

**TISSUE STRUCTURES COMPARISON OF LEAF AND ROOT IN  
*Musa spp* USING HISTOLOGY TECHNIQUE**

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## ABSTRACT

### TISSUE STRUCTURES COMPARISON OF LEAF & ROOT IN *Musa spp* USING HISTOLOGY TECHNIQUE

There are three type of *Musa spp* diseases that had been study which is *Musa acuminata* (AA Group) "Pisang Emas" that was infected by the Panama diseases, *Musa acuminata* (AAA Group) "Pisang Abu" was infected by Moko diseases and *Musa acuminata* (AAA Group) "Pisang Jelai Berangan" was infected by Black leaf streak diseases. In order to view and study these changes, histological technique were be applied. Hence, during this study, xylem and phloem structure for infected "Pisang Abu" and "Pisang Emas" had been study by using histology technique with dino eye software. Base on the observation for "Pisang Emas" the result showed the structure for infected xylem and phloem had decrease in size of opening where it tend to shrink from their normal size. The diameter for healthy "Pisang Emas" was the highest than the infected one which was for healthy  $0.34\pm 0.01$  mm meanwhile the was infected  $0.32\pm 0.02$  mm. Next was the infected "Pisang Abu" where the structure of xylem and phloem tend to be blocked by degeneration of xylem and phloem wall structure the xylem and phloem structure were be destroyed because the bacterium feed on these tissue structure. The diameter for healthy xylem and phloem "Pisang Abu" was the highest than the infected one which is for healthy  $0.35\pm 0.03$  mm but the infected xylem and phloem was  $0.28\pm 0.02$  mm. Meanwhile, for the "Pisang Jelai Berangan" the measurement for xylem and phloem structure was not taken because Black leaf streak diseases did not affect this structure. The Black leaf streak diseases only affect stomata count on the structure leaf. The total stomata for "Pisang Jelai Berangan" were higher than infected leaves with 640,119 on upper epidermis and 8,470,295 for lower epidermis. While infected leaves were 184,271 on upper epidermis and 5,047,813 for lower epidermis with area for leaf surface  $3262.5$  cm<sup>2</sup>.

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