156. Assessment of fecal coliforms in *catha edulis* (khat) leaves along the value chain in Igembe Ssouth sub-county, Meru, Kenya.

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Abstract

Background: Catha edulis leaves have been found to contain high levels of fecal coliforms, exceeding recommended limits for safe consumption, therefore posing a high risk of spreading bacterial diseases. The presence of fecal coliforms in these leaves is a concern for consumers and those involved in their production and transportation. Therefore, this study assessed the fecal coliform contamination rate of Catha edulis (Khat) leaves at different stages of the value chain in Igembe South Sub-County, Meru, Kenya. Materials and Methods: This study was conducted and it involved 328 respondents from 25 locations within the Sub-County, and it adopted a cross-sectional descriptive study design involving one-time sampling of Khat leaves during farming, handling, vending, and consumption. Khat leaves were collected in aerated bags, processed, and evaluated for the presence of fecal coliforms at the Meru University of Science and Technology Laboratory. Data collected were analyzed using descriptive statistics such as mean, standard deviation, minimum, and maximum and inferential statistics such as Tukey HSD with the aid of Statistical Package of Social Sciences (SPSS) version 23.0. Results: Study findings from Tukey HSD revealed that handlers had significantly higher fecal coliform contamination with mean difference=0.1162; p=.000 than vendors (mean difference=0.0994; p=.002), customers (mean difference=0.1096; p=.001) and farmers having the lowest with mean difference=0.0169; p=.000. Conclusion: The study concluded that handling was the most contributing factor to fecal coliform contamination. The study recommends the need for reduce fecal coliform contamination among handlers as well as vendors, customers and farmers by improving sanitation hygiene practices such as handwashing, proper use of sanitation facilities, sanitation of surfaces and equipment and proper storage of khat leaves.

Keywords: *Fecal coliforms contamination, assessment, sanitation practices and value chain.*