CHAPTER VII

CONCLUSION AND RECOMMENDATION

7.1 Conclusion

Fructose syrup could be produced from tapioca flour at 42 % fructose content as recommended by NOVO INDUSTRI with following modifications:

1. Production of glucose syrup using Termamyl and AMG can be effectively carried out without special heat treatment by pressure cooking and inactivation of Termamyl prior to AMG addition.

2. To use deionized water in production of glucose syrup would avoid subsequent cation exchange treatment prior to isomerization.

3. Dosage of Sweetzyme type A (activity 426.6 GINU/gm) for the first isomerization must be as high as 33.8 gm/1,000 gm of glucose. The dosage is different from the suggested value of enzyme consumption.

4. The magnesium content in glucose syrup may be lowered from 2 gm/l syrup to 0.1 gm/l syrup without affecting yield of fructose content in final product.

5. Fructose syrup must be post-treated with cation exchange to remove cobalt.

7.2 Recommendation for Further Study

The experiment described in this investigation is only a preliminary study on the production of fructose syrup from tapioca flour. Further efforts should be made to investigate following aspects:

1. Maintaining constant pH value during isomerization and preventing access of oxygen to isomerizing enzyme.

2. Exploring continuous process of producing fructose syrup using immobilized enzyme reactor.