CHAPTER V
CONCLUSION AND SUGGESTION

5.1 Conclusion

Based on the results of the research that has been carried out, it can be concluded that the addition of Bajakah Tampala can decrease the tensile strength values of the film. The decrease in tensile strength in film with addition of Bajakah Tampala concentration occurs due to agglomeration hence to the different characteristics of PLA and Bajakah Tampala extract, however, the tensile strength of PLA film and PLA/BT 0.05 still fall within the typical PLA range of 32-58 MPa, while the PLA/BT 0.075 film falls below this range. On the other hand, the addition of Bajakah Tampala can increase the modulus of elasticity, making the films stiffer with values generally remaining within the typical PLA range of 1.5-2.5 GPa, although the PLA/BT 0.075 film exceeds the upper limit. Meanwhile, the elongation at break decreases as the concentration of Bajakah Tampala extract increases leading it to overloading, but all of the obtained values still fall within the typical PLA range of 2-5%. Overall, despite some reductions in tensile strength, PLA films incorporated with Bajakah Tampala extract still demonstrate suitable mechanical properties for potential application in food packaging.

5.2 Suggestion

Further research is recommended to include SEM (Scanning Electron Microscopy) analysis in order to examine the fracture surface morphology of the films. In addition, FTIR (Fourier Transform Infrared Spectroscopy) analysis is suggested to evaluate the crystalline index, which can serve as supporting data for interpreting the mechanical properties of the films.