

ABSTRACT

Hafifah Ayu Mutiara Sukma. 24020120140100. **Air Pollution Tolerance Index (ITPU) in Mangrove Plants and Landscape of Pekalongan City, Central Java**, under guidance of Jumari and Lilih Khotimperwati.

Urbanization in Pekalongan city, such as an increase in population, industrial activities and transportation can lead to a decrease in air quality. Plants that are tolerant to pollution can be used to improve air quality. Determination of plant tolerance is done by analyzing the Air Pollution Tolerance Index (ITPU) and observing leaf micromorphology in the form of stomatal index. The purpose of this study was to assess the ITPU value and stomatal index of mangrove and landscape plants as a basis for understanding the potential use of plants as greening plants and pollutant reductants in Pekalongan City. The sampling method used was purposive sampling at the research locations, namely Mangrove Park Pekalongan, Mulyoasri Mangrove Ecotourism, and Pekalongan Square with 8 sampling points. Biochemical parameters analyzed include total chlorophyll content, ascorbic acid content, relative water content and leaf pH and continued with the observation of stomatal preparations. The results obtained 13 plant species, with *S. caseolaris* (43.32 ± 0.02) as a true mangrove and *T. catappa* (93.64 ± 0.25) as a landscape plant that has the highest ITPU value. Species with small and large stomatal size will have a higher stomatal index, such as *M. indica* (33%) and *T. catappa* (24%). A high stomatal index plays a significant role in increasing the ability of plants to absorb pollutants and has a positive effect on increasing ITPU values. All mangrove and landscape plants found have the potential to be greening plants that help reduce air pollution. Especially *T. catappa* and *S. caseolaris* with high ITPU values, and *R. stylosa* which has morphological advantages. Therefore, their planting is recommended to support air quality improvement through green open spaces (RTH) in Pekalongan City.

Keywords: *APTI, air pollution, mangroves, landscape plants, stomata.*