

Reference Document: 2009 Food Code

Source: CFSAN/RFPT

Provision: 1-201.10, 3-501.19

Document Name: Time as a Public Health Control for Cut Tomatoes

Question: Is it necessary to chill whole tomatoes to 41°F or less before slicing or cutting them if an establishment wishes to use Time as a Public Health Control (TPHC) for the immediate room temperature display or holding of the cut tomatoes?

Date: June 8, 2010

Discussion and Rational:

2009 Food Code Section 3-501.19, Time as a Public Health Control, requires ready-to-eat, potentially hazardous food (time/temperature control for safety food) to be at 41°F or less before it is removed from temperature control for the purpose of using time alone as a public health control to hold or display the food. The Food Code also requires a written procedure be available to the Regulatory Authority that details the method of compliance and marking system used to track the time (4 hour maximum) between removing the food from temperature control and its consumption or discarding. However, the Food Code does not specifically address the appropriate starting temperature when using Time as a Public Health Control for produce such as tomatoes that become PHF/TCS foods only upon cutting or slicing them.

FDA conducted in-house studies to determine if there is likely to be a significant difference in the growth of pathogens in tomatoes that start at an ambient temperature (72°F) at the time of cutting versus those that are fully refrigerated (41°F) at the time of cutting. Data from these studies suggest that the product temperature at the time of cutting did not significantly affect the growth of representative bacteria in the cut, inoculated tomatoes when they are subsequently displayed or held at room temperature. The storage temperature at which the cut tomatoes were held after inoculation appears to be the most important factor affecting pathogen growth.

When a room temperature (77°F) tomato is sliced or otherwise cut, any *Salmonella* on the outside of the fruit or from the knife/other equipment or the food employee doing the cutting, may be inoculated into the flesh of the tomato. Data suggests the tomato will support the growth of this organism only after a lag phase during which the contaminating cells(s) of *Salmonella* adapt to the fleshy tissue and begin to metabolize. Laboratory data and available growth models suggest that the lag time combined with the likely rate of growth will mean that there should be limited concern about pathogen growth during a 4-hour period of room temperature storage immediately after slicing, as is permitted when using Time as a Public Health Control.

Response:

Laboratory studies suggest that Time as a Public Health Control, as described in Section 3-501.19 of the FDA Food Code, can be used to sufficiently limit the growth of pathogens in cut tomatoes, even if the tomatoes have been stored at room temperature prior to being sliced or cut. The starting temperature (41°F vs. 72°F) of cut tomatoes to be held using Time as a Public Health Control has been shown to have a little effect on the ability of the tomatoes to support the growth of inoculated pathogens during the maximum 4-hour time period permitted for the non-refrigerated storage immediately prior to service or disposal.

References:

1. 2009 Food Code, 3-501.19 Time as a Public Health Control, available at <http://www.fda.gov/Food/FoodSafety/RetailFoodProtection/FoodCode/FoodCode2009/ucm186451.htm#part3-5>
2. FDA Program Information Manual, Storage and Handling of Tomatoes, October 5, 2007, Appendix B, Growth of *Salmonella* spp. In Beefsteak and Roma Tomatoes at Room (72°F) and Refrigeration Temperature (41°F), available at <http://www.fda.gov/Food/FoodSafety/RetailFoodProtection/IndustryandRegulatoryAssistanceandTrainingResources/ucm113843.htm>
3. USDA Agricultural Research Service, Pathogen Modeling Program (PMP), available at <http://www.ars.usda.gov/Services/docs.htm?docid=6786>.