SKRIPSI

POTENSI *Eichhornia crassipes* SEBAGAI ALGASIDA ALAMI DALAM MENURUNKAN JUMLAH SEL ALGA PADA SKALA LABORATORIUM

Diajukan sebagai salah satu syarat untuk memperoleh Gelar Sarjana Sains pada Jurusan Biologi Fakultas Matematika dan Ilmu Pengetahuan Alam Universitas Sriwijaya

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JURUSAN BIOLOGI
FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM
UNIVERSITAS SRIWIJAYA
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2021

HALAMAN PENGESAHAN

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Indralaya, Januari 2021

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Karya tulis ilmiah berupa skripsi dengan judul "Potensi *Eichhornia crassipes* Sebagai Algasida Alami dalam Menurunkan Jumlah Sel Alga Pada Skala Laboratorium" telah dipertahankan dihadapan Tim Penguji Karya Tulis Ilmiah Fakultas Matematikan dan Ilmu Pengetahuan Alam Universitas Sriwijaya pada 13 Januari 2021.

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THE POTENTIAL OF *Eichhornia crassipes* AS A NATURAL ALGASIDE IN REDUCING THE NUMBER OF ALGAL CELLS ON A LABORATORY SCALE

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ABSTRACT

Organic waste material from excessive fish farming increases the concentration of nitrogen (N) and phosphorus (P) elements from fish food scraps and has the potential to reduce water quality. High concentrations can have a negative impact resulting in eutrophication. Therefore, we need a way to reduce the population explosion of algae, one way that can be used is by applying plant extracts. The plant extract that can be used is water hyacinth. Information regarding the potential of *Eichhornia crassipes* as an algaside candidate is incomplete. This study aims to determine the potential of *Eichhornia crassipes* extract algasides in reducing the number of algae cells from fish ponds on a laboratory scale. This research was conducted from August to September 2020. This study used an experimental method, with treatment using the concentration of *Eichhornia crassipes* extract, namely (100 ml algae : 5 ml extract), (100 ml algae : 25 ml extract), (100 ml algae : 50 ml extract), (100 ml algae : 75 ml of extract) and (100 ml of algae (without extract). The results showed that the regression analysis the number of algae cells and chlorophyll content with the water hyacinth extract concentration had a negative and insignificant linear relationship (F> 0.05). The number of algae cells at a concentration of 5 ml, a concentration of 25 ml, a concentration of 50 ml and a concentration of 75 ml was known to have decreased. The lowest decrease in algal cells occurred at the concentration of water hyacinth extract 75 ml of 451,250,000 Ind / L. The lowest algal chlorophyll content occurred at the water hyacinth extract concentration of 75 ml, amounting to 7.367 µg / L. The value of dissolved oxygen (DO) from the water hyacinth extract treatment with a concentration of 75 ml is the lowest at 4.3 mg / liter.

Keywords: *Eichhornia crassipes*, eutrophication, algal cell count, algal chlorophyll content

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