Estimation Of Periphytic Photosynthesis Efficiency Using The Fluorescence Monitoring System : Response Of FMS parameters on Light Intensity, Temperature, and Chlorophyll Concentrations

---

Abstrak

The development of methods in measuring the photosynthesis process is now increasingly widespread, especially to get a more efficient method and fast. Photosynthesis efficiency of micro-algae periphytic has been estimated under the influence of light intensity and temperature by using the fluorescence monitoring system. the measurement on a colonized substrate by the saturation pulse method has been conducted using a FMSI(Fluorescence Monitoring Systems,Hansatech). Measurement of the fluorescence parameters was conducted every week on algal periphyton which was cultivated on the articial substrate during for 5 weeks under light and temperature conditions. The results show that fluorecence maximal value (Fm) increase linearly with chlorophyll a concentrations. For 20 derajat C (experiment where the biomass reached higher values),up to 100 mg chlorophyll a.m min 2 the change in Fm is approximately linear. After,the response of Fm is hyperbolic, sugesstting a measure in vivo chlorophyll a flurescence of periphyton in laboratory conditions. The instrument is simple to use, with convenient software control, especially when used in PC mode.