

Biomass growth of red spinach in plant-factory system under three kinds of LED light sources

Publons ID	(not set)
Wos ID	WOS:000687196500100
Doi	10.1088/1755-1315/653/1/012100
Title	Biomass growth of red spinach in plant-factory system under three kinds of LED light sources
First Author	
Last Author	
Authors	Ardiansyah; Hardanto, A; Sumarni, E;
Publish Date	2021
Journal Name	2ND INTERNATIONAL CONFERENCE ON SUSTAINABLE AGRICULTURE FOR RURAL DEVELOPMENT 2020
Citation	2
Abstract	<p>The research is trying to observe the effect of different light sources on red spinach (<i>Amaranthus Tricolor L</i>) plant. Plant-factories were installed and divided into three compartments. Each compartment was given three light sources: Red-Blue LED (R-B), Multi-Color LED (M-C), and White LED (W). The energy of each light sources R-B, M-C, and W were 192 Watt, 92 Watt, and 8 Watt, respectively. The research took place on March 2018 in the Agriculture Technology Laboratory, Jenderal Soedirman University, Indonesia. The growth parameters measured were plant height, biomass, and number of leaves. Results showed that there was significant difference of growth parameters of treatment R-B compared to treatment M-C, and W. Shierary Model were used to study the mechanism of growth parameter difference. The model used the input of radiation energy of light sources that were affected by leaves development, that called the intercepted radiation. The result of the model showed that the intercepted radiation influenced the growth parameters. Treatment R-B, which generates commonly used light wave for photosynthetic, caused better plant growth. The influence of the heat emerged from the light sources were seemed to create better micro-climate for photosynthesis.</p>
Publish Type	Book in series
Publish Year	2021
Page Begin	(not set)
Page End	(not set)
Issn	1755-1307
Eissn	
Url	https://www.webofscience.com/wos/woscc/full-record/WOS:000687196500100
Author	AFIK HARDANTO, S.TP, M.Sc., Ph.D