

## RETAIL PROCESS HACCP ANALYSIS

Hazard	Pathogen and H <sub>0</sub> Frequency Detection Severity	+ $\Sigma$ I	- $\Sigma$ R	FSO for ALOP
Personal hygiene / Hand wash (Fecal transfer to fingertips after using the toilet remain during food prep, thus get into ready-to-eat food)	<i>Shigella</i> 10 <sup>7</sup> /g feces <1 mg (10 <sup>5</sup> ) transfer to fingertips	No increase	10 <sup>-5</sup> Double wash with nail brush	1/g
Environment / Facilities: Hazards fall into food	Not likely; GMPs / SSOP B: Insects, pests C: Allergens, additives P: Glass, metal			
Equipment: Food contact surface contaminated with raw chicken pathogens	B: <i>Campylobacter jejuni</i> 10 <sup>4</sup>	No increase	10 <sup>-3</sup> Wash, rinse, sanitize	10/g or 50 sq cm
Supplies (purchasing, receiving, storage): Raw ingredients that may be contaminated. Food served as purchased (RTE) (supplier cert. safe)	B: <i>E. coli</i> / <i>Salmonella</i> ≤1/25 g B: <i>Listeria monocytogenes</i> ≤100/g	No increase No increase	No reduction No reduction	≤1/25 g ≤100/g
Raw food grown safe Raw food cold hold (to be cooked)	B: <i>E. coli</i> / <i>Salmonella</i> ≤1/25 g B: <i>E. coli</i> / <i>Salmonella</i> ≤1,000/g	No increase No increase	No reduction 10 <sup>-5</sup> reduction	≤1/25 g ≤1/25 g
Pre-preparation: Wash fruits and vegetables served unpasteurized Measure ingredients accurately	B: <i>Listeria monocytogenes</i> / <i>E. coli</i> 10 <sup>2</sup> /g C: Excess addition of MSG, nitrite, etc.	No increase No increase above government-allowed level	10 <sup>-2</sup> Cannot be removed / reduced	1/g < government-allowed level
Pasteurize: meat and poultry Sterilize: meat, fish, poultry, fruits and vegetables	B: <i>Salmonella</i> spp. / <i>E. coli</i> 10 <sup>3</sup> /g B: <i>C. botulinum</i> 0.1/g	No increase No increase	10 <sup>-5</sup> 10 <sup>-5</sup> to 10 <sup>-12</sup>	1/100 g 1 in 10 <sup>9</sup> g food
Hot hold all food (Cooked, pasteurized food with activated spores)	B: Outgrowth <i>C. perfringens</i> 10 <sup>2</sup>	≤10 <sup>1</sup> increase	No reduction	10 <sup>3</sup> /g
Cool food (Activated spores can germinate and multiply)	B: Outgrowth <i>C. perfringens</i> 10 <sup>2</sup>	≤10 <sup>3</sup> increase	No reduction	≤10 <sup>5</sup> /g
Cold hold and assembly of ready-to-eat food: Psychrotrophic spores germinate and multiply Contamination of food by <i>Listeria</i> from environment	B: Outgrowth <i>B. cereus</i> 10 <sup>2</sup> /g B: <i>Listeria monocytogenes</i> 10 <sup>1</sup> /g	≤10 <sup>3</sup> increase ≤10 <sup>1</sup> increase	No reduction No reduction	≤10 <sup>5</sup> /g ≤100/g

\*B= Biological, C=Chemical, P=Physical