

## CHAPTER V

### CONCLUSION AND SUGGESTION

#### 5.1. CONCLUSION

From the research that had been conducted, it can be concluded that:

1. The increasing of fiber contents did not affect the tensile strength but the more fiber contents increased the thermal stability.
2. The material which has the best tensile strength belongs to composite PLA/Kenaf with composed of 2.5% wt kenaf powder whose the strength was 48.91 MPa and the elongation was 2.45 %.
3. TGA testing show that PLA/Kenaf with composed of 7.5% wt kenaf was the most stable material that maintain its mass longer due to thermal increasing in which the range of degradation was wider than others that was about 290-400 °C.
4. Microscope images show that the bonding between matrix and fiber was poor and agglomeration was happen so that it can be expected that the tensile properties still can be improved.

#### 5.2. SUGGESTION

From the research that had been conducted, It can be suggested that:

1. It will be good if it is conducted several treatments to the fiber to strengthen the adhesion between fibers and matrix such as alkali treatment and bleaching treatment.
2. PLA and plasticizer should be made as a compound material first before making composites with fiber to reduce the agglomeration.
3. The velocity of twin screw extruder may be increased to separate the fiber perfectly during the extrusion process.