

Title Comparison of microbial recovery methods and sanitation treatments on microbial load and quality of blueberries

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Abstract

Microbial recovery methods for frozen blueberries, and postharvest sanitation treatments on microbial load and sensory attributes of berries were studied. Previously frozen rabbiteye blueberries were subjected to hand-mixing, machine-mixing, stomaching, vortexing, and homogenization. Aerobic (APC) and yeast and mold (YMC) counts did not differ amongst treatments but homogenization, stomaching, and vortexing tended to yield a higher recovery, with vortexing resulting in the choice method for YMC possibly due to cell disruption and colony breakage. Fresh highbush blueberries were treated with hot water (60 - 90°C) with an oxidizing agent (0 - 0.1% Boxyl®) for 10 - 30s. Water temperature was the most influential ($p < 0.05$) factor on microbial reduction, wax/bloom and color. Holding berries at 75°C for 20s (without antimicrobial) or dipping in 200ppm chlorine for 10s resulted in 0.90 and 1.80 log reduction of APC and yeast, respectively; and 0.80 (200ppm/10s) and 2.90 (75°C/20s hot water) log reduction in mold counts.