

Method Verification for the Detection of *Salmonella enterica* by the Roka Atlas® Salmonella G2 Detection Assay in Produce Matrices

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Introduction: *Salmonella enterica* has been implicated in over 1 million cases of salmonellosis annually in the United States according to the Centers for Disease Control and Prevention (CDC). Consequently, the FDA has increased its attention on produce safety, and FSMA regulations may increase testing volumes, thereby necessitating accurate and rapid methods to provide confident and timely results to the produce industry.

Purpose: The purpose of this study was to verify performance of the Atlas Salmonella G2 Detection Assay on additional produce matrices not previously submitted for AOAC-RI validation.

Methods: Produce matrices evaluated were spinach, iceberg lettuce, red leaf lettuce, fresh blueberries, and scallions. For each matrix, six 25-g samples and one 375-g sample were prepared and inoculated with ~8 CFU/sample of *Salmonella* Newport (Cornell S5-436), and six 25-g samples were prepared as uninoculated matrix controls. All samples were enriched with Universal Pre-enrichment Broth (UPB) at a 1:9 sample to media ratio and incubated at $42 \pm 2^\circ\text{C}$ for 10 and 24 h. Samples were collected at 10 and 24 h according to the Atlas Salmonella G2 Detection Assay Product Insert and loaded onto the Atlas System. All samples collected at 24 h underwent culture confirmation according to the FDA BAM Chapter 5 reference method.

Results: The Atlas System method specifically detected *Salmonella enterica* in all inoculated samples at 10 and 24 h, and all inoculated samples were culture confirmed. All uninoculated samples were negative according to the Atlas Salmonella G2 Detection Assay method at 10 and 24 h and culture at 24 h.

Significance: The Atlas Salmonella G2 Detection Assay method was verified for the propagation and detection of *Salmonella enterica* in five additional produce matrices using a 10-h enrichment and total time to result of 13.5 h with no false-positive, false-negative, or inhibited results. The results substantiate the efficiency and accuracy of the Atlas Salmonella G2 Detection Assay on foods outside the current AOAC-RI-approved matrices.

*For more information or to
download the full poster scan here.*



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