Title	Survival of *Salmonella enteritidis* PT 30 on Almonds after Exposure to Hot Oil
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Abstract

Almonds are roasted by exposure to hot air or immersion in hot oil. However, little data exists on the behavior of *Salmonella* under roasting conditions. Our objective was to evaluate *Salmonella* survival on almonds in hot oil. Whole Mission almonds (50 g) inculated (5 or 8 log CFU/g) with *S. enteritidis* PT 30 were submerged in 2.8 l of hot oil. Almonds (8 log CFU/g) were heated for 0.5 to 4.0 min, drained for 10 s, transferred o 100 ml of cold (4°C) TSB, and stomached for 2 min. Samples were plated onto tryptic soy and bismuth sulfite agars, and incubated at 37°C for 24 and 48 h, respectively. Reductions of 2.9, 3.0, or 3.6 log CFU/g were observed within 30 s of exposure to 116, 121, or 127°C, respectively. Thereafter, the reduction was linear but at a slower rate of decline. The time to achieve a 5-log reduction was estimated to be 3.0, 2.2, or 1.3 min at 116, 121 or 127°C, respectively. To confirm these data, almonds (3 x 50 g) inoculated at 5 log CFU/g were heated for 0.5 to 3.5 min. Each sample was blended in 450 ml of lactose broth and three 10-ml samples were enriched for *Salmonella* using standard methods. A 5 to 6-log reduction was achieved in 1.5 to 2.5 min or 1.0 to .5 min of exposure o 121 or 127°C oil, respectively. Current industry practices of roasting in oil heated to 138 to 150°C for 3 to 10 min should achieve a 5-log reduction of *Salmonella* on almonds.