



## DETERMINATION OF IRON CONTENT IN SELECTED EDIBLE VEGETABLES BY USING SIMPLE COLORIMETRIC METHOD IN TWO LOCATIONS OF BATTICALOA DISTRICT

S. Arasaretnam, S. Thevakumar

*Department of Chemistry, Eastern University, Sri Lanka*

[s\\_arasaretnam@esn.ac.lk](mailto:s_arasaretnam@esn.ac.lk)

The concentration of iron (Fe) was determined in the leaves of spinach (*Amaranthus caudatus*), spinach (*Amaranthus viridis*), *Moringa oleifera*, *Alternanthera sessilis* and *Justicia tranquebarensis* cultivated in batticaloa district. All samples were randomly collected from two different areas of mandoor and chenkalady.. The determination was done by simple colorimetric phenanthroline procedure. The levels of Fe obtained in mandoor for the leaves of spinach (*Amaranthus caudatus*) ranges from (25.11±0.01mg/Kg to 27.54±0.02mg/Kg), spinach (*Amaranthus viridis*) (7.10±0.01 to 7.43 ±0.03), *Moringa oleifera* (38.55±0.41 to 42.43 ±0.17), *Alternanthera sessilis* (4.10±0.07 to 8.43 ±0.13), and *Justicia tranquebarensis* (3.10±0.01 to 6.43 ±0.33). The data were analyzed with t-test and analysis of variance (ANOVA). There were significant differences ( $p < 0.05$ ) between the Fe level in the vegetables obtained from these areas. The levels of Fe in vegetables were higher in mandoor than chenkalady area. The results were however lower than recommended maximum acceptable limits proposed by the Joint FAO/WHO (Food and Agriculture Organization/World Health Organization) Expert Committee on Food Standards. The consumption of these vegetables as food may not pose possible health hazards to human at the time of the study.

**Keywords:** iron, colorimetric, analysis of variance, FAO/WHO, health hazards