

CHAPTER 5

Conclusion and Recommendations

5.1 Conclusion

5.1.1 The osmotic dehydration of longan in sugar solution combined sucrose, glycerol and sorbitol in optimized osmotic conditions reduced the moisture content and water activity of the longan samples. Moreover, glycerol and sorbitol could be improved the effectiveness of osmotic dehydration without increasing sugar gain in longan product. It is quite good for our health with consuming a sweet fruits. The water activity and moisture content of longan sample could be control in osmotic solution dehydration to achieve the good shelf – life. The results showed potential of using osmotic solution for longan drying.

5.1.2 The effects of hot air drying and vacuum oven drying on the physicochemical properties and sensorial scores of IML products were investigated in this study. Although the product's qualities were totally not significant difference ($p > 0.05$) between treatments and the IML product dried from hot air drying process was received higher scores than that from vacuum drying process at 60°C.

5.1.3 There were no significant difference ($p > 0.05$) in physicochemical properties and sensory evaluation scores between fresh longan and frozen longan for production of intermediate moisture longan. It can be solved the case of selling IML in whole year.

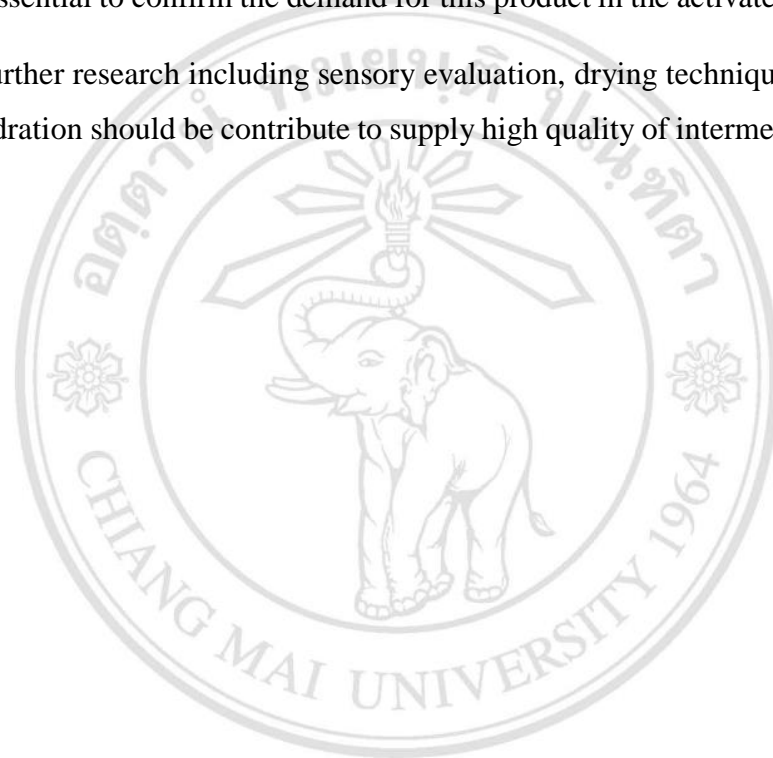
5.1.4 Under storage condition of 25°C, shelf – life of IML was predicted as 37, 16 and 14 weeks in aluminum bag with nitrogen, aluminum bag without nitrogen and clear plastic bag, respectively. The moisture content, color difference, textural and antioxidant capacity were significantly affected by both storage temperatures and packaging material

($p \leq 0.05$) during storage period. Quality changes during storage of IML products followed first order kinetics. Kinetic constants for quality changes for IML products packed in aluminum bag with nitrogen were lower than those in aluminum bag without nitrogen and clear plastic bag.

5.2 Recommendations

5.2.1 This study can be applied in commercial. Scale - up production and marketing research are essential to confirm the demand for this product in the activate market place.

5.2.2 Further research including sensory evaluation, drying technique and vacuum osmotic dehydration should be contribute to supply high quality of intermediate moisture longan.



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