World Academy of Science, Engineering and Technology
International Journal of Chemical and Molecular Engineering
Vol:17, No:12, 2023

Nutritional Characteristics, Mineral contents, Amino acid Composition and Phytochemical Analysis of Eryngium alpinium Leaf Protein Concentrates

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Abstract : Fresh sample of Eryngium alpinum was purchased and processed for leaf protein concentrates with a view to evaluating its nutritional potential, mineral composition, amino acid characteristics and phytochemical constituents. Using standard analytical methods. The proximate composition of the leaf protein concentrates revealed moisture content;(5.35±0.21)g/100g, ash;(11.37±0.43)g/100g, crude protein;(48.17±0.46)g/100g, crude fat;(15.38±0.07)g/100g, crude fibre (3.05±0.46)g/100g, and Nitrogen free extractive; (16.68±0.30) g/100g. The mineral content was: Na;(51.88±0.23) mg/100g, K;(65.40±0.32)mg/100g, Ca; (86.89±0.46)mg/100g, Mg;(49.27±0.42) mg/100g, Zn;(0.62±0.03)mg/100g, Fe (6.65±0.43)mg/100g, Mn;(0.96±0.54)mg/100g, Cd;(0.28±0.04)mg/100g, P; (8.55±0.97)mg/100g, while selenium, lead and mercury were not detected in the sample indicating that the sample is free of causing risk of metal poisoning. The results of phytochemical constituents showed phytate; (18.34±0.36)mg/100g, flavonoid (0.25±0.41)mg/100g. The sample contain both essential and non-essential amino acid, with the highest value of Glutamic acid (12.26) and the lowest value of Tryptophan 1.05. the content of the leaf protein content shows that the sample is fit for dietary consumption and could as well be processed to be used as food additives.

Keywords : mineral composition, phytochemical analysis, leaf protein concentrates, eryngium alpinum
Conference Title : ICRAGSC 2023 : International Conference on Recent Advances in Green and Sustainable Chemistry
Conference Location : Paris, France
Conference Dates : December 25-26, 2023