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# Prevention of Biocompounds and Amino Acid Losses in Vernonia amygdalina duringPost Harvest Treatment Using Hot Oil-Aqueous Mixture

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**Abstract :** This study investigated how to reduce bio-compounds and amino acids in V. amygdalina leaf during processing as a functional food ingredient. Fresh V. amygdalina leaf was processed using thermal oil-aqueous mixtures (soybean oil: aqueous and palm oil: aqueous) at 1:40 and 130 (v/v), respectively. Results indicated that the hot soybean oil-aqueous mixture was the most effective in preserving the bio-compounds and amino acids with retention potentials of 80.95% of the bio-compounds at the rate of 90-100%. Hot palm oil-aqueous mixture retained 61.90% of the bio-compounds at the rate of 90-100% and hot aqueous retained 9.52% of the bio-compounds at the same rate. During the debittering process, seven new bio-compounds were formed in the leaves treated with hot soybean oil-aqueous mixture, six in palm oil-aqueous mixture, and only four in hot aqueous leaves. The bio-compounds in the treated leaves have potential functions as antitumor, antioxidants, antihistaminic, anti-ovarian cancer, anti-inflammatory, antiarthritic, hepatoprotective, antihistaminic, haemolytic 5-α reductase inhibitor, nt, immune-stimulant, diuretic, antiandrogenic, and anaemiagenic. Alkaloids and polyphenols were retained at the rate of 81.34-98.50% using oil: aqueous mixture while aqueous recorded the rate of 33.47-41.46%. Most of the essential amino acids were retained at a rate above 90% through the aid of oil. The process is scalable and could be employed for domestic and industrial applications.

**Keywords :** V. amygdalina leaf, bio-compounds, oil-aqueous mixture, amino acids
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