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To: Health Commissioners, Environmental Health Directors, Nursing Directors,
ODA Food Safety Specialists, and Other Interested Parties

Subject: *Salmonellosis Outbreak - Questions & Answers for Consumers and Industry --
Updated*

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Salmonellosis Outbreak Questions & Answers for Consumers and Industry -Updated

Introduction

The U.S. Food and Drug Administration (FDA) is advising consumers that jalapeño and Serrano peppers grown in the United States are not connected with the current Salmonella St. Paul outbreak and consumers may feel free to eat them without concern of contamination.

The FDA's advisory to avoid eating raw jalapeño and raw serrano peppers, and foods that contain them, applies only to these types of peppers grown, harvested or packed in Mexico.

In addition to domestically grown raw jalapeño and raw serrano peppers, commercially canned, pickled and cooked jalapeño and serrano peppers from any geographic location also are not connected with the current Salmonella Saintpaul outbreak.

Laboratory testing by the U.S. Food and Drug Administration has confirmed that both a sample of serrano pepper and a sample of irrigation water collected by agency investigators on a farm in the state of Nuevo Leon, Mexico, contain *Salmonella* Saintpaul with the same genetic fingerprint as the strain of bacteria that is causing the current outbreak in the United States.

FDA is working with state regulatory agencies and food industry groups representing restaurants, grocery stores, and wholesalers to ensure that this new advisory is clearly understood by everyone. The FDA will continue to refine its consumer guidance as the agency's investigation continues.

FDA's advisory to the public is based on evidence gathered by the intensive investigation that has been ongoing for several weeks to find the source of the contamination. Information from FDA's traceback investigation, laboratory test results, and harvesting dates, matched with the dates that people became ill, have combined to indicate that the contaminated jalapeno and Serrano peppers originated in Mexico.

For the latest information on the number of outbreak cases and where they occurred, see the CDC's webpage on the outbreak: Investigation of Outbreak of Infections Caused by *Salmonella* Saintpaul (CDC) [en Español]

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Consumer Information and Advice

- **What kind of illness does *Salmonella* cause?**

People who have eaten food contaminated with *Salmonella* often have fever, diarrhea (which may be bloody), nausea, vomiting, and abdominal pain. The bacterium can enter the bloodstream and cause more severe illness, although this rarely happens. Infection with *Salmonella* also may be more serious or fatal in young children, frail or elderly people, and people with weakened immune systems.

- **What is *Salmonella*?**

Salmonella is a type of bacterium. The type of *Salmonella* causing illness in this outbreak, *Salmonella* Saintpaul, is relatively uncommon. Fruits and vegetables that come into contact with *Salmonella* may become contaminated with it, causing illness if eaten. *Salmonella* lives in the intestinal tracts of some animals, and can live in soil and water for months. Once *Salmonella* has contaminated something, it can be spread from surface to surface. Fresh produce contaminated with *Salmonella* can spread the bacterium to the hands of a person who cuts the produce and to the cutting board on which the produce is sliced, for example.

- **Has the warning against eating certain types of tomatoes been removed?**

The FDA has removed the warning to avoid certain types of tomatoes. At this time, there is no reason to believe that tomatoes currently on the market are contaminated with *Salmonella* Saintpaul. For example, tomatoes that were coming into season at the outset of the outbreak are extremely unlikely to still be in the supply chain. Consumers may resume enjoying any type of tomato, including the raw red plum, raw red Roma, and raw red round tomatoes that had been included in the now-removed warning.

- **Why had the FDA warned against eating tomatoes during this outbreak?**

The first case-control study conducted by the Centers for Disease Control and Prevention (CDC) at the onset of this outbreak did indicate a strong association between the consumption of certain types of raw tomatoes and illness caused by *Salmonella* Saintpaul.

- **Why is the FDA lifting the warning against certain types of tomatoes?**

Firms that had been producing tomatoes during the onset of the outbreak are no longer doing so, as part of their production cycle. It is very unlikely that any of the batches of tomatoes originally associated with the outbreak are still in the food-supply chain.

- **Are jalapeño and Serrano peppers being investigated as part of this outbreak?**

Recently, the CDC reported to the FDA that many, although not all, people who have become ill in this outbreak ate fresh jalapeño or Serrano peppers or foods that contained them, such as some types of fresh salsa. Based on this information from the CDC, the FDA expanded its investigation to include jalapeños and Serranos.

- **UPDATED Have any food samples been found that are contaminated with the outbreak strain, *Salmonella* Saintpaul?**

A sample of jalapeño peppers, a sample of Serrano peppers, and a sample of reservoir water used for irrigation have been found to contain *Salmonella* Saintpaul genetically matched to the strain of bacteria causing illnesses. One of the jalapeño samples was obtained during FDA inspection of a produce distribution center in McAllen, Texas. The jalapeño peppers in this sample were found to have been grown in Mexico. The Serrano pepper sample and the water sample were obtained by an FDA inspection team on a farm in Mexico.

