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Business Is Booming

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Who would have thought a few years ago that in 1980 you could impress others by drinking water?

- That the avant-garde drink of the decade would be water with a twist of lime?
- That there would be water tasting events similar to wine tasting parties? (Chicago municipal water won second at one such affair.)
- Who could have predicted that water would be sold in pop bottles and vending machines?
- That tanker trucks would bring water to Fort Worth from springs in Arkansas?
- That a Washington restaurant would open a water bar complete with a menu of over 100 brands of bottled water?
- That brands of water would be endorsed by famous athletes and advertised on television?

One million NEW U.S. customers buy bottled water each year in one-gallon and five-gallon containers. Water in serving size containers is the fastest-growing product of America's multi-billion dollar soft drink business.

This increasing popularity of bottled water is to a large extent due to the advertising campaigns of leading water bottlers. Advertising, for instance, has promoted a certain snob appeal associated with drinking bottled water.

Athletes in training and others intent on physical fitness, according to industry advertising, drink bottled water. Advertising campaigns have also suggested the no-calorie bottled drink as an alternative to diet drinks containing artificial sweeteners.

Bottled water is not, however, a new product on the Texas market. Processors have delivered containers of bottled water to Texas homes and offices since the turn of the

century. Generations of Texans have grown up with an upside-down five-gallon bottle of drinking water in the kitchen. Currently, Texas is one of the top five states in the nation in bottled water sales.

Texans generally buy bottled water because (1) they don't like the taste, odor, or appearance of tap water, or (2) they fear health effects of contaminants in public water systems.

Texans are buying more bottled water each year even though city, state, and federal governments are spending billions of dollars on research and technology to improve the quality of tap water. The two expenditures are probably related.

Highly publicized studies by the Environmental Protection Agency (EPA) in the 1970s identified many chemical contaminants and undesirable minerals in municipal water supplies. The studies were meant to help set standards for the Safe Drinking Water Act requirements for public systems. Study results, though, caused near panic in some areas and increased demand for bottled water throughout the country.

Under the Safe Drinking Water Act, EPA now enforces nationwide standards to limit the amount allowed for ten chemicals, six pesticides, bacteria, radioactivity, and turbidity (cloudiness) in any water supply serving over 25 customers. Standards for taste, odor, and appearance are also set, but are not enforced nationally.

Only two substances for which standards have been set cause an immediate threat to health. Harmful bacteria can cause disease, and excessive levels of nitrate can cause "bluebaby" syndrome in infants. Limits for other contaminants are based on potential health effects if contaminated water is consumed over a long period of time.

No maximum level has yet been established for sodium in water, yet many public water systems in the state distribute water quite high in salt content. Drinking water high in salt will not affect most people, but for the 10 percent who are predisposed to high blood pressure and the 25 million Americans who already have this disease, salt in drinking water could be a health risk.

Potentially harmful chemical compounds in drinking water are now monitored and will soon be regulated by the EPA. These are called trihalomethanes and are suspected of causing cancer in laboratory animals. They are produced, ironically, by the very chemical used so effectively to kill bacteria in water. Chlorine combines with naturally occurring organics in water to form the potentially dangerous compounds.

Safer Water?

Bottled water may or may not be safer to drink than tap water. It is not required to be. Bottled water is only required to meet the same quality standards as public drinking water. Bottling plants and public supplies both receive the same type of inspection by the

Texas Department of Health; and both must be supervised by operators certified by the Texas Department of Health.

The biggest difference between bottled water and tap water is the use of ozone rather than chlorine as a disinfectant. Most bottled water processors use ozone to rid water of harmful bacteria. Ozone does not combine with organics to form trihalomethanes as does chlorine. Neither does ozone, a form of oxygen, leave an aftertaste or odor as does chlorine. Public supplies cannot use ozone instead of chlorine, however, because the ozone does not leave a residual for lasting disinfection through the distribution system.

Bottled water generally contains fewer contaminants than tap water because of filtration and aeration methods used by processors. The mere fact that water is bottled, however, does not mean that the water has fewer contaminants--or less salt--than tap water.

Only 20 percent of bottled water sold comes even close to being "pure." This is the water labeled as distilled or demineralized. Even this water--unless it has been sterilized and is labeled as such--will contain certain contaminants picked up from the bottles and bottling process.

Humans, however, do not need absolutely pure water to drink. Impure water becomes a concern only when it affects human health adversely or when it displeases the senses. Some pollutants in water, as a matter of fact, are quite beneficial. Fluoride, in limited amounts, for instance, decreases tooth decay, and trace amounts of selenium and chromium play a significant role in human nutrition.

Types of bottled drinking water available for home delivery or on the grocery store shelf include natural, processed, fluoridated, mineral, and sparkling water.

1. Natural water comes from a naturally flowing spring or well and has nothing removed or added except ozone. Any water sold for human consumption must receive some type of disinfection, so no bottled water is really "natural" water.

2. Processed drinking water has minerals added or removed by the processor. Generally, all minerals are removed and then selected minerals added to achieve a particular flavor.

3. Fluoridated water is sold in areas where the public system does not add fluoride. Fluoride may be in the water naturally or be added by the bottler.

4. Mineral water contains a large amount of minerals either naturally in the water or added by the bottler. Presently, there is no standard definition of mineral water, but industry associations are working with the Food and Drug Administration to establish a minimum level of minerals for mineral water. Minerals in mineral water may legally exceed the maximum level established by the Safe Drinking Water Act.

