# Ohio Department of Agriculture
# and
# Ohio Department of Health

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

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

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**Salmonellosis Outbreak from Certain Tomatoes**
**Questions & Answers for Consumers and Industry -Updated**

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***Consumer Information and Advice***

- **What states have confirmed cases of *Salmonella* illness linked to this outbreak?**

  UPDATED As of June 17, 2008, confirmed cases had been reported in Arizona, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Idaho, Illinois, Indiana, Kansas, Kentucky, Maryland, Michigan, Missouri, New Mexico, North Carolina, New York, Ohio, Oklahoma, Oregon, Tennessee, Texas, Utah, Virginia, Vermont, Washington, and Wisconsin, and in the District of Columbia.

- **How many people have become ill in this outbreak?**

  UPDATED The current numbers of illnesses and hospitalizations that have been reported are continually updated elsewhere on the FDA web site.

- **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, *Salmonell*a 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. A tomato contaminated with *Salmonella* can spread the bacterium to the hands of a person who cuts the tomato and to the cutting board on which the tomato is sliced, for example.

- **What kinds of raw tomatoes should be avoided during this outbreak?**

  At this time, consumers should avoid eating or handling raw red plum, raw red Roma, and raw red round tomatoes, and foods containing them, **unless** they are from regions that have been ruled out as the sources of the contamination. If consumers already have these kinds of tomatoes in their homes and are unsure where they were grown or harvested, they are encouraged to contact the store where they bought the tomatoes. (Check the list on the FDA website often, because regions continue to be added as they are ruled out as the sources of the outbreak).

- **What kinds of raw tomatoes should consumers continue to buy during this outbreak?**

  Consumers may continue to buy any type of tomato from sources that have NOT been linked to the outbreak and foods that contain them. In addition, raw cherry tomatoes, grape tomatoes, and tomatoes with the vine still attached have **not** been linked to the outbreak in any region, and consumers may also continue to buy them. Tomatoes grown at home also are **not** linked to this outbreak.

- **What states or countries have been ruled out as the source of this outbreak?**

  UPDATED A current list of states, territories, and countries that have been ruled out as the source of this outbreak is available elsewhere on the FDA website.

  The U.S. states in which people have become ill from tomatoes are not necessarily the areas where the tomatoes were grown. The tomatoes might have been shipped to these states from elsewhere. Check this list on the FDA website often, as more regions that have been ruled out as the sources of the outbreak are being added.

- **How can consumers tell where a tomato was grown, harvested, or packed?**

  NEW Consumers can ask retailers (for example, store and restaurant personnel) where their raw red plum tomatoes, raw red Roma tomatoes, and raw red round tomatoes were produced. If consumers have any doubts about where these types of tomatoes were grown, harvested, or packed, they should discard them. Because grape tomatoes, cherry tomatoes, and tomatoes sold with the vine still attached are **not** implicated in this outbreak, regardless of where they are from, it's not necessary to ask where they were grown, harvested, or packed.

- **Will washing the tomatoes identified in this outbreak make them safe to eat?**

  Consumers are advised **not** to try to wash raw red plum, red Roma, or raw red round tomatoes that are implicated in the outbreak. Consumers should throw these tomatoes out. Once produce is contaminated with pathogens such as *Salmonella*, the contamination is difficult to remove.

- **Will peeling the tomatoes implicated in this outbreak make them safe to eat?**

  NEW Consumers are advised **not** to try to peel raw red plum, red Roma, or raw red round tomatoes that have **not** been ruled out as the source of the outbreak. Consumers should throw these tomatoes out. Peeling a tomato that is contaminated on the outside would be likely to spread the contamination to the inside. Also, if the contamination is already on the inside, peeling will not remove it.

- **Can cooking tomatoes eliminate *Salmonella*?**

  Consumers should **not** attempt to cook the tomatoes involved in this outbreak in an effort to kill *Salmonella*. Handling tomatoes contaminated with *Salmonella* can spread the bacterium to anything the handler touches, including hands, kitchen utensils, cutting boards, sinks, and other foods. Cooking tomatoes in the home will **not** ensure that *Salmonella* is eliminated.

