



Safe Handling

of Raw Produce and
Fresh-Squeezed
Fruit and Vegetable Juices



U.S. Food and Drug Administration



Inside

Buying Tips

4

Storage Tips

5

Preparation Tips

6

Fresh Juice Safety

8

Q&As

10

Staying Healthy... Staying Safe



Fruits and vegetables are an important part of a healthy diet. Your local markets carry an amazing variety of fresh fruits and vegetables that are both nutritious and delicious.

As you enjoy fresh produce and fresh-squeezed fruit and vegetable juices, it's important to handle these products safely in order to reduce the risks of foodborne illness.

Avoiding Foodborne Risk is Easy



Harmful bacteria that may be in the soil or water where produce grows may come in contact with the fruits and vegetables and contaminate them. Or, fresh produce may become contaminated after it is harvested, such as during preparation or storage.

Eating contaminated produce (or fruit and vegetable juices made from contaminated produce) can lead to foodborne illness, which can cause serious — and sometimes fatal — infections. However, it's easy to help protect yourself and your family from illness by following these safe handling tips!

Tips for Fresh Produce

Buying Tips for Fresh Produce

You can help keep produce safe by making wise buying decisions at the grocery store.

- **Purchase produce** that is **not bruised** or damaged.
- When selecting **freshcut produce** — such as a half a watermelon or bagged mixed salad greens — choose only those items that are **refrigerated** or **surrounded by ice**.
- **Bag fresh fruits and vegetables separately** from meat, poultry and seafood products when packing them to take home from the market.



Storage Tips for Fresh Produce

Proper storage of fresh produce can affect both quality and safety.

To maintain quality of fresh produce:

- Certain **perishable fresh fruits and vegetables** (like strawberries, lettuce, herbs, and mushrooms) can be best maintained by storing in a clean refrigerator at a temperature of **40° F or below**. If you're not sure whether an item should be refrigerated to maintain quality, **ask your grocer**.
- All produce that is purchased **pre-cut or peeled** should be **refrigerated** to maintain both quality and safety.

40° F



Keep your refrigerator set at 40° F or below. Use a fridge thermometer to check!

Preparation Tips for Fresh Produce

Begin with clean hands. Wash your hands for 20 seconds with warm water and soap before and after preparing fresh produce.

- **Cut away any damaged or bruised areas** on fresh fruits and vegetables before preparing and/or eating. Produce that looks rotten should be discarded.
- All produce should be **thoroughly washed before eating**. This includes produce grown conventionally or organically at home, or produce that is purchased from a grocery store or farmer's market. Wash fruits and vegetables under running water just before eating, cutting or cooking.
- **Even if you plan to peel** the produce before eating, it is still important to wash it first.
- Washing fruits and vegetables with soap or detergent or using commercial produce washes is *not recommended*.
- **Scrub firm produce**, such as melons and cucumbers, with a clean produce brush.
- **Drying produce** with a clean cloth towel or paper towel may further reduce bacteria that may be present.



What About Pre-washed Produce?

- Many precut, bagged produce items like lettuce are pre-washed. If so, **it will be stated on the packaging**. This pre-washed, bagged produce can be used without further washing.
- As an extra measure of caution, you can wash the produce again **just before you use it**. Precut or prewashed produce in open bags should be washed before using.

Focus On: Health Risks with Raw Sprouts

Raw sprouts that are served on salads, wraps, and sandwiches may contain bacteria that can cause foodborne illness. Rinsing sprouts first will not remove bacteria. Home-grown sprouts also present a health risk if they are eaten raw or lightly cooked.

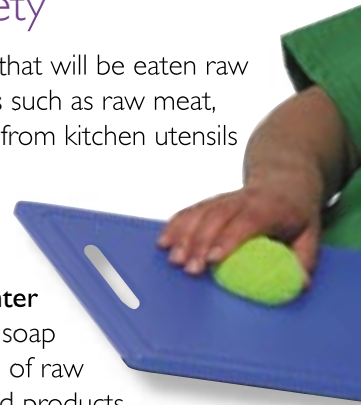
- To reduce the risk of illness, **do not eat raw sprouts** such as bean, alfalfa, clover, or radish sprouts. All sprouts should be cooked thoroughly before eating to reduce the risk of illness.
- This advice is particularly important for children, the elderly, and persons with weakened immune systems, all of whom are **at risk of developing serious illness** due to foodborne disease.

