

# Effects of drying processes on lysine, leucine and glycine content in wild *Ulva lactuca* for cosmetic purposes

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This study aims to evaluate the effects of different drying processes on the amino acid quantity and quality in green algae, *Ulva lactuca*, collected from Merambong island, Pontian Johor for utilisation in the future for cosmetic purposes. The effects of different drying processes (sun-dry and air-dry) on the amino acids content were screened using High Performance Liquid Chromatography (HPLC). Amino acids were extracted following the treatment combinations of different drying processes, analysis of moisture content, determination of protein using Kjeldahl method, removing of pigments and lipids, and extraction procedure for fats and colours using Soxtec system. The results of the protein analysis of *U. lactuca* shows that the dominant percentage of protein crude in the proximate analysis of *U. lactuca* was higher using the air-dry method (10.116 %) rather than sun-dry method (9.811 %). Moisture, pigments and lipids content were observed about 26.0925 % and 4.5471 % for the sun-dry method while 18.9346 % and 10.5167 % for the air-dry method respectively. Both drying methods somehow indicates the same percentage value for fats and colour content (1.19 %) as reported by National University of Malaysia (UKM). The suggested drying method to extract higher selected amino acids content was determined by using the sun-dry method for leucine (7.587 %) and lysine (5.405 %), while glycine was found to be more favoured by using the air-dry method (7.249 %) based on the Total Amino Acids (TAAs) obtained.

Keywords: *Ulva lactuca*; extraction; amino acids; lysine; leucine; glycine; drying processes