- **UPDATED Does the discovery of the contaminated jalapeños and Serrano peppers mean the source of the *Salmonella* Saintpaul outbreak has been found and that the outbreak is over?**

Although the outbreak appears to have peaked, it is ongoing. Cases of *Salmonella* Saintpaul continue to be reported, and FDA continues its investigation. Epidemiologic data to date suggest that the entire outbreak can **not** be explained by the contamination found recently.

- **UPDATED Should consumers avoid fresh jalapeño and Serrano peppers or foods that contain them during this outbreak?**

Jalapeño and Serrano peppers grown in the United States are **not** associated with this outbreak. The FDA advises all consumers to avoid raw jalapeño and Serrano peppers, and foods that contain them, such as some types of salsa and pico de gallo, if the jalapeños or Serrano peppers were grown, harvested, or packed in Mexico. Consumers are advised **not** to wash, peel, or cook these kinds of raw peppers to try to get rid of *Salmonella* contamination that may be present. These actions are **not** likely to get rid of *Salmonella*, which is very hard to remove by conventional means, and might spread the bacterium to the environment; for example, to hands, sinks, cutting boards, knives, and other foods.

- **UPDATED How can consumers tell where jalapeño and Serrano peppers are from?**

Consumers may ask their retailers or food service providers, such as store or restaurant managers, where the jalapeño and Serrano peppers they sell were grown, harvested, and packed.

- **What do jalapeño and Serrano peppers look like?**

See the photos below.

Jalapeño Pepper

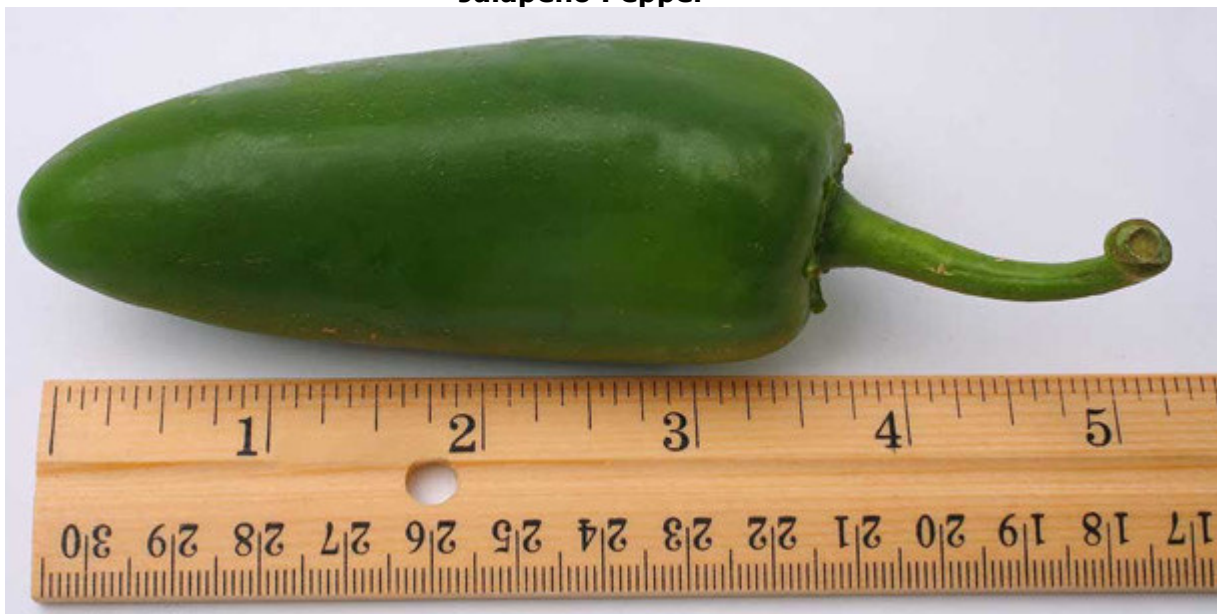


photo by Luis Solorzano, FDA

Serrano Pepper



photo by Luis Solorzano, FDA

- **Is it safe to eat canned jalapeño and serrano peppers or processed foods that contain them?**

All consumers **may continue to eat canned jalapeño and Serrano peppers processed in a commercial food-processing facility, or foods that contain them**; for example, the canned processed jalapeños and processed salsas sold in grocery stores.