- **Are canned tomatoes and processed foods containing tomatoes safe for consumers during this outbreak?**

  Consumers may continue to buy and eat **canned or bottled (that is, processed)** red plum, red Roma, and red round tomatoes and canned or bottled foods containing these or any other types of tomatoes if they were processed by a commercial food-processing facility. A few examples are the canned tomatoes and canned or bottled tomato juice and spaghetti sauce found in grocery stores.

- **Are tomatoes from farmers' markets included in this outbreak?**

  Farmers' markets get their tomatoes from a variety of sources that are not necessarily limited to local farms. These other sources may include the same ones that provided the tomatoes implicated in the *Salmonella* outbreak. Consumers should ask retailers at farmers' markets what the sources of their tomatoes are, and frequently check FDA updates for states, territories, and countries **not** associated with the outbreak.

- **During this outbreak, is it safer to eat locally grown tomatoes?**

  Consumers should confirm with their retailers the sources of tomatoes advertised as "locally grown." Consumers also are reminded that cherry tomatoes, grape tomatoes, and tomatoes with the vine still attached are **not** implicated in this outbreak, regardless of where they were grown, harvested, or packed. Tomatoes consumers grow at home also are **not** implicated in the outbreak.

- **What steps are being taken to prevent future illness from this outbreak?**

  The FDA, the Centers for Disease Control and Prevention (CDC), the Indian Health Service, and state health department officials are collaborating closely to ensure that the outbreak is contained and that consumers and retailers are made aware of the contamination. The food industry is cooperating in the investigation and is assisting government officials in their efforts to identify distribution patterns and to find the source of the contamination, to ensure that additional contaminated tomatoes do not reach consumers.

- **How should consumers handle raw tomatoes NOT associated with the outbreak?**

  Again, the tomatoes associated with the outbreak should be thrown out. For tomatoes **not** associated with the outbreak, consumers should follow the usual recommendations:

  - Don't buy or eat tomatoes that look damaged; for example, if the skin of a tomato is broken or the tomato is spoiled, the tomato should be thrown out.
  - Stored tomatoes should not come in contact with raw meat, poultry, or eggs.
  - Wash hands with soap and warm water before handling tomatoes.
  - Wash each tomato thoroughly under running water. Don't wash tomatoes in a tub or sink filled with water.
  - When finished washing a tomato, cut out the scar where the stem was, and throw it away.
  - Never cut a fresh tomato until it has been thoroughly washed.
  - Cut the tomato on a clean cutting board, using clean utensils. Don't let the tomato come in contact with other raw foods, including raw meat, poultry, and eggs, or the surfaces they have touched. Wash cutting boards and utensils in between each different type of food that is cut.
  - Refrigerate fresh, cut tomatoes (or products made from them, such as salsa) at 41° F or less. (Note: Refrigeration will **not** kill *Salmonella* that is already present on tomatoes.)
  - Wash hands with soap and warm water after preparing the tomatoes.

  The FDA does not recommend using any kinds of detergents to wash fresh produce, because it is not yet known if their residues are harmful to humans.

- **Where can consumers find out more about how to keep from becoming sick from tomatoes?**

  More information about safe handling of fresh produce is available on the FDA website.

***Advice for Food Service Providers, Restaurateurs, and Retailers***

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

  Food-service providers, restaurateurs, and retailers should discard raw red plum tomatoes, raw red Roma tomatoes, and raw red round tomatoes, unless they were grown, harvested, and packed in one of the regions **not** associated with the outbreak. Check the list often for updates.

