



CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

In this research, the two effective isolates (strain A 002 and strain M 015), *Microcerotermes* sp., from Thai higher termites were used to determine their hydrolysis activity of cassava residue. The sugars produced from the hydrolysis were glucose and a trace amount of xylose, galactose, arabinose, etc. The effects of particle sizes were tested. The decrease in the cassava residue size resulted in the increase in the glucose concentration. Both strains A 002 and M 015 were effective for the hydrolysis of cassava residue. However, strain A 002 was more active due to its high specific endoglucanase activity, whereas strain M 015 had lower specific exoglucanase and β -glucosidase activity of strain M 015. The sufficient temperature and quantity of malt extract for hydrolysis of cassava residue were 30 °C and 10 g/L, respectively. The maximum of glucose concentration was about 1.44 g/L at 7 h.

5.2 Recommendations

The recommendations for future work as follows:

1. The ratio of cassava residue to production medium should be increased in order to check the possibility to produce glucose.
2. The bioreactor should be modified to provide an aseptic condition.
3. The hemicellulose and lignin should be removed by the pretreatment step so that to get rid of bacteria hindrances.