BAB V

KESIMPULAN DAN SARAN

5.1 Kesimpulan

Kesimpulan yang dapat diambil, berdasarkan penelitian yang telah dilakukan antara lain:

1. Pada proses sintesis bioetanol menggunakan metode SFS-VHG, penggunaan tepung tapioka menghasilkan konsentrasi etanol lebih tinggi dibandingkan penggunaan tepung sagu.
2. Pada proses sintesis bioetanol menggunakan metode SFS-VHG, konsentrasi urea 12 mM tidak memberikan konsentrasi etanol yang lebih besar dibandingkan dengan penggunaan urea 6 mM.
3. Pada proses sintesis bioetanol menggunakan metode SFS-VHG, penggunaan *pitching rate* 10^8 sel/ml menghasilkan konsentrasi etanol lebih tinggi dibandingkan penggunaan *pitching rate* 10^7.
4. Penggunaan tepung tapioka, konsentrasi urea 6 mM, dan pitching rate 10^8 sel/ml menghasilkan konsentrasi etanol dan yield tertinggi yaitu 4,11% (b/v) dan 9,58 % (b/b).

5.2 Saran

Penelitian mengenai pembuatan bioetanol menggunakan metode SFS-VHG berbahan dasar tepung tapioka dan tepung sagu perlu dikembangkan lebih lanjut karena Indonesia memiliki sumber singkong dan sagu yang cukup melimpah. Studi lebih lanjut dapat dilakukan dengan menganalisa pengaruh viskositas medium terhadap proses fermentasi. Pengembangan selanjutnya yang dapat dilakukan adalah penggunaan strain *Saccharomyces cerevisiae* yang tahan terhadap kondisi VHG dan penggunaan *pitching rate* yang lebih besar.

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