

## 6. KESIMPULAN DAN SARAN

Ekstraksi fikobiliprotein dapat dilakukan dengan metode konvensional seperti maserasi, homogenisasi dan *ekstraksi serial* serta dapat dilakukan juga dengan metode *freezing-thawing*, *ultrasound-assisted extraction*, dan *enzymatic-assisted extraction*. Perbedaan metode mampu menghasilkan *yield* dan indeks purifikasi yang beragam. Perbedaan tersebut dipengaruhi oleh parameter suhu, pH, waktu, pemilihan larutan dan kecepatan sentrifugasi. Pemilihan sampel dari segi waktu pemanenan, area pemanenan dan bagian dari sampel juga mempengaruhi hasil ekstraksi dan purifikasi.

Metode ekstraksi yang banyak menghasilkan ekstrak dengan *yield* paling tinggi adalah ekstraksi serial dengan spesies rumput laut *Gracilaria chilensis* karena mampu merusak dinding sel sehingga melarutkan sebagian besar fikobiliprotein. Kombinasi metode homogenisasi dengan *Enzymatic-assisted Extraction (EAE)* dengan menggunakan enzim *xylanase* mampu menghasilkan *yield* dan indeks purifikasi paling tinggi. Sedangkan, metode purifikasi yang mampu menghasilkan *yield* dan indeks kemurnian paling tinggi berupa kombinasi antara *hydroxyapatite column* dan *gel filtration* dengan spesies *Corallina elongata*.

Komponen fikobiliprotein yang lebih banyak digunakan di bidang pangan adalah fikosianin bila dibandingkan fikoeritrin dan alofikosianin. Fikosianin dapat digunakan sebagai pewarna makanan pada makanan yang tidak banyak diproses dengan pemanasan tinggi seperti permen jeli, olahan susu, minuman beralkohol dan lain-lain. Namun penelitian mengenai ekstraksi dan purifikasi fikosianin masih belum banyak ditemukan bila dibandingkan dengan fikoeritrin. Oleh karena itu, dapat dilakukan penelitian lebih banyak lagi tentang pengaplikasian fikoeritrin di bidang pangan serta ekstraksi dan purifikasi fikosianin dari rumput laut merah.

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