

BAB V

KESIMPULAN DAN SARAN

5.1 Kesimpulan

Berdasarkan penelitian yang dilakukan tentang pengaruh konsentrasi ion logam tembaga (II) terhadap persentase *removal* pada proses biosorpsi menggunakan *Chlorella pyrenoidosa* dalam fotobioreaktor kontinu dapat disimpulkan sebagai berikut:

1. Pupuk walne non vitamin sangat baik dalam menumbuhkan *Chlorella pyrenoidosa* sehingga pupuk walne dipilih untuk digunakan selama percobaan;
2. Persentase *removal* ion logam tembaga (II) terbaik pada percobaan dengan konsentrasi awal ion logam tembaga (II) 20 ppm pada saat proses biosorpsi jam ke-3 dengan persentase *removal* tertinggi, yaitu sebesar 44,32 %;
3. Variasi konsentrasi ion logam tembaga (II) menghasilkan kecenderungan penurunan persen *removal* seiring peningkatan konsentrasi ion logam tembaga (II);
4. Variasi konsentrasi ion logam tembaga (II) menghasilkan kecenderungan peningkatan konsentrasi *uptake* seiring peningkatan konsentrasi ion logam tembaga (II).

5.2 Saran

1. Untuk penelitian selanjutnya, sebaiknya mempertimbangkan *filter* untuk mempertahankan kepadatan sel *Chlorella pyrenoidosa* di dalam fotobioreaktor;
2. Perlu dilakukan pengadukan dan aerasi yang lebih baik agar mikroalga dapat teraduk dengan homogen;
3. Penelitian selanjutnya dapat meningkatkan konsentrasi sel *Chlorella pyrenoidosa* dan meningkatkan perbandingan terhadap volume total fotobioreaktor untuk meningkatkan persen *removal*;
4. Dapat dilakukan variasi konsentrasi ion logam tembaga (II) di bawah 20 ppm untuk mempelajari tingkat toksisitas ion logam tembaga (II) terhadap *Chlorella pyrenoidosa*;
5. Sulitnya penyamaan kepadatan sel awal mikroalga dapat diatasi dengan penentuan konsentrasi *Chlorella pyrenoidosa* dengan metode OD.

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