

Intisari

Penelitian ini dilakukan untuk mengetahui pengaruh metode ekstraksi terhadap total dan jenis asam lemak pada *Enteromorpha compressa* dan *Ulva lactuca* yang diperoleh dari Pantai Drini Gunungkidul. Penelitian ini menggunakan kondisi alga segar dan kering. Metode ekstraksi yang digunakan yaitu metode FMB (*Folch Method with Buffer*) dan metode LRC (*Lepage and Roy*). Tahapan penelitian meliputi pengujian berat kering, kadar air, total lipid, dan kandungan asam lemak. Hasil penelitian menunjukkan bahwa berat kering alga *Enteromorpha compressa* dan *Ulva lactuca* masing-masing sebesar 18,87% dan 32,31%. Kadar air dipengaruhi oleh faktor spesies dan kondisi alga, sedangkan total lipid dipengaruhi oleh kondisi alga. Persentase kadar air alga segar berkisar 61,53-72,75%, sedangkan alga kering berkisar 8,13%-9,05%. Persentase total lipid alga segar berkisar 2,42-2,48%, sedangkan alga kering berkisar 1,36-1,55%. Metode ekstraksi FMB memperoleh total dan jenis asam lemak yang lebih banyak dibandingkan dengan metode ekstraksi LRC. Persentase total asam lemak pada metode FMB berkisar 84,00-94,19%, sedangkan metode LRC berkisar 10,88-85,67%. Jenis asam lemak yang terdeteksi pada penelitian ini yaitu asam miristat (C14:0), asam pentadekanoat (C15:0), asam palmitat (C16:0), asam palmitoleinat (C16:1, n-7), asam stearat (C18:0), asam oleat (C18:1, n-9), asam linoleat (C18:2, n-6), asam linolenat (C18:3, n-6) dan asam arakidat (C20:0). Persentase PUFA tertinggi sebesar 14,22% pada *Enteromorpha compressa* kondisi sampel kering dengan metode FMB.

Kata kunci: asam lemak, *Enteromorpha compressa*, metode ekstraksi, PUFA, *Ulva lactuca*

Abstract

This study aimed to understand the effect of extraction method on total and fatty acid profile of *Enteromorpha compressa* and *Ulva lactuca* obtained from Drini Beach, Gunungkidul. The present study were used fresh algae and dried algae. This research used FMB (*Folch Method with Buffer*) and LRC (*Lepage and Roy*) as extraction methods. The study consisted of measuring the yield of dry algae, water content, total lipid, and types of fatty acid used GC-MS. The yield of dry algae in *Enteromorpha compressa* and *Ulva lactuca* were 18,87% and 32,31%. The water content was affected by the species and condition of algae, while the total lipid was affected by the condition of algae. Water content of fresh algae was 61,53-72,75%, whereas the dried algae was 8,13-9,05%. The total lipid for fresh algae was 2,42-2,48%, whereas the dried algae was 1,36-1,55%. FMB method got greater total and more variety fatty acid compared to LRC method. The percentage of fatty acid in FMB method ranged of 84,00-94,19%, while the LRC method ranged of 10,88-85,67%. The types of fatty acids detected from the study were myristic acid (C14:0), palmitic acid (C16:0), palmitoleic acid (C16:1, n-7), stearic acid (C18:0), oleic acid (C18:1, n-9), linoleic acid (C18:2, n-6), linolenic acid (C18:3, n-6), and arachidic acid (C20:0). The highest PUFA percentage 14,22% was attained from dried *Enteromorpha compressa* with FMB method.

Keywords: *Enteromorpha compressa*, extraction method, fatty acid, PUFA, *Ulva lactuca*