Abstract

In the study proximate analysis of raw and cooked leafy vegetables namely Green amaranth (*Amaranth viridis*), Indian spinach (*Basella rubra*), White goose foot (*Chenopodium album*) and Spinach (*Spinacia oleracea*) available in Assam was carried out. The effect of cooking of these vegetables in three different vessels viz. Steel, Aluminium and Iron was studied. A comparative study on proximate analysis and mineral analysis before and after cooking revealed that the Indian spinach had good contents of Fe, K, and Zn its protein and carbohydrate content was also comparable to white goosefoot and higher than Spinach and Green amaranth. White goosefoot had good contents of Ca and Mg. It had the highest protein, carbohydrate content and has better anti-oxidant properties than the rest. Cooking caused loss of nutrition and changes in mineral occurred while using different cooking utensils. Iron content of all the samples was increased after cooking of the vegetables in Iron container, while ash content was also decreasing after cooking compare to the raw samples; Spinach had highest ash content among all the vegetables in the study. Cooking causes significant decrease in bio-functional constituents of the vegetables. Total phenolic content of Green amaranth highest (GAE) compare to other vegetables and TPC found to be decreasing during cooking operations, antioxidant activity of White goosefoot was highest this suggests that all the phenols does not poses antioxidant activity. Flavonoid content of the White goosefoot was somewhat lower than Indian spinach but more than Green Amaranth and Spinach. white goosefoot showed high Ascorbic acid content and lowest in Green amaranth. White goosefoot showed highest Tannin content and lowest in Indian spinach. Crude fiber content of the vegetables increased after cooking highest in White goosefoot and lowest in Indian spinach. Use of Iron utensils can increase the Iron content of the vegetables but utensils does not have a significant effect on other bio - functional constituent of the vegetables, and cooking cause a significant decrease in nutrient content of the vegetables.

Key words: Proximate, bio – functional, minerals