Separate for Safety

Keep fruits and vegetables that will be eaten raw **separate from other foods** such as raw meat, poultry or seafood — and from kitchen utensils used for those products.

In addition, be sure to:

- **Wash cutting boards, dishes, utensils and counter tops** with hot water and soap between the preparation of raw meat, poultry and seafood products and the preparation of produce that will not be cooked.
- For added protection, **kitchen sanitizers** can be used on cutting boards and counter tops periodically. Try a solution of one teaspoon of chlorine bleach to one quart of water.
- If you **use plastic or other non-porous cutting boards**, run them through the dishwasher after use.



Fruit and Vegetable Juices

Safety and Fresh-Squeezed Products

Most of the juices sold in the United States are processed (for example, "pasteurized") to kill harmful bacteria. But when fruits and vegetables are fresh-squeezed and left untreated, harmful bacteria from the inside or the outside of the produce can become a part of the finished product.



- Some grocery stores, health food stores, cider mills, and farm markets sell packages and containers of juice that was made on site and **has not been pasteurized** or otherwise treated to kill harmful bacteria.
- These untreated products should be **kept in the refrigerated section** of the store or on ice, and **must have the following warning on the label** regarding people who are at risk for foodborne illness:

LABEL ALERT

WARNING: This product has not been pasteurized and therefore may contain harmful bacteria that can cause serious illness in children, the elderly, and persons with weakened immune systems.

- Juices that are **fresh squeezed and sold by the glass** — such as at farm markets, at roadside stands, or in some restaurants or juice bars — may not be pasteurized or otherwise treated to ensure safety. Warning labels are not required for these products.
- If you or someone in your family is at risk for foodborne illness, and you cannot determine if a juice has been processed to destroy harmful bacteria, either **don't drink it or bring it to a boil** to kill any harmful bacteria that may be present.



Those at risk for foodborne illness should not drink unpasteurized juice unless it is brought to a boil first.



Q&As about Fresh Produce

Q What is “Organic Produce”?

A Organic produce is grown without using most conventional pesticides; fertilizers made with synthetic ingredients or sewage sludge; bioengineering; or ionizing radiation.

Before a product can be labeled “organic,” a **government-approved certifier** inspects the farm where the food is grown to make sure the farmer meets the U.S. Department of Agriculture’s organic standards. Companies that handle or process organic food before it reaches the supermarket or restaurant must be certified, too.

Q What is ethylene gas – and how does it affect produce?

A Some fruits and vegetables – like bananas — **naturally produce ethylene gas** when they ripen. Oftentimes, such fruits and vegetables are harvested in the unripened state to preserve firmness and for long shelf life; they are later exposed to ethylene gas to induce ripening.

Q What does the “use-by” date mean on a package of fresh produce?

A A “Best-If-Used-By- (or Before)” date is the last date recommended for peak quality as determined by the manufacturer of the product.

Q Why are wax coatings used on fruits and vegetables?

A Many vegetables and fruits make their own natural waxy coating. After harvest, fresh produce may be washed to clean off dirt and soil — but such washing also removes the natural wax. Therefore, waxes are applied to some produce to replace the natural waxes that are lost.

Wax coatings help retain moisture to maintain quality from farm to table including:

- when produce is **shipped** from farm to market
- while it is **in the stores and restaurants**
- once it is **in the home**

Waxes also help inhibit mold growth, protect produce from bruising, prevent other physical damage and disease, and enhance appearance.

Q How are waxes applied?

A Waxes are used only in tiny amounts to provide a microscopic coating surrounding the entire product. Each piece of waxed produce has **only a drop or two** of wax.

Coatings used on fruits and vegetables **must meet FDA food additive regulations** for safety. Produce shippers and supermarkets in the United States are required by federal law to label fresh fruits and vegetables that have been waxed so you will know whether the produce you buy is coated. Watch for signs that say: “Coated with food-grade vegetable-, petroleum-, beeswax-, or shellac-based wax or resin, to maintain freshness.”



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For more information on handling fresh produce and other foods safely, call toll free:

1-888-SAFEFOOD

U.S. Food and Drug Administration

Center for Food Safety and Applied Nutrition

Food Information Line

or visit FDA's Food Safety Web site, 24 hours a day:

www.cfsan.fda.gov

