CHAPTER 5

CONCLUSIONS

This study can be concluded as the following.

1. Nine selected isolates which showed the highest probiotic properties, acid- and bile resistant, antimicrobial producing, and hydrophobicity, were identified to species by determination of biochemical characteristics using API 50 CHL and Biolog System, and PCR techniques - *Lactobacillus fermentum* and *L.plantarum*. Furthermore, the antibiotic susceptibility of these selected isolates were also determined using agar dilution method. Most of selected isolates were susceptible to tested antibiotic agents: chloramphenicol, quinupristin, erythromycin, kanamycin linezolid, rifampicin, streptomycin, and tetracycline, however they were classified as resistant to ciprofloxin and vancomycin.

2. Strains no. 2311, 3007, and 3010, isolated from fermented tea leave and fermented pork, showed not only non toxic in the test animals. Therefore, these three strains could be promoted for further used as probiotic starter in neutraceutical market.

3. The result suggested that only when adding skimmed milk 10% with 4% sucrose could increase the survival rate of all test bacteria.

4. The tablets prepared from compaction mixtures of lactobacilli, HPMCP and sodium alginate (compaction force 5kN) was the best formulation against artificial juice to improve the survival of lactobacilli in probiotic product, in an attempt to ensure the delivery of adequate number of viable cells to the intestinal tract.

5. It was concluded that both inulin and banana powder have potential to protect the LAB in acidic gastric condition. Probiotic tablets containing inulin and banana powder might provide functional benefits as alternative synbiotic product

6. In tablets containing hydropropylmethyl cellulose phthalate (HPMCP55) and banana powder, it was found that the formulation tablets containing HPMCP 55, sodium alginate and banana powder showed the highest survival rates in acidic condition.