Advice for Food Service Providers, Restaurateurs, and Retailers

- **What is the FDA's advice to retailers, restaurateurs, and food service providers about tomatoes?**

Food service providers, restaurateurs, and retailers may resume offering customers any type of tomato, including raw red plum tomatoes, raw red Roma tomatoes, and raw red round tomatoes, from any region.

- **UPDATED What is the FDA's advice to retailers, restaurateurs, and food service providers about jalapeño and Serrano peppers during this outbreak?**

Food service providers, restaurateurs, and retailers may continue to sell and serve raw jalapeño and Serrano peppers grown, harvested, or packed in the United States, as well as foods made with them. These establishments should **not** sell or serve raw jalapeño or Serrano peppers, should avoid handling them, and should discard them, if they were grown, harvested, or packed in Mexico, and should not sell or serve foods made with them. Attempts to wash *Salmonella* contamination that may be present on these peppers is **not** likely to eliminate the organism, because of *Salmonella's* physical properties, and is likely to result in cross-contamination. Attempts to peel the peppers is not recommended, as this is likely to introduce any contamination on the exterior of the product into the interior, making elimination of the organism even more unlikely. Attempts to kill *Salmonella* by cooking may result in cross-contamination and likewise is **not** recommended.

- **In general, what are safe-handling practices for other fresh produce?**
 - Wash hands thoroughly with soap and warm running water before and after handling fresh produce.
 - Make sure that food employees are reporting illness and are not working while sick.
 - Purchase food from known safe sources and maintain the foods' safety from time of receiving through purchase.
 - When fresh produce is received, follow supplier recommendations, if provided, regarding handling, storage temperatures, "use by" dates, and other recommendations for the produce. Avoid receiving or using damaged and partially decayed produce.
 - Store raw produce such that it does not contaminate other foods with soil, etc. Store any fresh produce, whole or cut, where other products – especially raw meat and poultry – cannot cross-contaminate it.
 - Segregate fresh produce from other refrigerated foods in refrigeration units by using a separate set of storage racks or separate cooler, if possible. Cover and store washed, cut produce *above* unwashed, uncut fresh produce. Store all produce off the floor.
 - Wash, rinse, and sanitize all sinks, utensils, cutting boards, slicers, and food preparation surfaces before each use with fresh produce.
 - Always wash fresh produce under running, potable water before use. Soaking produce or storing it in standing water is not recommended for most types of fresh produce. Commercial, fresh-cut produce has already been washed before processing and should be considered ready to eat, with no further need for washing, unless the label says otherwise.
 - Refrigerate foods prepared with fresh-produce ingredients.
 - Do not re-serve freshly prepared dishes containing raw produce, including dishes made with raw tomatoes, cilantro, and hot peppers, such as salsa and guacamole.
 - More information about handling of fresh produce is available in the Food Code.

About Outbreaks

- **What is an outbreak?**

An outbreak is defined by the CDC as two or more cases of the same disease that share a common exposure.

- **When did the illnesses associated with the current outbreak start?**

The illnesses began in mid-April and continue to be reported.

- **How is the cause or source of a *Salmonella* outbreak determined?**

Once an outbreak is detected and the states and the CDC have determined that two or more cases of the same disease share a common food exposure, and the food is identified, the FDA conducts a "trace-back" investigation to determine the source of the contaminated food. The product is tracked from the point of purchase or service through each point in the distribution chain to find the source of the contamination.

At each point in the distribution chain, an environmental investigation is performed to determine whether the contamination may have occurred at that point and, if so, how it occurred. When outbreak illnesses occur across multiple states, the contamination often occurred at, or near, the original source of the product, such as the growing or packing area. In addition to helping to contain current outbreaks, information gained from trace-back and other investigations can help scientists develop measures to prevent future occurrences.

- **What is the FDA doing to identify the source of this outbreak?**

The FDA is conducting trace-back investigations. Epidemiological information about the disease serotype (*Salmonella* Saintpaul serotype) is being examined, disease patterns are being linked, and seasonal distribution patterns in the marketplace are being analyzed to rule out sources.

The federal (principally CDC and the FDA) and state governments continue to work together to analyze samples from ill persons and samples of produce. The strain of *Salmonella* from ill persons is being "fingerprinted" at public health laboratories around the country, as part of PulseNet (the network of public health laboratories that sub-type bacteria). All *Salmonella* strains associated with this outbreak have the same genetic "fingerprint" (DNA pattern).

