RESPONS PERTUMBUHAN DAN KADAR KLOROFIL TIGA VARIETAS PADI LOKAL KALIMANTAN TENGAH DAN SATU VARIETAS PADI UNGGUL TERHADAP CEKAMAN pH RENDAH PADA LARUTAN YOSHIDA

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PERNYATAAN ORISINALITAS DAN PELIMPAHAN HAK CIPTA

Dengan ini saya menyatakan bahwa skripsi dengan judul "Respons Pertumbuhan dan Kadar Klorofil Tiga Varietas Padi Lokal Kalimantan Tengah dan Satu Varietas Padi Unggul Terhadap Cekaman pH Rendah pada Larutan Yoshida" adalah karya saya sendiri yang dibuat dengan arahan dari dosen pembimbing. Semua sumber baik yang dikutip maupun dirujuk dalam skripsi ini telah saya nyatakan dengan benar. Dengan ini saya melimpahkan hak cipta dari karya tulis saya kepada Universitas Palangka Raya.

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ABSTRAK

Padi lokal Kalimantan Tengah banyak dibudidayakan pada lingkungan rawa yang umumnya memiliki kondisi masam. Kondisi tanah masam pada lahan marginal menjadi salah satu kendala dalam budidaya padi karena dapat meningkatkan toksisitas Al, Fe, dan Mn serta menghambat penyerapan unsur hara, sehingga dapat memengaruhi pertumbuhan vegetatif dan kadar klorofil tanaman. Penelitian ini bertujuan untuk mengetahui respons pertumbuhan dan kadar klorofil empat varietas padi, yakni tiga varietas padi lokal Kalimantan Tengah, yaitu ‘Jaragan Baputi’, ‘Sirandah’, dan ‘Babilem Kurik’, serta satu varietas padi unggul ‘Inpari 32’ terhadap cekaman pH pada larutan Yoshida. P0 = larutan Yoshida tanpa pengaturan pH; P1 = pH 4; P2 = pH 5; P3 = pH 6,8 sebagai kontrol positif. Parameter yang diamati meliputi tinggi total tanaman, panjang dan lebar daun, jumlah daun, luas daun, panjang akar, jumlah akar, serta kadar klorofil a, klorofil b, dan klorofil total. Data dianalisis secara deskriptif menggunakan nilai rata-rata dan standar deviasi. Hasil penelitian menunjukkan adanya variasi respons pertumbuhan antarvarietas pada kondisi pH yang diberikan. Secara deskriptif, Jaragan Baputi dan Sirandah menunjukkan nilai relatif tinggi pada beberapa parameter pertumbuhan pada pH 4 dan pH 5, meskipun pola respons tidak konsisten pada seluruh parameter. Kadar klorofil juga menunjukkan respons yang berbeda antarvarietas. Sirandah memiliki kadar klorofil a, klorofil b, dan klorofil total tertinggi pada seluruh kondisi pH. Pada pH 4, kadar klorofil total Sirandah sebesar 38,97 mg/L, diikuti Jaragan Baputi sebesar 25,14 mg/L, Inpari 32 sebesar 18,31 mg/L, dan Babilem Kurik sebesar 15,55 mg/L. Hasil penelitian menunjukkan bahwa keempat varietas padi memiliki respons pertumbuhan dan kadar klorofil yang berbeda terhadap kondisi pH pada larutan Yoshida.

Kata kunci: cekaman pH, klorofil, larutan Yoshida, padi lokal, pertumbuhan.

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ABSTRACT

Local rice varieties in Central Kalimantan are widely cultivated in swamp environments, which generally have acidic conditions. Acidic soil conditions in marginal lands are one of the constraints in rice cultivation because they can increase the toxicity of Al, Fe, and Mn and inhibit nutrient uptake, thereby affecting vegetative growth and chlorophyll content. This study aimed to determine the growth and chlorophyll content responses of four rice varieties, consisting of three local rice varieties from Central Kalimantan, namely 'Jaragan Baputi', 'Sirandah', and 'Babilem Kurik', and one improved rice variety, 'Inpari 32', under pH stress in Yoshida solution. P0 = Yoshida solution without pH adjustment; P1 = pH 4; P2 = pH 5; and P3 = pH 6.8 as the positive control. The parameters observed included total plant height, leaf length and width, number of leaves, leaf area, root length, root number, and chlorophyll a, chlorophyll b, and total chlorophyll content. The data were analyzed descriptively using mean and standard deviation values. The results showed variations in growth responses among varieties under the given pH conditions. Descriptively, Jaragan Baputi and Sirandah showed relatively high values for several growth parameters at pH 4 and pH 5, although the response patterns were not consistent across all parameters. Chlorophyll content also showed different responses among varieties. Sirandah had the highest chlorophyll a, chlorophyll b, and total chlorophyll content under all pH conditions. At pH 4, the total chlorophyll content of Sirandah was 38.97 mg/L, followed by Jaragan Baputi at 25.14 mg/L, Inpari 32 at 18.31 mg/L, and Babilem Kurik at 15.55 mg/L. The results indicate that the four rice varieties exhibited different growth and chlorophyll content responses to pH conditions in Yoshida solution.

Keywords: chlorophyll, growth, local rice, pH stress, Yoshida solution.

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