AMPAWADEE SRISAJJALERTWAJA : COMPLETE CONTINUOUS PROCESS OF VINEGAR PRODUCITON FROM PINEAPPLE JUICE. THESIS ADVISOR : PROF.SOMCHAI OSUWAN,Ph.D., THESIS COADVISOR : ASSO.PROF.VICHA VANADURONGWAN,Ph.D. 200 PP. ISBN 974-578-911-9

In this experimental study, an emphasis was on vinegar conversion from the pineapple wine. The main objectives were to determine optimum conditions in producing vinegar from the pineapple wine and to evaluate the effects of recycle, and the number of stage on the process performance of the vinegar fermentation system. The acetic acid fermentation system consisted of 4 identical units of fermenters connected in series. Each of fermenter unit comprised of a packed-bed column and a storage tank. This vinegar fermentation system was fed by the pineapple wine without pasteurization and having ethanol concentration of approximately 7%.

From the experimental results, it was found that under the optimum dilution rate of 0.0250 h^{-1}, the system could produce 7.20 litre per day of vinegar containing acetic acid concentration of 3.9-4.3 %. The system operated with product recycle from either the 3rd or 4th tank showed no significant effects on the process efficiency. In comparison with the system operated without recycle, the system operated with recycling had slightly lower process efficiency. Hence, it can be concluded that, recycling do not enhance the efficiency in vinegar production. An increase in the number of stage the fermentation units did not affect the process efficiency.