Potensi Biostimulan *Spirulina platensis* Sebagai Agen *Seed Priming* Berbasis Limbah Tebu Untuk Meningkatkan Viabilitas Dan Vigor Benih Mentimun (*Cucumis Sativus*). *(The Potential of Spirulina platensis Biostimulant as Sugar Mill Effluent Based Seed Priming Agent to Enhance Viability and Vigor of Cucumber Seeds (Cucumis sativus).*
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ABSTRACT

Spirulina platensis is a species of bluish-green microalgae, filamentous, unbranched, measuring 1-12 micrometers and living in colonies, and its shape is spiral (helix). S. platensis is known as a microalgae that has the ability to grow in waste media, one of which is Sugar Mill Effluent (SME). Cultivation of S. platensis produces biomass that can be used for seed priming of cucumber seeds, because Spirulina has a phytohormone content that can be used to increase seed germination. The purpose of this study was to determine the effect of the concentration of S. platensis microalgae biomass and the length of soaking time to increase cucumber seed germination. This study used a factorial Completely Randomized Design (CRD) consisting of 5 levels of S. platensis microalgae biomass concentration, namely control, water, 30%, 45%, and 60% with a soaking time consisting of 3 levels, namely 1 hour, 2 hours, and 3 hours. Based on the results of the study, it showed that S. platensis can grow in waste media which is characterized by increasing cell density and microalgae size. Analysis of the results of the seed priming test of S. platensis microalgae biomass with a concentration of 45% for 1 and 3 hours showed a significant effect on the parameters of the vigor index, growth rate and growth simultaneity. Then, the treatment of 60% concentration with a soaking time of 1 hour, 2 hours, and 3 hours showed a significant effect on the parameters of MGT, vigor index, growth rate, and plumule length. Although the 45% and 60% concentration treatments showed no significant differences in several parameters, priming with S. platensis showed no decrease in germination in cucumber seeds. This indicates that priming treatment with S. platensis has the potential to increase seedling growth.

***Key word* :** *Cucumber, Seed Priming, Spirulina platensis, Biostimulant*