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### *Elimination Of E. coli Bacteria From The Standard Cotton Dishrag By Exposure To Microwaves*

Exposing a conventional dishcloth to microwaves can eliminate any E. coli\* bacteria existing on the cloth, therefore sterilizing the cloth and eliminating the need for a time-inefficient washer/dryer process. In a study of this theory, sections of cotton cloth were placed in an Autoclave to ensure sterility. Then, a uniform suspension of E. coli was prepared using freeze-dried E. coli and broth. The suspension was spread on the surface of a Nutrient agar plate and incubated at 92.3°F for 72 hours. The sterilized cloth sections were pressed against the growth of E. coli, placed in an empty Petri-dish and microwaved for a specified time. The dishcloth samples were then removed from the empty Petri-dish and pressed against sterile Nutrient agar-plates and were incubated at 92.3°F for 24 hours. The process was repeated for microwave exposure times of 0, 5, 10, 20, 40, 80, and 160 seconds. After a single trial of each of these times had been completed, the procedure was repeated in reverse chronology with a new sample of the medium to ensure that the amounts of inoculums were not altering the results. After quantifying the number of colonies for each exposure time specified, it was determined that more than 40 seconds of microwave exposure was most effective in 100% elimination of the E. coli bacteria. In conclusion, the simple procedure of microwaving a cotton dishcloth for 40 or more seconds can eliminate any E. coli bacteria present on the dishrag and abolish the need to wash and dry it. \*Escherichia coli is one of the members of the coliform (intestinal) groups of bacteria used as an indicator for fecal contamination.