



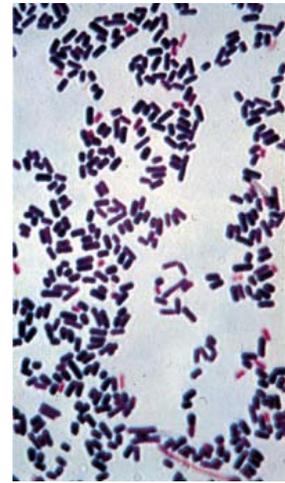
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Worthwhile Operational Guidelines & Suggestions

BROILER PROCESSING TIMELY INFORMATION – APRIL 2005

Know your enemy: *Clostridium perfringens*

Clostridium perfringens is an anaerobic spore forming gram positive rod. It is ubiquitous in the intestine of healthy animals, in soil and in feces. *C. perfringens* is able to grow only in environments that lack oxygen and requires a temperature between 70 and 120 F. *C. perfringens* can form a very difficult to destroy spore when it faces conditions adverse to its survival. This act of forming a spore is when the majority of the toxins that cause illness are released. Infections caused by *C. perfringens* result in a sudden, watery diarrhea that is accompanied by intense abdominal cramps. These symptoms develop 8-22 hours after consumption of foods containing large numbers of this bacterium. Typically the symptoms are over within 24 hours; however less severe symptoms may persist for several weeks. The lack of two symptoms usually indicates a *C. perfringens* infection; these are the lack of a fever and vomiting. *C. perfringens* typically is associated raw meat, raw poultry, and foods that have been temperature abused.



Found in poultry feces, *C. perfringens* is associated with two severe diseases in poultry; gangrenous dermatitis and necrotic enteritis. To minimize the spread of this organism at the plant good employee hygiene should be emphasized. Due to it being a spore former, this particular bacterium is extremely resistant to chemical agents and physical changes. Fortunately this bacterium requires a large dose to infect humans and simple mechanical cleaning is the best way to minimize the number of bacteria present on the carcass. Immediate refrigeration of all processed and RTE products should be preformed to prevent *C. perfringens* growth.

What can you do?

1. Establish proper hygiene protocols for employees.
2. Minimize the organism by effective pre-operational and operational cleaning and sanitation programs.
3. Keep hot foods hot (> 140 F) and cold foods cold (32-45 F).



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