

## **EXTENSION CONNECTION – Bottled Water**

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### **Q. What is water's role in the body?**

**A.** Water, pure and calorie-free, is the best beverage to quench thirst. But, water is much more than just a refreshing beverage.

Water is a valuable nutrient essential for survival. It is the most abundant substance in the body and it is present in all tissues in varying proportions: blood is 92% water, muscles are 75% water, and bones are about 25% water. Water is required to carry nutrients and oxygen to the cells. It removes waste from the cells and helps regulate body temperature. It helps absorb food nutrients and convert them into energy. Water is crucial for the many life-supporting chemical reactions that constantly occur throughout the human body.

Water cannot be stored in the body. That's why recommendations are to drink at least six to eight, 8-ounce glasses of water daily. This amount is necessary – even when you don't feel thirst – to replenish water losses and maintain a healthy kidney function.

### **Q. Why do people buy bottled water?**

**A.** Some consumers like the convenience of carrying bottled water with them when they travel or go about their daily routines. Others are concerned about the safety and quality of tap water. Whatever the reason, the use of bottled water has increased.

Bottled water may have a better smell and taste because of the blend of minerals and method of processing. In addition, plastic bottles are light and convenient to carry.

Chlorine is not used as a disinfectant. Instead, bottled water is treated by ultraviolet irradiation, filtration, and ozonation. These methods effectively kill most waterborne bacteria and leave no aftertaste.

Some brands of bottled water (particularly those imported from Europe) contain a relatively high concentration of minerals such as calcium and magnesium. The safety and quality of bottled water produced in the U.S. are largely regulated by state governments with widely varying standards. In contrast, municipal water supplies have nationally uniform regulations and are monitored daily for pesticides and many other contaminants.

### **Q. What are some tips for buying and storing bottled water?**

**A.** Read the label carefully. It should say, "bottled at the source," and specify a location of the source. Unless a location is indicated on the label, "spring water" could be tap water with minerals added to improve taste.

Check the mineral content. The ideal water is high in magnesium (at least 90 mg/liter) and calcium (twice the amount of magnesium) and low in sodium (less than 10 mg/liter). Some manufacturers do not list mineral content on the label, especially if only negligible amounts of minerals are present. For water low in sodium, look for label claims such as "sodium free" or "low sodium."

Parents who rely on bottled water to prepare infant formula should check the water's fluoride content. If the amount is low, as it is in distilled water, dietary fluoride supplementation is necessary to ensure normal tooth development.

Check if the bottler is a member of IBWA. The words "Member of IBWA" on the label is a guarantee that the levels of any contaminants, if present, are below FDA standards. However, even if a bottler is not a member of IBWA, the product may still be safe and of good quality.

Whenever possible, keep it refrigerated. Storage at or above room temperature promotes bacterial growth.

**Q. Supermarkets sell many different kinds of bottled water. What are the differences?**

**A. Artesian water** comes from a confined, underground water source.

**Distilled water** is water that has been evaporated and allowed to condense, which removes all minerals and contaminants. It has a very flat taste.

**Drinking water** is tap water that has been filtered and disinfected by water treatment plants.

**Natural mineral water** contains only the minerals present in the water as it flows from the ground. Mineral water not labeled "natural" may have had minerals added or removed.

**Sparkling water** is any water that contains naturally occurring or added carbon dioxide. Many brands of mineral water, spring water, and other bottled waters are marketed as sparkling water.

**Spring water** comes from an underground source from which water flows naturally to the surface.

**Well water** is brought to the surface by pumps from an aquifer (a water-bearing rock or soil formation located underground).

Manufacturers are allowed to add very small amounts of flavors (lemon, raspberry, etc.) or additives to their bottled water products.

**Q. Is it safe to reuse single service plastic water (or soda) bottles?**

**A.** Yes, with care. The reuse of single service plastic bottles and the potential for migration of carcinogens from the plastic into the water is blown way out of proportion, says Dr. Samuel Beattie, Extension Food Science Specialist. Research has shown that the highest level of carcinogens found in water from reused plastic bottles is in the part per billion range. The risk assessment indicates that the level is below concern levels for cancer. Additional research on solarized PET bottles showed that the levels of the compounds of concern was very low-in the sub parts per billion range.

Therefore, the concern about carcinogens is not warranted; however, there is some indication that reused water bottles may have significant bacterial contamination. Proper sanitation of water bottles is important in maintaining water quality. This means washing completely with detergent, rinsing well and allowing to air dry. A simple sanitizing step would be 4-5 drops of bleach in a full bottle followed by air drying.