is not just a passing fad. Signs are also very positive for its success in other European countries (Table V).

However, not all novelties are crossing international borders with such swiftness. One case in point is a Japanese ready-to-drink coffee (cold or hot) that refuses to migrate. Analysis of the tea/coffee migration case might provide some ideas, but certainly not definite answers. Analysis indicates that tea is perceived as less harmful than coffee, and probably healthy (Oolong tea is perceived as a cholesterol reducing agent). In addition, tea—certainly flavored iced tea—is more refreshing and more “gulpable” than coffee,

### Almdudler herbal beverage

and it is compatible with a good variety of fruits and herbs.

**Non-Migrators:** Ready-to-drink coffee migrates, but does not duplicate the success of the iced tea migration. Coffee aside, some classes of beverages do have what it takes to be transnational, but remain stubbornly local. Without Swiss Migros, iced tea probably never would have been as successful in Europe as it is now. Beverages that need to be championed by innovative and daring marketers are plentiful. Some examples are:

- **Almdudler** is an Austrian herbal apple drink that did not spread its wings very far.
- **Bevanda di Karkade** from Felegara food of Italy is an infusion of the natural hibiscus flower (also known as Jamaica or Sorrell). Although this is an excellent fruity, raspberry-like drink, it remains localized in Italy, the Caribbean, Mexico and some Middle East countries.
- **Horchata** or **Chicha**, as named in Mexico and Central America, is a delicious, complex carbohydrate, rice dessert beverage. It is not even known throughout the Hispanic population. Some chefs believe that this beverage originated in Spain, yet it is virtually unknown nowadays to Spaniards.

So, will we ever see chamomile- or Linden-based beverages offered to consumers in ready-to-drink form? This question will be answered by time alone.

Table V. Ice tea consumption in Europe - 1994

Country	% by volume	Liters per capita
Switzerland	27	28
Italy	43	5
Germany	13	1
Belgium	5	4
France	5	0.6
Others	7	

Source: Zenith International

### Fruit juice blends from Venezuela

### Conclusion

Although the world is getting smaller, and transnational tastes have more similarities than differences, going global with the winner is no small task. Today's corporation doesn't need to be the mighty giant of yesteryear to become multinational; entrepreneurs fly abroad before they even walk in their own country of birth. Nevertheless, crossing oceans needs multi-disciplinary combinations of solid marketing and strong technical know-how. Today's taste complexities will be described by those who succeed us as "it was the best of taste, it was the worst of taste." This well describes the contemporary taste of reward beverages as well as functional beverages.

### Rice beverages known as "Chicha" or "Horchata" from Central America

### Future Trends

Snack fruit beverages, as they are making their debut in Japan, will further diversify toward more blends and varieties. Peach or orange juice might be offered with diced mangos, or blends of juices with blends of diced fruits.

Some daring marketers will adopt localized beverages and migrate them. Examples are herbal and rice drinks.

Dessert beverages will gain popularity. Ethnic and upscale desserts will be copied. **Tirami-Su**, **Black Forest** and **rice pudding** are good candidates.

Functional drinks will tend to become tasty—"good for you can also be good for your taste." Vegetable juice tastes will be enhanced with more sophisticated fruit juices and flavors. Sport drinks will be hybridized with snack- or dessert-type beverages.

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### References

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1. The UK drinks market, vol II, Leatherhead (Mar 1994)

