

Intisari

Penelitian ini bertujuan untuk mengetahui perbandingan metode *Folch with Buffer* dan *Garcia* untuk ekstraksi asam lemak pada *Gracilaria edulis* dan *Halymenia floresii* dari Gunungkidul. Penelitian ini menggunakan alga merah dengan kondisi segar dan kering. Pengamatan yang dilakukan meliputi uji rendemen alga, kadar air, total lipid, dan asam lemak. Metode *Folch with Buffer* dilakukan melalui dua (2) tahap dan metode *Garcia* melalui satu (1) tahap. Kandungan asam lemak dianalisis menggunakan kromatografi gas dan spektrofotometri massa (GC-MS). Hasil penelitian menunjukkan rendemen alga pada *G. edulis* dan *H. floresii* berturut-turut sebesar 21,00 % dan 20,33 %. Kadar air yang diperoleh pada *G. edulis* segar dan kering berturut-turut sebesar 82,42 % dan 6,57 %, sedangkan *H. floresii* segar dan kering berturut-turut sebesar 78,65 % dan 10,70 %. Total lipid yang diperoleh pada *G. edulis* segar dan kering berturut-turut sebesar 2,73 % dan 0,91 %, sedangkan *H. floresii* segar dan kering berturut-turut sebesar 0,79 % dan 0,45 %. Kadar air dan total lipid dipengaruhi oleh jenis dan kondisi alga. Rendemen asam lemak dari total lipid yang diperoleh pada metode FMB dan GM berturut-turut sebesar 15,28 % dan 6,02 %. Jenis asam lemak yang terdeteksi pada penelitian ini adalah asam laurat (C12:0), asam miristat (C14:0), asam palmitat (C16:0), asam palmitoleat (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-9), asam arakhidonat (C20:4, n-6), dan asam arakhidat (C20:0).

Kata kunci: asam lemak, alga merah, ekstraksi, *Folch Method with Buffer*, *Garcia Method*, *Gracilaria edulis*, *Halymenia floresii*.

Abstract

The objective of this research was to discover the comparative of *Folch Method with Buffer* (FMB) and *Garcia Method* (GM) for fatty acid extraction of *Gracilaria edulis* and *Halymenia floresii* from Gunungkidul. This research used red algae in both fresh and dried condition. The observation included algae yield, moisture content, lipid total, and fatty acid. The FMB method was done through two (2) steps while the GM method was done through one (1) step. Fatty acid content was analyzed using gas chromatography and mass spectrophotometry (GC-MS). The research showed that algae yield in *G. edulis* and *H. floresii* were 21,00 % and 20,33% respectively. Moisture content in fresh and dried *G. edulis* were 82,42 % and 6,57% respectively, while the fresh and dried *H. floresii* were 78,65 % and 10,70% respectively. Lipid total in fresh and dried *G. edulis* were 2,73 % and 0,91 % respectively, while the fresh and dried *H. floresii* were 0,79 % and 0,45 % respectively. Moisture content and lipid total were affected by the algae type and fresh; dried algae. Fatty acid yield from lipid total in FMB and GM method were 15,28 % and 6,02 % respectively. Types of fatty acid detected in this research were lauric acid (C12:0), 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-9), arachidonic acid (C20:4,n-6), and arachidic acid (C20:0).

Keyword: extraction, fatty acid, *Folch Method with Buffer*, *Garcia Method*, *Gracilaria edulis*, *Halymenia floresii*, red algae.