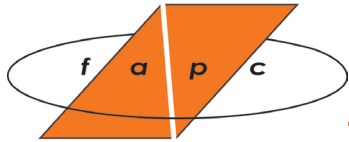


Food and Agricultural Products Center



FLASH!!

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Techniques Can Ensure the Safety of Fresh Produce

STILLWATER, Okla. – Fresh fruits and vegetables may be good for individuals, but recent outbreaks of food-related illnesses have increased many people’s concerns about the safety of these foods.

Illness concerns have increased during the past decade as people in the United States have started eating more of these foods to gain the health benefits.

The outbreak of hepatitis A in Pennsylvania, which killed three people and sickened more than 600, has raised new concerns about the safety of the produce supply and its distribution system.

“It is useful to remember that pathogenic or disease-causing microorganisms are not part of the natural microorganisms found on or in fresh produce,” said William McGlynn, horticultural food scientist for the Oklahoma Food and Agricultural Products Research and Technology Center. “Any disease-causing microbes present on fruits or vegetables are there because of inadvertent contamination. Contamination can occur in the field or at any point in the food supply.”

Several actions can decrease the risk of disease-causing microbes on fresh fruits and vegetables, McGlynn said. They include:

- Wash produce with clean water before eating. (Household soaps and other cleansers are not recommended; they may not be effective in killing or removing pathogens and may leave harmful residue on the produce that poses a greater risk than any microbes potentially present.)
- Scrub firm produce, such as melons and cucumbers, with a produce brush during washing.

- Cut out damaged or bruised areas before eating.
- Control temperature of produce to prevent microbial growth.
- Refrigerate fresh produce that requires cool temperatures (below 45 degrees Fahrenheit, 7 degrees Celsius).
- Avoid leaving cut melons at room temperature for more than two hours.
- Wash hands and food preparation surfaces often.
- Avoid cross-contaminating ready-to-eat foods with raw meat, poultry or seafood.

McGlynn said these techniques are highly recommended to enhance the safety of fresh produce, but may not be sufficient to remove all pathogens present. This is especially true for leafy greens and other hard-to-wash produce.

“The only sure way for consumers to eliminate harmful microorganisms in fresh fruits and vegetables is through cooking,” he said. “Heating fruits or vegetables to a temperature of 160 degrees Fahrenheit or 71 degrees Celsius or greater is enough to kill the pathogenic microorganisms that may be present. Of course, no one wants a cooked green salad, but folks who are particularly susceptible to foodborne illness—children, the elderly and those with compromised immune systems—may want to avoid higher-risk fresh, uncooked produce.”

The fresh produce processing industry uses various steps to decrease the microbial contamination on products. Some of the sanitary steps taken are common throughout the industry and include pest control, facility sanitation, worker hygiene and temperature control.

Fresh-produce processors often use different methods to clean the fruit. These methods are high-pressure washes, scrubbing, trimming and peeling. All these procedures, when properly used, will substantially decrease contamination but not eliminate it.

Researchers at land grant universities and the Centers for Disease Control and Prevention are working to decrease produce contamination even further.

In 1998, the Food and Drug Administration and the U.S. Department of Agriculture released a *Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables (The Guide)*. Cornell University also released a *Food Safety Begins on the Farm – a Grower’s Guide*. These publications explain what producers, packers and distributors must do to decrease the risk of produce contamination.

“One lesson to learn from the Pennsylvania hepatitis outbreak is there is no magic bullet to eliminate harmful microorganisms in all fresh foods,” McGlynn said. “No single treatment will do it and no link in the food supply chain can be ignored.”

Evidence suggests that the Pennsylvania produce was infected with the virus before reaching the restaurant, and poor handling spread the virus to more people than would have been infected, McGlynn said. Progress has been made in developing and implementing a food safety system for fresh produce, but even the best system cannot eliminate risk.

“Another important lesson that could be missed with all of these events is that real health benefits come with a diet rich in fresh fruits and vegetables,” he said. “There are real food safety risks, but with proper handling, a little caution and common sense, we can all follow mom’s advice about eating fresh produce.”

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