



INTISARI

STUDI TOKSISITAS TEMBAGA DAN TIMBAL TERHADAP MIKROALGA LAUT *Pavlova* sp.

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Penelitian tentang toksisitas tembaga dan timbal terhadap *Pavlova* sp. telah dilakukan. Tujuan penelitian ini adalah menentukan nilai IC_{50} pada ion Cu^{2+} dan Pb^{2+} , menentukan hubungan antara konsentrasi ion Cu^{2+} dan Pb^{2+} terhadap kandungan klorofil-a, dan menentukan penurunan konsentrasi ion Cu^{2+} yang diserap oleh mikroalga *Pavlova* sp.. Penelitian ini dilakukan melalui beberapa tahap meliputi uji toksisitas ion Cu^{2+} dan Pb^{2+} yang mengacu pada ACCPMS-II (*Asean Canada Cooperative Programe on Marine Science*), pengukuran konsentrasi ion Cu^{2+} dengan metode *bicinchoninate*, dan uji klorofil-a dengan Fluorometer Turner Trilogy tipe AU-10.

Nilai IC_{50} ion Cu^{2+} dan Pb^{2+} terhadap pertumbuhan *Pavlova* sp. masing-masing sebesar 131,87 $\mu g/L$ dan 7,59 $\mu g/L$. Hal ini menunjukkan bahwa ion Pb^{2+} lebih toksik dan sensitif daripada ion Cu^{2+} terhadap *Pavlova* sp. Kandungan klorofil-a dalam mikroalga *Pavlova* sp. menurun seiring dengan kenaikan konsentrasi ion Cu^{2+} dan Pb^{2+} . Konsentrasi ion Cu^{2+} mengalami penurunan karena terjadi penyerapan oleh mikroalga *Pavlova* sp.

Kata kunci : Cu^{2+} , Pb^{2+} , toksisitas, *Pavlova* sp., klorofil-a



ABSTRACT

TOXICITY STUDY OF COPPER AND LEAD AGAINST MARINE MICROALGAE *Pavlova* sp.

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Research on the toxicity of copper and lead to *Pavlova* sp. has been carried out. The purpose of this research is to determine the IC_{50} values for Cu^{2+} and Pb^{2+} ions, to determine relationship between the concentration of Cu^{2+} and Pb^{2+} ions and the content of chlorophyll-a, to determine the decrease in concentration of Cu^{2+} ion absorbed by microalgae *Pavlova* sp.. This research was conducted through several stages including toxicity tests Cu^{2+} and Pb^{2+} ions which referred according to ACCPMS-II (Asean Canada Cooperative Programme on Marine Science), measuring concentration of Cu^{2+} ion by method bicinchoninate, and chlorophyll-a test with the Fluorometer Turner Trilogy tipe AU-10.

IC_{50} values for Cu^{2+} and Pb^{2+} ions on the growth of *Pavlova* sp. is 131.87 $\mu g/L$ and 7.59 $\mu g/L$ respectively. This shows that the Pb^{2+} ion is more toxic and sensitive than that of the Cu^{2+} ion against *Pavlova* sp.. The content of chlorophyll-a in microalgae *Pavlova* sp. decreases with increase in the concentration of Cu^{2+} and Pb^{2+} ions. The decrease in Cu^{2+} ion concentration is believed to be due to the absorption by microalgae *Pavlova* sp.

Keywords: Cu^{2+} , Pb^{2+} , toxicity, *Pavlova* sp., chlorophyll-a