- **Why is it taking FDA so long to determine the source of this *Salmonella* outbreak?**

Investigators must track the pathways that the produce associated with illness followed, from multiple consumers who ate it to the multiple retailers or restaurants that sold it; from there to multiple points of supply and distribution; to where the produce was packed, and to where it was harvested and grown. At the points where the produce was sold or prepared, investigators try to determine identifying information, such as packaging, labeling, and lot numbers; when the produce was purchased or prepared, and what the receiving, stock-rotation, inventory, handling, and shipping procedures were. They collect records about suppliers and shipments to retailers or restaurants for the period of the produce's shelf life. Investigators then chart and analyze distribution data, accomplished by tracing lot numbers - if they are available - or by using a shipment-delivery timeline to determine if the produce was useable and "sellable" during the period of infection.

Distributor interview, data collection, and analysis are repeated for *multiple* levels of distribution until the source of the produce is identified.

Among the complications that arise for tomatoes in this process is that lot numbers and other information identifying the tomatoes' growers might not be included on receipts and shipping records. In some cases, investigators have to rely on reviewing

records and interviewing the personnel who handle such matters, which increases the time and resources needed to trace implicated tomatoes back to their sources. Another complication that delays the investigation is that often there is no package, no product code, no "sell by" date, and no marking on the tomato at the retail level. For more information about this process, visit the ***Guide to Traceback of Fresh Fruits and Vegetables Implicated in Epidemiological Investigations*** that FDA has posted on its web site.

- **From farm to table, where in the process is fresh produce most likely to become contaminated? What are the most likely sources of contamination?**

Fresh produce can become contaminated at any point along the supply chain, from the field or greenhouse where it is grown to distribution points to food preparation in restaurants and homes.

The FDA's 1998 Guide to Minimize Microbial Contamination of Fresh Fruits and Vegetables (also referred to as the Good Agricultural Practices (GAPs) guide) describes potential sources of microbial contamination in the field and packing house environments and makes recommendations for how to reduce or minimize opportunities for contamination.

According to the GAPs guide, areas that should be considered to minimize the potential for the microbial contamination of produce include agricultural water (e.g., for irrigation or crop protection sprays); wild and domestic animals; worker health and hygiene; the production environment (use of manure, previous land use, and use of adjacent land); post-harvest water quality (water used to wash or cool produce) and sanitation of facilities and equipment.

- **Tomatoes were the first food investigated in the current outbreak. Have there been outbreaks from contaminated tomatoes in the past?**

Since 1990, at least 13 large, multi-state foodborne outbreaks and some small local outbreaks have been associated with different varieties of tomatoes. From 1998 to 2006, outbreaks reported to the FDA that were associated with tomatoes made up 17 percent of produce-related outbreaks. *Salmonella* has been the pathogen of concern most often associated with outbreaks from tomatoes.

Government Activities Related to Produce Safety

- **What steps has the FDA taken to reduce the potential for *Salmonella* outbreaks from tomatoes?**

On June 12, 2007, the FDA announced a Tomato Safety Initiative, a multi-year effort focusing on the East Coast. The Initiative is a collaborative effort between the FDA and the state health and agriculture departments in Virginia and Florida, in cooperation with several universities and the produce industry. This initiative is part of an ongoing, preventive, risk-based strategy.

The Tomato Safety Initiative includes identifying practices or conditions that potentially lead to contamination of tomatoes, and what steps producers are taking to address these issues. Information from the Initiative will allow the FDA to continue to improve its guidance and policy on tomato safety. The Initiative also is evaluating the need for additional produce safety research, education, and outreach. The Initiative supports an important goal in the 2004 FDA Produce Safety Action Plan – minimizing the incidence of foodborne illness associated with the consumption of fresh produce – and the prevention activities described in the FDA's Food Protection Plan.

- **Does FDA sample and test domestic and foreign tomatoes?**

The FDA routinely collects random samples of tomatoes of all varieties, domestic and imported, from various growers, packers and shippers. The samples are sent to a FDA laboratory, to be analyzed for a variety of bacteria, including *Salmonella*.

- **Has the FDA conducted outreach/education activities regarding fresh-produce safety?**

The FDA has issued a press release to notify the public of the current *Salmonella* outbreak; the press release is updated as information is obtained and evaluated. In addition, the FDA has posted consumer and industry (retailer) warnings and advice related to the current *Salmonella* outbreak on its website.

The FDA web site also includes a consumers' page about safe handling of fresh produce. In 2006, the FDA issued a publication called Program Information Manual: Retail Food Protection — Storage and Handling of Tomatoes for members of the retail industry. Safe-handling guidelines for the tomato-supply industry are nearing completion.

- **What is the FDA's Food Protection Plan?**

The FDA has developed a comprehensive Food Protection Plan to address the changes in food sources, production, and consumption we face in today's world. Building and improving on an already sound food-safety capability, the new plan is a strategy for protecting the nation's food supply. The plan approaches protection of the nation's food supply on three levels: prevention, intervention, and response. This new strategy will help ensure that Americans continue to benefit from one of the safest food supplies in the world.