

Pathogen control in produce processing

When it comes to fighting pathogens, there is no silver bullet. While *Salmonella*, *Pathogenic E. coli*, and *Listeria* are often considered the main culprits, controlling the bacteria and preventing outbreaks requires a holistic program that includes heightened process standards, effective chemistries, and strict behavioral norms. Only with this multi-pronged approach can produce processors operate with the levels of caution that today's food safety environment demands.

Based on Ecolab's extensive experience supporting food safety in produce processing facilities and input from regulatory and industry trade groups, we recommend focusing on the following areas as a starting point to improving food safety and reducing your risk.



Think you have a gap in one of these areas, or just looking to learn more about pathogen controls in produce processing?

Contact your Ecolab representative and get an expert's assessment: ecolab.com/solutions/fresh-produce-solutions

Preventing contamination through rigorous controls

These six areas contribute to a comprehensive approach to controlling pathogens. Are you hitting all six targets?

Good manufacturing practices	<ul style="list-style-type: none"> Consists of multiple programs and procedures to ensure product protection from contamination. Includes hand hygiene, footwear management, and proper clothing such as smocks, aprons, sleeves, hairnets, among other controls.
Sanitary design	<ul style="list-style-type: none"> The principles of sanitary design should be considered for both your equipment and your facility. Proper traffic patterns for employee and equipment are an important foundation for zone controls.
Preventative controls and prerequisite programs	<ul style="list-style-type: none"> Preventative controls help you design and maintain your process in a way to minimize pathogens found on products. Prerequisite programs help you prevent pathogens from entering the process.
Effective sanitation procedures	<ul style="list-style-type: none"> In addition to a robust general sanitation program, sanitation leaders have developed specific sanitation plans for high-traffic or often overlooked areas such as drains. Verify all sanitizing chemicals are effective against <i>Salmonella</i>, <i>Pathogenic E. coli</i> and <i>Listeria</i> when used according to protocols.
Environmental monitoring	<ul style="list-style-type: none"> Supervisors monitor all processing environments through consistent sampling and testing that covers all zones – complete with corrective actions and escalation processes. Sanitation leaders leverage this sampling program to perform analysis of data for potentially concerning trends.
Process water treatment: <small><i>Salmonella, Pathogenic E. coli, Listeria</i></small>	<ul style="list-style-type: none"> Antimicrobials applied to process water to target reduction in <i>Salmonella</i>, <i>Pathogenic E. coli</i>, or <i>Listeria</i>. Antimicrobials reduce cross contamination of the product during processing.

Ecolab solutions for a whole-plant approach

Floors	Drains	Process water treatment	Dosing & insights
BOOST™ Tread Defense QF Sanitizer in powder form, approved to kill organisms and common food pathogens in entryways, floors, foot pans and boots EPA Reg. No. 63761-11-1677	BOOST™ 3200/3201 A no-phosphate, two-part solution that helps control biofilm and organic contaminants EPA Reg. No. 63761-8-1677	Tsunami 100™ EPA registered PAA Antimicrobial water additive for pathogen reduction in fruit and vegetable processing *99.9% 3-log reduction of <i>Listeria monocytogenes</i> , <i>Salmonella enterica</i> , <i>Escherichia coli</i> O157:H7 EPA Reg. No. 1677-164	Antimicrobial Tracker Proportional feed dosing system plus web-based platform enabling real time insights including volume of water chemical added to the flume

* At a use dilution of 215-575 ppm total product and 30-80 ppm peroxyacetic acid

Curious about where you can strengthen your food safety program for produce?

Ecolab can do a full survey of your operation, complete with guidance on how to better control pathogens at key points in the production process.

Schedule your survey here: ecolab.com/solutions/fresh-produce-solutions