

Fighting Salmonella ***in a food processing environment***

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Introduction

In the game of football, when a quarterback, running back or wide receiver is stacking up yardage seemingly at will, sports broadcasters will often say: *“You can’t stop him... the best you can do is try to contain him!”* In many respects, this adage conveys the plight that food processors face in their fight against Salmonella.

For decades, the food industry has waged a non-stop battle against Salmonella, the second leading cause of foodborne illness behind Norovirus in the United States. Salmonella, which is widely dispersed in nature and lives in the intestinal tracts of humans and animals, is usually transmitted to humans by eating foods contaminated with the bacterium.

The Centers for Disease Control and Prevention (CDC), a federal agency that conducts and supports health promotion, prevention and preparedness activities in the U.S., estimates that salmonellosis is responsible for 1.2 million illnesses, \$365 million in direct medical costs, 23,000 hospitalizations and approximately 450 deaths every year^{1,2}.

Long recognized as a major safety hazard in raw beef, poultry, milk and eggs, Salmonella has, in recent years, been linked to a number of foods, including vegetables, nuts, and fruit, as well as processed products, such as frozen pot pies and peanut butter.

Due to its ability to survive in a wide variety of environmental conditions, Salmonella has also been found in dry and dehydrated foods (e.g., cocoa, spices, chocolate, dry milk, and breakfast cereal) and in acid food products, such as non-pasteurized orange juice. The incidence of bacterium is much higher in raw agricultural products than in cooked or processed foods².

A Formidable Opponent

In food processing plants, Salmonella can be transferred to other foods by cross-contamination with raw ingredients, utensils, water, equipment, soiled hands and other sources. Research studies have shown that Salmonella can remain viable on food contact surfaces for significant periods of time, increasing the risk of cross-contamination between food handlers, food products, and food contact surfaces³.

Given its ubiquity, it is basically impossible to eradicate Salmonella from the food processing environment. It is possible, however, to control Salmonella contamination by employing science-based strategies, preventive control measures, and industry best practices.

Processors’ Playbook

The following section, drawn from various industry guidelines and recommendations, provides an overview of selected measures that industry processors can utilize to reduce the incidence of Salmonella contamination in the food processing environment.

Personnel Practices: As carriers of Salmonella, plant employees must exercise proper hygienic practices to reduce cross-contamination risks in accordance with Good Manufacturing Practices (GMPs). This involves, but is not limited to, maintaining adequate personal cleanliness, wearing outer garments (e.g., aprons), adequately washing and sanitizing hands as needed, removing jewelry, wearing impermeable gloves, and storing personal belongings in areas away from food, food contact surfaces and food packaging materials. Plant management should conduct ongoing employee training programs to reinforce the importance of these and other practices in the production of safe food.

Separating Raw and Finished Products: Separating raw products from finished products is critical in preventing Salmonella cross-contamination. As such, plants must be compartmentalized to ensure the separation of raw ingredients and processed products. Wet processing areas should be isolated from other production areas and standing water should be removed immediately by sanitation crews. Designated in-plant traffic patterns, in concert with GMPs, must be monitored and controlled to prevent the transfer of microbes. Equipment, utensils and employees in raw and processed areas should not be interchanged during daily activities⁴.

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Supplier Management Programs: Quality suppliers are integral in reducing the risk of Salmonella contamination from ingredients. Prior to entering a business relationship, companies should meet with potential suppliers to establish written ingredient specifications and audit their operations to determine if they comply with appropriate industry guidelines, practices and regulations⁵. Supplier management programs, which include signed and approved ingredient specifications, should be specific to be effective and address a number of areas, including raw materials procurement, manufacturing procedures, food safety management systems (i.e., HACCP), documentation systems and analytical testing (e.g., certificates of analysis).

Plant Sanitation: In written food safety plans, processing facilities must have cleaning and sanitizing procedures in place to kill Salmonella and other disease-causing microorganisms. Equipment, utensils and food contact surfaces should be cleaned at set intervals with EPA-approved food grade chemicals. When choosing sanitizing agents, quality assurance teams should consult with suppliers to determine the most effective chemicals for their facilities. Additionally, plants that are concerned with Salmonella biofilms should work with chemical suppliers to evaluate the scope of the problem and establish a system, such as the scheduled rotation of sanitizers, to eliminate it.

Double Team

Fighting Salmonella in the food plant is a contentious match, requiring processors to partner with recognized food safety and sanitation experts, such as Best Sanitizers, Inc. to control this perennial powerhouse.

Through its Alpet® product line, Best Sanitizers provides sanitizing hand soaps, hand sanitizers and surface cleaners and sanitizers to help control the growth of Salmonella in processing facilities. To reduce Salmonella cross-contamination from hands, choose a hand soap that has been tested effective against the deadly pathogen, such as [Alpet Q E2 Sanitizing Foam Soap](#) or [HACCP Q E2 Liquid Hand Soap](#). For maximum pathogen reduction on hands, follow handwashing with [Alpet E3 Plus Hand Sanitizer Spray](#), which has been tested effective against 26 pathogens, including Salmonella.

Reduce the risk of cross-contamination from food contact and non-food contact surfaces with [Alpet D2 Surface Sanitizer](#) and [Alpet D2 Quat-Free Surface Sanitizer](#). Alpet D2 and Alpet D2 Quat-Free clean and sanitize food contact and non-food contact surfaces, including rubber gloves and footwear. Both Alpet D2 and Alpet D2 Quat-Free have the fastest kill times available killing 99.999% of tested pathogens in 60 seconds as a food contact surface sanitizer, and 99.9% of tested pathogens in 10 seconds as non-food contact surface sanitizer. And, both products are effective against Salmonella!

As the first company to achieve an E3 rating for an alcohol-based hand sanitizer and a D2 rating for an alcohol/quat-based surface sanitizer, we're committed to delivering innovative solutions to our customers and partners. Visit www.bestsanitizers.com to learn more about our complete portfolio of products and support services.

Sources:

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Hand Soaps



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To discuss strategies for reducing the risk of Salmonella in your facility, contact your account representative or call Best Sanitizers at 888-225-3267.