Intisari

Tujuan dari penelitian ini adalah untuk mengetahui pengaruh metode ekstraksi *Bligh and Dyer Buffer* (BDB) dan *Garcia Method* (GM) terhadap total dan jenis asam lemak, serta untuk melihat kandungan asam lemak pada *Sargassum crassifolium* dan *Sargassum pallidum* yang diperoleh dari Pantai Drini Gunungkidul. Penelitian ini menggunakan makroalga dengan kondisi segar dan kering. Pengamatan dilakukan terhadap rendemen, kadar air, total lipid, dan kandungan asam lemak. Lipid dari alga diekstraksi menggunakan metode BDB modifikasi. Metode ekstraksi asam lemak menggunakan metode preparasi FAMEs (setelah BDB) dan GM. Kandungan asam lemak dianalisis menggunakan alat kromatografi gas dan spektroskopi massa (GC-MS). Hasil penelitian ini menunjukkan berat kering pada *S. crassifolium* dan *S. pallidum* masing-masing sebesar 16,55% dan 22,26%. Kadar air yang diperoleh pada *S. crassifolium* segar dan kering masing-masing sebesar 82,42% dan 6,57%, sedangkan untuk *S. pallidum* segar dan kering masing-masing sebesar 66,53% dan 13,7%. Kondisi alga berpengaruh terhadap total lipid. Total lipid yang diperoleh pada *S. crassifolium* segar dan kering masing-masing sebesar 3,32 dan 1,27%, sedangkan *S. pallidum* segar dan kering masing-masing sebesar 1,48 dan 1,87%. Metode BDB memperoleh total dan jenis asam lemak yang lebih tinggi dibandingkan dengan metode GM. Persentase total asam lemak pada metode BDB berkisar 73,8-93,4%, sedangkan metode GM berkisar 13,4-33,52%. *S. crassifolium* dan *S. pallidum* mengandung 8 jenis asam lemak, di antaranya asam miristat (0,97-5,58%), asam palmitoleat (0,6-6,39%), asam palmitat (7,81-48,5%), asam linoleat (0,39-4,6), asam petroselinat (1,37 dan 1,83%), asam oleat (1,28-22,88%), asam stearat (4,3-11,25%), dan asam arakidonat (0,57-5,26%).

Kata kunci: metode ekstraksi *Bligh and Dyer Buffer*, *Garcia Method*, *S. crassifolium*, *S. pallidum*, asam lemak

Abstract

The aims of the research were to find out the effect of extraction with Bligh and Dyer Buffer (BDB) method and Garcia method (GM) to total and fatty acid types, as well as to see the fatty acids composition in *Sargassum crassifolium* and *Sargassum pallidum* obtained from Drini Beach Gunungkidul. The present study used fresh and dry macroalgae. Observations were made on dry algae yield, moisture content, total lipid, and fatty acid types. Total lipid was measured by extraction used BDB with modification and fatty acid extraction used preparation FAMEs (after BDB) and GM. The fatty acid types analyzed using gas chromatography and mass spectroscopy (GC-MS). The result showed that the dry algae yield in *S. crassifolium* and *S. pallidum* were16,53% and 22,26%, respectively. The moisture content of *S. crassifolium* with fresh and dry condition were 82,42% and 6,57%, respectively, while for *S. pallidum* fresh and dry condition were 66,55% and 13,7%, respectively. The algae condition had an effect on moisture content and total lipid. The total lipid obtained in fresh and dry *S. crassifolium* were 3,32 and 1,27%, respectively, while *S. pallidum* with fresh and dry condition were 1,48 and 1,87%, respectively. BDB method had total and fatty acid types higher than GM. The total fatty acid percentage in BDB method ranged 73,8-93,4%, while the GM ranged 13,4-33,52%. *S. crassifolium* and *S. pallidum* contained 8 types of fatty acids including myristic acid (0,97-5,58%), palmitoleic acid (0,6-6,39%), palmitic acid (7,81-48,5%), linoleic acid (0,39-4,6), petroselinic acid (1,37 and 1,83%), oleic acid (1,28-22,88%), stearate acid (4,3-11,25%), and arachidonic acid (0,57- 5,26%).

Keywords: Bligh and Dyer Buffer method, Garcia Method, *S. crassifolum*, *S. pallidum*, fatty acid