

FSMA PRODUCE SAFETY RULE AGRICULTURAL WATER MICROBIAL QUALITY CRITERIA

FSMA definition of Agricultural Water: *Water used in covered activities on covered produce where water is intended to, or is likely to, contact covered produce or food contact surfaces, including water used in growing activities (including irrigation water applied using direct water application methods, water used for preparing crop sprays, and water used for growing sprouts) and in harvesting, packing, and holding activities (including water used for washing or cooling harvested produce and water used for preventing dehydration of covered produce).*

Uses	Quality	If Water Does Not Meet Standard	Allowed Sources
<p>For Harvesting, Packing, And Holding Activities, And Growing Sprouts: Hand-washing from harvest on, food-contact surfaces, purposes that directly contact produce during harvest or post-harvest activities, such as water used for washing, cooling, or preventing dehydration, making ice, sprout irrigation, and agricultural tea.</p>	<p>The water must have no detectable generic <i>E. coli</i> per 100mL.</p>	<p>If the water does not meet this standard you must stop using it for these purposes immediately until it does meet the standards.</p>	<p>Municipal and untreated ground water.</p> <p>Untreated surface water may not be used.</p>
<p>For Growing Activities (Other Than Sprouts): Water used during growing activities (other than sprouts) when used in a manner that is intended or likely to contact the covered product.</p>	<p>The criteria are based on two values;</p> <ol style="list-style-type: none"> 1. A geometric mean (GM) of your agricultural water samples of 126 or less colony forming units (CFU) of generic <i>E. coli</i> per 100 mL of water; and, 2. A statistical threshold value (STV) of your agricultural water samples of 410 or less CFU of generic <i>E. coli</i> per 100 mL of water.² 	<p>If your quality exceeds the threshold, then you can still use the water, provided you either:</p> <ol style="list-style-type: none"> 1. Stop using the water source until you re-inspect your water distribution system to see if you can determine what’s wrong, rectify it, and then verify that your action was effective to bring the water back under the threshold; 2. Treat the water; or 3. Apply a time interval (in days) between when you last water and when you harvest that is based on a die-off rate of 0.5 log reduction per day due to natural factors like exposure to wind or sun. 	<p>Municipal, ground, and untreated surface water</p>

Confused? The Western Center For Food Safety has a list of online tools to calculate the GM and STV and to determine if your water meets the criteria for appropriate application to produce before harvest. The tools were also designed to assist you with making water management decisions if your water does not meet the criteria in the Produce Safety Rule. <https://www.wcfs.ucdavis.edu/resources/>

The Geometric Means (GM) is a log-scale average, the “typical” value.

The Statistical Threshold Value (STV) is a measure of variability, the estimated “high range” value.