Thesis Title Effect of Ultraviolet Light on Some Enteric bacteria in Water.

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ABSTRACT

The effect of ultraviolet (UV) light on the killing and the mutation of two types of enteric bacteria, i.e., *Escherichia coli* and *Salmonella agona* in the distilled water were tested. At 5, 10, 15 and 20 seconds of UV exposure, the percentage killing of both bacteria were approximately 95.0, 99.5, 99.9 and 100, respectively. In addition, there is no relationship between the initial numbers of bacteria and the effect of UV light on the killing percentage. The medium m-T7 which has been recommended for growth of injured bacteria was tested against the standard medium, i.e., EMB agar for *E. coli*, and McConky agar for *S. agona*. It was found that the m-T7 agar exhibited similar efficiencies to the standard media when used for growing survived bacteria from 15 seconds UV exposure time. When the survived bacteria, both *E. coli* and *S. agona*, after 10 seconds exposure time were tested for mutation by using the antibiotic sensitivity property as a criterion. It was found that the survived bacteria did not change their sensitivity to the eight commonly used antibiotic tested, including ampicillin, bactrim, chloramphenical, kanamycin, neomycin, penicillin, streptomycin and tetracycline.