

Microbial Qualities of Vegetables, Water and Soils from Vegetable Gardens in Lagos State, Nigeria

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Abstract: The presence of coliforms in vegetables, water and soil samples from gardens in Lagos State was assayed for. The vegetables sampled were cabbage, waterleaf, carrot, lettuce and cucumber collected from five sites representing five geographical zones. The isolates obtained were cultured on MacConkey (MAC) agar, Sorbitol MacConkey agar, Eosine Methylene Blue (EMB) agar and *Salmonella-Shigella* (SSA) agar. They were identified using morphological, biochemical and Analytical Profile Index 20E and 20SA kit. Hemolytic activity of the isolates was assayed for using Blood agar. The aerobic plate counts of soil, water and vegetable samples ranges from 8.80×10^7 to 8.00×10^9 cfu/g, 3.90×10^9 to 6.15×10^9 cfu/ml, and 3.30×10^9 to 1.08×10^{10} cfu/g, respectively. Coliforms were the predominant bacteria isolated from the sites. The coliform counts of cabbage, waterleaf, carrot, lettuce and cucumber were 5.01×10^9 cfu/g, 6.76×10^7 cfu/g, 5.49×10^7 cfu/g, 1.58×10^8 cfu/g and 4.67×10^4 cfu/g respectively. The fecal coliform population range was between 2.51×10^3 and 1.31×10^8 cfu/g, while *Salmonella* and *Shigella* species ranged from 1.38×10^2 - 3.09×10^4 cfu/g. *Escherichia coli* 0157:H7 was not isolated from any of the sites. The study showed that washed vegetables were contaminated with high microbial load especially coliforms.