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Matrix Extension Study of the TEMPO EC Method for Dried Cannabis Flower

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Abstract: The TEMPO EC (E. coli) method has been AOAC Performance Tested Method certified (# 080603) for the detection of E. coli in a variety of foods. Addition of dried cannabis flower to this list of matrixes can help monitor the quality and safety of cannabis products and meets requirements for compliance in some states. The objective of this study was to evaluate the TEMPO EC method in enumeration of E. coli in dried cannabis flower (>0.3% delta 9-tetrahydrocannabinol (THC)) at a 10 gram test portion size. Dried cannabis flower was artificially inoculated with E. coli at three levels of contamination: low, medium, and high. Five replicates were tested for each level, and all results were compared to the plating results on violet-red bile agar (VRBA) with MUG following FDA/BAM Chapter 4. Data analysis comparing the 90% confidence interval of the difference of means between the two methods demonstrated equivalence for each contamination level. Results from this study provide evidence that the TEMPO EC method is effective in the enumeration of E. coli in dried cannabis flower after 22 hours of incubation. Use of the TEMPO EC method provides end users an automated result without the need for serial dilutions.