

What's in Season from the Garden State

Biweekly Highlights from Cooperative Extension, a unit of Rutgers New Jersey Agricultural Experiment Station

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Should I eat tomatoes? What about other fresh produce?

It's important to keep outbreaks in perspective. Americans eat millions of servings of fresh produce every day, most of which do not result in foodborne disease. We know that a diet rich in fresh fruits and vegetables is a healthy diet. If anything, Americans need to eat more fresh produce, not less. The public should rest assured that fresh fruit and vegetable producers, the FDA, CDC, state Departments of Health and Agriculture, as well as Rutgers NJAES faculty are all very concerned about food safety. We all work hard every day to make sure that the food supply is as safe as it can be and are continually striving to make it even safer.

For more information go to FDA's outbreak page: <http://www.fda.gov/oc/opacom/hottopics/tomatoes.html>

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Salmonella Contamination in Produce

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This year's growing season has been dominated by news coverage of the *Salmonella* in tomatoes food poisoning outbreak. An announcement of the outbreak was first made by the Food and Drug Administration (FDA) in early June. The search is now expanded to include produce that is commonly served with tomatoes. As details of the outbreak have unfolded in the news, many members of the general public have questions about the contamination, and how this could have occurred. Although the outbreak investigation by the FDA and the Centers for Disease Control and Prevention (CDC) is still ongoing, some comments can be made.

How did the produce get contaminated?

In fact, the answer to this question is not known. However, based on what we know about food safety in general and produce-borne food poisoning in particular, we can suggest some possibilities. Since a large number of people and a large number of states are affected, it's likely that the contamination occurred in the field or in the packing house (rather than later in the process). Possible sources of contamination in the field or packinghouse could include use of contaminated irrigation or wash water (from a bacterially contaminated well or pond), use of improperly composted manure in the field, or handling of the produce by sick field or packing-house workers. Scientific research has shown that when produce is contaminated, washing with water or treatment with sanitizers may not remove all the contamination.

Why is it so hard to figure out where the contaminated tomatoes came from and how they got contaminated?

A variety of factors come into play to frustrate FDA and CDC efforts to investigate any outbreak. First, the nature of foodborne disease is that people may not experience their first symptoms until several days after consuming the implicated food. Once sick, people may not seek medical attention for several days. After medical treatment, identifying the microbiological cause from culturing fecal samples may also take several days or more. This means that a bacterial cause may not be known until a week or more after the food is eaten. Once a common cause for two or more cases is known, it takes even more time for public health officials to interview all the sick individuals and try to determine which food or foods are the likely culprit. Once a food is implicated, a complex process of "traceback" begins, where the history of the implicated food is traced from the point of consumption, back through the channels of distribution to its point of origin. Traceback is especially complex for produce items, because these foods may pass from a farm, to a packing house, through several distributors and then a final point of consumption. Add on top of that the fact that similar produce items from different farms or distributors may be blended at each step, or items from one distributor may pass to several customers and this long chain grows into a complex web. Now factor in that each stop along the way may have its own computer or paper based record keeping system, none of which are compatible and it's a wonder tracebacks ever happen at all! Since produce growing is highly seasonal, if a traceback does eventually implicate a particular farm, that farm has likely finished harvesting all of the implicated items and may even be closed for the season when investigators arrive.

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New Jersey Department of Agriculture's Jersey Fresh & Seafood Availability Report

- Arugula
 - Baby Arugula
 - & Baby Spinach
 - Basil
 - Beets
 - Blueberries
 - Cabbage
 - Cilantro
 - Collards
 - Cucumbers
 - Dandelions
 - Dill
 - Kale
 - Leeks & Green Onions
 - Mint
 - Parsley
 - Peaches
 - Pickles
- Squash - yellow and zucchini
 - Sweet corn
 - Swiss Chard - until mid-July
 - Tomatoes
 - Turnips

Forecast:

- Cantalopes - mid-July
- Eggplant - mid-July
- Nectarines - mid-July
- Peppers - mid-July



- Atlantic Bonito
- Bluefish
- Butterfish
- Flounder
- Ling
- Lobster
- Scup (Porgies)
- Sea Scallops (Day Boat)
- Squid
- Whiting

Farm Raised Hard Clams & Oysters

- Little-necks/Middle-necks
- Cherrystones, Chowders, Top-necks
- Cape May Salt Half-Shelled Oysters
- Delaware Bay Oysters



Food Safety Practices on New Jersey Farms

Wesley Kline, Ph.D., Agricultural and Resource Management Agent, Rutgers NJAES

Food safety is everyone's responsibility. Growers are doing their part by developing individual farm food safety plans and refining them each year. Starting in 1999 New Jersey farmers started to implement food safety practices prompted by a request from supermarkets. The New Jersey Department of Agriculture (NJDA) in collaboration with Rutgers New Jersey Agricultural Experiment Station (NJAES) took the lead in developing the first state third party audit system in the country, to help growers evaluate their operations for food safety. This system was incorporated into the United States Department of Agriculture's Good Agricultural Practices & Good Handling Practices Audit Verification Program.



Harvest workers at Graiff Farms in Gloucester County, NJ observe rigorous food safety practices (protective gloves and hairnets) while harvesting baby spinach and baby arugula.

Growers develop their own food safety plans to address hazards on their farms which may lead to contamination of a product. Water sources are tested to determine if they could be a source of pathogens, just as a homeowner has water tested when their house is to be sold. Growers follow a stricter schedule by testing water two or three times during the growing season. All workers on the farm are trained each year on health and hygiene issues. This training informs farm workers on their responsibilities as food handlers and stresses how their personal activities can affect the safety of the food supply.

Each grower evaluates their farm to determine if animals or manure management practices could be a source of possible microbial contamination and then makes changes if needed. Growers disinfect and clean harvesting containers, set up a system to inspect for foreign objects in the product and ensure that the proper quality water is used for irrigation and packing.

Farmers evaluate their packinghouses to determine if there are opportunities for contamination during receiving, on the washing/packing line, and during storage and transportation. Packinghouses are also cleaned before the season starts to remove any dirt or contamination that has built up over the winter. Packing lines are cleaned at the end of each day to reduce the potential for microbial contamination. If ice is used in packing, growers obtain reports from the ice plant as to water quality and the supplier's schedule for cleaning equipment.

It is important to ensure harvested product is maintained at the proper temperature. Growers check their cold rooms each day to see that the fruits and vegetables are kept at recommended temperatures. Temperature control is one of the most important points to insure good quality produce in the market and reduce the chance for disease to develop.

Growers have started to implement a traceback system for produce items. Some growers in New Jersey can now follow their produce from the field, to the packinghouse, to the wholesale buyer and on to the supermarket. Traceback systems will become more important since it is the main way the Food and Drug Administration can determine the source in case of a food borne illness outbreak.

Once growers do a self-evaluation and modify their food safety plan as needed, Rutgers NJAES works with them at their request to review their food safety plan and facilities prior to the third party audit. Many growers in New Jersey have the New Jersey Department of Agriculture's auditors perform the audit. Once it is successfully completed, the grower receives a certificate to demonstrate they have passed. In addition, their information is placed on the USDA website so buyers have easy access to determine what farm operations have been audited.

Where to find Jersey Fresh? Ask for it where you shop or dine or go to: <http://www.jerseyfresh.nj.gov>

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 Web: <http://www.njfarmfresh.rutgers.edu>
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