- **What kinds of tomatoes may be offered to customers?**

  Food service providers, restaurateurs, and retailers may continue to offer ANY raw tomatoes from areas **not** implicated in the outbreak. Regardless of where they are from, raw cherry tomatoes, raw grape tomatoes, and raw tomatoes sold with the vine still attached also may be offered, as they have not been associated with this outbreak. Foods containing any type of tomato, from any area, that have been bottled or canned in industrial food-processing facilities may be offered; for example,

the type of canned tomatoes, tomato sauce, or vegetable juice found in grocery stores.

- **What safe-handling practices should be followed for tomatoes?**

  Tomatoes associated with this outbreak should be discarded. For the types of raw tomatoes **not** associated with the outbreak, retailers, restaurateurs, and food service providers should follow the safe-handling practices listed above for consumers. Additional details about refrigeration practices are shown below. (Note that refrigeration will **not** eliminate *Salmonella* that is already present on a tomato.)

  - Fresh, cut tomatoes should be refrigerated at 41° F or less.
  - If fresh, cut tomatoes are added to another food, such as salsa, the food should be refrigerated at 41° F or less.
  - If fresh, cut tomatoes are placed on a salad, it should be refrigerated at 41° F or less.
  - Fresh, cut tomatoes on sandwiches should be refrigerated at 41° F or less.

- **Should food-service providers, restaurateurs, and retailers cook the tomatoes associated with the outbreak to eliminate *Salmonella*?**

  No. Food-service providers, restaurateurs, and retailers should **not** attempt to cook the tomatoes involved in this outbreak in an effort to kill *Salmonella*, because the potential for cross-contamination is high. The FDA recommends discarding the tomatoes implicated in the outbreak, unless the tomatoes were produced in one of the regions that have been ruled out as sources of the contamination.

- **Should food-service providers, restaurateurs, and retailers try to remove *Salmonella* by washing the tomatoes associated with the *Salmonella* outbreak?**

  UPDATED No. Food-service providers, restaurateurs, and retailers should **not** attempt to remove *Salmonella* by washing. Salmonella has physical properties that make it difficult to remove once it is present on a tomato. Conventional cleaning methods are not likely to completely eliminate it. In addition, the potential for cross-contamination is high. The FDA recommends discarding the tomatoes implicated in the outbreak, unless the tomatoes were produced in one of the regions that have been ruled out as sources of the contamination.

***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?**

  NEW The FDA is conducting a trace-back investigation. 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 product samples of tomatoes. 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?**

  NEW Investigators must track the pathways that the tomatoes associated with illness followed, from multiple consumers who ate them to the multiple retailers or restaurants that sold them; from there to multiple points of supply and distribution; to where the tomatoes were packed, and to where they were harvested and grown. At the points where the tomatoes were sold or prepared, investigators try to determine identifying information, such as packaging, labeling, and lot numbers; when the tomatoes were 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 tomatoes' shelf lives. 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 tomatoes were 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 tomatoes is identified.

  Among the complications that arise 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 are tomatoes most likely to become contaminated? What are the most likely sources of contamination?**

  Fresh produce, including tomatoes, 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.

- **Have there been other outbreaks from contaminated tomatoes, before this one?**

  UPDATED 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*.

- **On the list of areas not associated with this outbreak, there are special notations for the state of Baja California, Mexico, and certain counties in Florida. How is the FDA guaranteeing consumers that tomatoes are from those areas?**

  NEW The FDA evaluated and approved proposals from both the state of Florida and the state of Baja California, Mexico, that tomatoes grown and harvested in those areas could be offered for sale only if there were a certificate attached to each shipment that would follow it throughout its distribution. These certificates provide verification that the product coming from these areas was not harvested and shipped at the time of the onset of this outbreak. Unique numbering systems are attached to these certificates, which must be issued by the state Department of Agriculture (for Florida) or the Secretaria de Fomento Agropecuario del Gobierno del Estado de Baja California (for the state of Baja California, Mexico).

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

  The FDA has issued a press release to notify the public of the current *Salmonella* outbreak in tomatoes; 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, including tomatoes. 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?**

  NEW 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.

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