

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The two effective isolates (*Bacillus subtilis* strain A 002 and strain M 015) from Thai higher termites, *Microcerotermes* sp., were used to determine their hydrolysis activity of 40–60, 60–80, and 80–100 mesh corncob particle size at 37 °C. The glucose concentration from the microbial hydrolysis of 80–100 mesh corncob with the strain A 002 was found to be the optimum condition to produce glucose, about 0.60 g/L at 6 h. This can be concluded that the smaller particle sizes of corncob can be produced higher of glucose concentration, and the strain A 002 had higher ability to degrade cellulose than the strain M 015. The optimum malt extract was 12 g/L in the production medium. In addition, the glucose concentration from enzymatic hydrolysis with using 273 U commercial cellulase enzyme per gram corncob was equivalent to the optimum glucose concentration from microbial hydrolysis. However, using the commercial cellulase enzyme in the enzymatic hydrolysis was more expensive than the bacteria strain isolated from the Thai higher termites.

5.2 Recommendations

The recommendations for future work as follow:

1. The ratio between corncob and production medium should be investigated to find the possibility of glucose production.
2. The bioreactor should be modified to provide an aseptic condition.
3. The formula of production medium should be modified in order to obtain the higher efficiency in glucose production.