

RINGKASAN

FITRI RAMADANI. Pertumbuhan Lamun *Thalassia hemprichii*: Studi Kasus Di Ekosistem Lamun Perairan Desa Pengudang. Dibimbing oleh ARIEF PRATOMO dan RIKA KURNIAWAN.

Penelitian ini bertujuan untuk mengetahui laju dan pola pertumbuhan daun lamun *Thalassia hemprichii* pada fase muda, sedang, dan tua, serta mengetahui parameter kualitas perairan selama pengamatan di Perairan Desa Pengudang, Kabupaten Bintan. Penelitian menggunakan metode *leaf marking technique* pada 10 sampel daun lamun yang diamati setiap tujuh hari. Parameter perairan yang diamati meliputi suhu, salinitas, pH, dissolved oxygen (DO), serta jenis substrat sebagai faktor pendukung pertumbuhan lamun. Analisis data dilakukan menggunakan uji Kruskal–Wallis. Hasil penelitian menunjukkan bahwa kondisi perairan masih mendukung pertumbuhan *Thalassia hemprichii*, dengan suhu berkisar 28,5–33,3°C, salinitas 31–32 ppt, pH 7,16–8,17, DO 7,4–8,6 mg/L, serta tipe substrat berupa pasir berkerikil. Laju pertumbuhan tertinggi diperoleh pada fase daun muda sebesar 0,54 cm/hari, diikuti fase daun sedang sebesar 0,29 cm/hari, sedangkan fase daun tua memiliki laju pertumbuhan terendah sebesar 0,058 cm/hari. Pola pertumbuhan menunjukkan bahwa rata-rata panjang daun meningkat pada seluruh fase selama periode pengamatan, dengan peningkatan tertinggi pada fase muda dan terendah pada fase tua. Nilai kelangsungan hidup seluruh sampel mencapai 100% pada setiap fase pengamatan. Hasil uji Kruskal–Wallis menunjukkan adanya perbedaan laju pertumbuhan yang signifikan antar fase daun ($p = 0,001$). Penelitian ini menunjukkan bahwa fase pertumbuhan daun berpengaruh terhadap laju dan pola pertumbuhan *Thalassia hemprichii*, sedangkan kondisi perairan selama penelitian masih berada pada kisaran yang mendukung pertumbuhan lamun.

Kata kunci: Pertumbuhan, Desa Pengudang, *Thalassia hemprichii*.

SUMMARY

FITRI RAMADANI. Growth of Seagrass *Thalassia hemprichii*: A Case Study in the Seagrass Ecosystem of Pengudang Village Waters. Supervised by ARIEF PRATOMO and RIKA KURNIAWAN.

This study aims to find out the growth rate and pattern of *Thalassia hemprichii* seagrass leaves at young, middle, and old stages, as well as to determine the water quality parameters during observations in the waters of Pengudang Village, Bintan Regency. The study used a leaf marking technique on 10 seagrass leaf samples observed every seven days. Water parameters observed included temperature, salinity, pH, dissolved oxygen (DO), and substrate type as supporting factors for seagrass growth. Data analysis was conducted using the Kruskal–Wallis test. Research results show that the water conditions still support the growth of *Thalassia hemprichii*, with temperatures ranging from 28.5–33.3°C, salinity 31–32 ppt, pH 7.16–8.17, DO 7.4–8.6 mg/L, and a substrate type of gravelly sand. The highest growth rate was found in the young leaf phase at 0.54 cm/day, followed by the medium leaf phase at 0.29 cm/day, while the old leaf phase had the lowest growth rate at 0.058 cm/day. The growth pattern shows that the average leaf length increased in all phases during the observation period, with the highest increase in the young phase and the lowest in the old phase. The survival rate for all samples reached 100% in each observation phase. The Kruskal–Wallis test results showed a significant difference in growth rates between leaf phases ($p = 0.001$). This study indicates that the leaf growth phase affects the growth rate and pattern of *Thalassia hemprichii*, while the water conditions during the study were still within a range that supports seagrass growth.

Keywords: Growth, Pengudang Village, *Thalassia hemprichii*.