V. CONCLUSION AND SUGGESTION

A. Conclusion

Based on the result and discussions, it can be concluded that:

1. Based on the morphological and anatomical observations, the rhizomes of *C. aeruginosa*, *C. mangga* and *C. heyneana* from the Purwodadi Botanical Garden exhibit distinct unique variations. Morphologically, the rhizomes differ in color, shape, and aroma, which serve as primary identifying features. Anatomically, the presence and distribution of specific secretory structures and starch granules within the rhizome tissues further differentiate *C. mangga*, *C. aeruginosa*, and *C. heyneana*, confirming that each species possesses a specific structural profile that supports its botanical identification.

2. Based on the analysis of curcumin content in the three *Curcuma* species from the Purwodadi Botanical Garden, each species possesses a distinct and significantly different concentration of curcumin. *C. mangga* was found to have the highest curcumin content among the tested samples, followed by *C. aeruginosa*, while *C. heyneana* contained the lowest amount. These results confirm that *C. mangga* is the most potent source of curcumin among the three species observed.

B. Suggestion

Based on the result of research that has been carried out, it would be better for the next research to be more careful in plant care and laboratory procedure awareness due to the miss-functionality and non-ideal result.