Potensi Makroalga Alami Sargassum polycystum dan Makroalga Budidaya Eucheuma cottonii dalam Menyerap dan Menyimpan Karbon serta Nutrien di Pulau Panjang, Teluk Banten = The Potency of Wild Macroalgae Sargassum polycystum and Cultivation Macroalgae Eucheuma cottonii to Absorb and Store Carbon also Nutrient in Panjang Island, Banten Bay

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Abstrak

[Penelitian mengenai potensi makroalga alami Sargassum polycystum dan makroalga budidaya Eucheuma cottonii dalam menyerap dan menyimpan karbon serta nutrien di Pulau Panjang, Teluk Banten telah dilakukan pada bulan Oktober hingga November 2014. Penelitian bertujuan untuk mengetahui laju penyerapan karbon, kandungan nutrien dan produktivitas primer dari makroalga S. polycystum dan E. cottonii. Lokasi penelitian terletak di bagian hamparan gosong karang dan berlumpur dengan kedalaman 0,5-5 m. Pengamatan pertumbuhan dan laju penyerapan karbon menggunakan metode penandaan thallus pada 30 sampel makroalga setiap hari selama 7 hari. Sampel makroalga selanjutnya dianalisis kandungan nutriennya. Hasil penelitian didapatkan estimasi laju penyerapan karbon S. polycystum dan E. cottonii adalah 0,0081 gC/hari dan 0,0083 gC/hari. Kandungan karbon, nitrogen dan fosfat di S. polycystum adalah sebanyak 6,84%, 1,72% dan 0,009% sedangkan kandungan karbon, nitrogen dan fosfat di E. cottonii adalah 5,99%, 0,67% dan 0,006%. Berdasarkan analisis statistik dengan uji t, terdapat perbedaan yang signifikan pada laju pertumbuhan, kandungan nitrogen dan fosfat S. polycystum dengan E. cottonii. Sedangkan untuk kandungan karbon tidak terdapat perbedaan yang signifikan antara S. polycystum dengan E. cottonii. Selanjutnya, uji korelasi didapatkan bahwa adanya korelasi antara laju pertumbuhan S. polycystum dan E. cottonii dengan kandungan nitrogen masingmasing sedangkan antara laju pertumbuhan dengan kandungan karbon dan fosfat tidak terdapat korelasi. Produktivitas primer diukur dengan metode botol terang dan botol gelap yang dimodifikasi. Pengukuran produktivitas primer dilakukan pada kedalaman 0,5 m untuk S. polycystum dan 0,1 m untuk E. cottonii. Kandungan oksigen terlarut diukur dengan DO meter. Hasil penelitian didapatkan rata-rata produktivitas primer S. polycystum sebesar 10,259 ± 3,385 mgC/g/hari dan E. cottonii sebesar 7,757 ± 4,398 mgC/g/hari.;The research about the potency of wild macroalgae Sargassum polycystum
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the research in the stretch of reef and muddy with a depth of 0,5-5 m. The observation of growth rate and carbon sequestration used thallus marking method in 30 macroalgae shoots everyday for 7 days. Macroalgae was analyzed its nutrient content. The results showed that estimation carbon sequestration by S. polycystum and E. cottonii were 0,0081 gC/day and 0,0083 gC/day. The content of carbon, nitrogent and phosphor for Macroalgae S. polycystum were 6,84%, 1,72% and 0,009% respectively while the content of carbon, nitrogent and phosphor for Macroalgae E. cottonii were 5,99%, 0,67% and 0,006% respectively. Based on statistical analysis by t test, there was found significant difference on the growth rate, nitrogent and phosphor content of S. polycystum with E. cottonii. While for the carbon content, there was no significant difference between S. polycystum with E. cottonii. Furthermore, correlation test showed that there was a correlation between the growth rate of S. polycystum and E. cottonii with nitrogent content respectively while between the growth rate with carbon and phosphor content, there was no correlation. Primary productivity were measured by the light and dark bottle method with modification. Measurement of primary productivity was held at a depth of 0,5 m from the surface for S. polycystum and 0,1 m from the surface for E. cottonii. Dissolved oxygen was measured by DO meter. The result showed that mean of primary productivity for S. polycystum was 10,259 ± 3,385 mgC/g/day and E. cottonii was 7,757 ± 4,398 mgC/g/day;The research about the potency of wild macroalgae Sargassum polycystum
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