

## ABSTRACT

Diana Putri Jumayu Andalbuti. 24020120140049. **Air Pollution Tolerance Index (APTI) of Mangrove Plants in the Mangrove Center Wonorejo Surabaya.** Under the guidance of Lilih Khotimperwati dan Jumari.

Surabaya is one of the centers of industrial areas in East Java, according to the Air Quality Index (AQI) 2024, Surabaya City is in 4th position as a polluted area in Indonesia. On the other hand, Surabaya City has great mangrove forest potential, one of which is in the Wonorejo Mangrove Center area, Rungkut District. Its strategic location is on the edge of the city and coastal areas, so it has the potential as one of the solutions to tackle air pollution in the city of Surabaya. Environmental pressures triggered by industrial activities, population growth and the creation of ponds around mangrove forest areas can put pressure on mangrove growth in the area. The purpose of this study was to assess the mangrove species found, determine the level of tolerance of mangrove plants, and analyze the leaf area and stomatal index of mangrove plants found in the Wonorejo Mangrove Center area. The research was conducted from September 2023 to June 2024 at Mangrove Center Wonorejo, Rungkut District, Surabaya City. The analysis included the Air Pollution Tolerance Index (APTI) using 4 biochemical parameters (total relative water content, total chlorophyll content, ascorbic acid content and leaf extract pH) and observation of leaf area and stomata index of mangrove plants. The results showed that the ITPU values of mangrove plants ranged from very tolerant to intermediate, with the highest value in *Rhizophora mucronata* ( $107.24 \pm 0.15$ ) and the lowest in *Anredera cordifolia* ( $18.53 \pm 0.45$ ). There was a decrease in leaf area and number of stomata in mangrove species as an adaptation to environmental stress due to air pollution. The results of this study indicate that, all mangrove species found have potential as bioreducers of air pollution in Surabaya City.

**Kata kunci :** *Mangrove, APTI, Chlorophyll, Ascorbic acid, pH, Relative water content*