



Worthwhile Operational Guidelines & Suggestions

BROILER PROCESSING TIMELY INFORMATION – SEPTEMBER, 2004

Know your enemy: *Staphylococcus aureus*

Staphylococcus aureus, a gram positive cocci, is a bacteria commonly found in human skin and nasal passages. A population of 500,000 cells is sufficient to create enough toxin to cause illness and if ingested in sufficient quantities, the toxin can cause illness in 2 to 6 hours. Symptoms include diarrhea, vomiting, and fever, with recovery in 24-48 hours. *S. aureus* can be found in warm, non-acidic foods that are prepared by hand. *S. aureus* can grow between 7-6 C (45-140 F), tolerate a high salt content (up to 10%) and prefers foods that do not have competing bacteria. Acidically-neutralized foods, such as mayonnaise mixed with ham or chicken to create salads, are also good growth mediums.



Also common to poultry skin, *S. aureus* is associated with illnesses such as gangrenous dermatitis, cellulitis, and bumblefoot. *S. aureus* illness in humans is often caused by a human *S. aureus* strain rather than poultry strains. The challenge with this bacteria lies in human handling of poultry products and plant sanitation. Good employee hygiene should be stressed in the plant and employees need training how to handle food safely. Cleaning agents such as chlorine, halogens, and quaternary ammoniums are effective for the sanitation of surfaces. Cooking temperatures of 60 C for 2 minutes can achieve a 1 log reduction in population. Further processed and RTE products should be cooled and held at refrigerator temperatures quickly to prevent *S. aureus* growth.

What can you do?

1. Establish hygiene protocols for food handlers (hand washing) including training and posting of signs (avoid direct handling of ready to eat foods or cured/salted foods).
2. Prevent the organism from taking up residence (clean and sanitize equipment surfaces, knives, and other food handling implements).
3. Keep hot foods hot (> 140 F = >60 C) and cold foods cold (0-7 C = 32-45 F).



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