5. Sparkling water, generally sold in the soft drink section of the grocery store, includes effervescent spring waters which naturally contain carbon dioxide and water which has been artificially carbonated.

Much more sophisticated treatment is given water labeled as distilled, deionized, or demineralized. This water has had all contaminants above 10 parts per million removed. The distillation method vaporizes water, then condenses the steam. Other methods force water through resins or filters to remove contaminants.

Regulated Industry

The bottled water business is a carefully regulated industry. Bottling plants must meet all city, state, and federal qualifications of a food processing plant, and bottled water must meet the standards of the Safe Drinking Water Act. All water to be bottled must come from a state-approved source whether it is a spring, artesian well, drilled well, city water supply, or other source.

Each container of water must be labeled as to the type of water and name and address of the processor. Texas law also requires labels to list source of the water. Labels may not claim medicinal or health-giving properties of the water nor may they refer to the bacterial purity of the water. If anything has been added to the water by the processor, the addition must be noted on the label. Coding and dating are not yet required on bottled water but are recommended by the EPA.

The most stringent regulations for water bottlers are self-imposed by plants affiliated with the American Bottled Water Association. To be a member of this voluntary organization, a bottling plant must submit to plant inspections conducted by an independent research laboratory.

Only plants which regularly meet the association's high standards for processing, producing, and packaging can qualify for membership in the national association. The fact that 90 percent of all bottled water sold in the U.S. is processed by the 125 member plants of the American Bottled Water Association speaks well for the industry.

The Texas Bottled Water Association, representing 32 of the 40 processing plants in the state, holds an annual meeting and workshop for plant personnel. It also conducts training sessions to prepare operators for certification examinations.

Bottled Water For You?

Experts suggest that you check bottle labels carefully concerning the water source and type of processing before you choose a brand of bottled water. You should also ask the bottling company for the results of the latest content and quality tests.

Perhaps most important of all, you should check the quality of your tap water. Its quality just might be equal to or higher than that of the bottled drinking water.

You should also check your budget. Bottled water costs many times more than tap water. The average cost of a gallon of tap water is less than a half a cent. A five-gallon jug of drinking water delivered to your home now costs around $3.00; and one gallon at the grocery store is about $.50.

Nevertheless, you should probably consider buying bottled water under the following conditions:

1. If your doctor has recommended a low-salt diet and your city water supply is high in salt content.

2. If the taste, smell, or appearance of your city water makes drinking water and other drinks made with water distasteful.

3. If your city water supply comes from a surface water source high in organics and your city is not yet meeting the maximum contaminant levels for organic compounds set by the EPA.

4. If your city supply is temporarily affected by natural or manmade disaster.

Three disasters in the summer of 1980 sent Texans scurrying for bottled water.

The city groundwater supply was suspected in June of causing 8,000 Georgetown residents to suffer from a serious stomach malady. Customers of the city's water system were advised to drink only bottled water or water which had been boiled until authorities could determine the cause of the problem.

The quality of Lake Tawakoni, which provides 20 percent of Dallas water supply, was questioned in July concerning potential arsenic and herbicide pollution. Dallasites were fortunate to have other surface water sources from which to draw, but many chose to drink bottled water while experts studied the source and extent of the problem.

Then in August, as Gulf Coast residents prepared for Hurricane Allen, authorities advised each family to stock up on bottled water. They knew that safe drinking water is an almost certain and immediate need of citizens returning to any disaster area. These cases of dangerous municipal water problems serve extremely well to point out three common types of water contamination: bacteriological, chemical, and natural. They also point out that no water source or distribution system is completely free from possible contamination.

Except in extreme emergencies, however, your city will provide water safe enough for human consumption. Public systems, in fact, will provide even safer water in the future

- As public utilities continue to upgrade treatment and distribution systems.
- As technology continues to improve detection and surveillance techniques.
- As new laws increasingly protect the state's water resources.

Certainly your city system will continue to deliver water more efficiently and inexpensively than private water bottlers. Bottled water should never become a substitute for safe public water supplies. It should remain what it is today--a choice, but not a necessity.

We've Come a Long Way

Texans who complain about their tap water should consider the choices Leonardo da Vinci described in the 16th century:

> Drinking water can be health-giving, noisome, laxative, astringent, sulphurous, salt, incarnadined, mournful, raging, angry, red, yellow, green, black, blue, greasy, fat, and thin.

Texans have quite a different set of choices for drinking water today. They need only turn the kitchen tap to draw a glass of carefully processes, consistently safe, drinking water. If, however, they don't like the taste, or smell, or appearance of the tap water, they can have bottled drinking water delivered to their homes or offices. Houstonians have the following types of bottled water advertised in the yellow pages of the telephone directory from which to choose:

- purified
- charcoal filtered
- distilled
- mountain
- spring
- Arkansas
- demineralized
- bulk
- bottled
- crystal clear
- coffee
- fresh
- deionized
- demineralized
- reverse osmosis
- iodinated
- resin filtered
- carbon filtered
- softened
- ultra-violet purified

This list doen't even include the drinking water sold from a vending machine outside Houston-area grocery stores nor sparkling water sold as a soft drink.

Yes, we've come a long way in treating and distributing drinking water. Go clebrate with a drink of water from tap or bottle.