

Comparison of bioethanol production from cultivated versus wild *Gracilaria verrucosa* and *Gracilaria gigas*

Publons ID	20523295
Wos ID	WOS:000427804800016
Doi	10.1007/s10811-017-1297-x
Title	Comparison of bioethanol production from cultivated versus wild <i>Gracilaria verrucosa</i> and <i>Gracilaria gigas</i>
First Author	Meinita, Maria Dyah Nur; Marhaeni, Bintang; Oktaviani, Diyah Fatimah;
Last Author	Hong, Yong-Ki
Authors	Meinita, MDN; Marhaeni, B; Oktaviani, DF; Jeong, GT; Hong, YK;
Publish Date	FEB 2018
Journal Name	JOURNAL OF APPLIED PHYCOLOGY
Citation	12
Abstract	<p>The seaweed genus <i>Gracilaria</i> is a potential candidate for the production of bioethanol due to its high carbohydrate content. <i>Gracilaria</i> is abundant throughout the world and can be found in both wild and cultivated forms. Differences in the ecological factors such as temperature, salinity, and light intensity affecting wild and cultivated specimens may influence the biochemical content of seaweeds, including the carbohydrate content. This study aimed to investigate the proximate composition and potential bioethanol production of wild and cultivated <i>G. gigas</i> and <i>G. verrucosa</i>. Bioethanol was produced using separate hydrolysis fermentation (SHF), employing a combination of enzymatic and acid hydrolysis, followed by fermentation with <i>Saccharomyces cerevisiae</i> ATCC 200062. The highest carbohydrate content was found in wild <i>G. gigas</i>. The highest galactose and glucose contents (20.21 +/- 0.32 and 9.70 +/- 0.49 g L⁻¹, respectively), as well as the highest production of bioethanol (3.56 +/- 0.02 g L⁻¹), were also found in wild <i>G. gigas</i>. Thus, we conclude that wild <i>G. gigas</i> is the most promising candidate for bioethanol production. Further research is needed to optimize bioethanol production from wild <i>G. gigas</i>. Domestication of wild <i>G. gigas</i> is a promising challenge for aquaculture to avoid overexploitation of this wild seaweed resource.</p>
Publish Type	Journal
Publish Year	2018
Page Begin	143
Page End	147
Issn	0921-8971
Eissn	1573-5176
Url	https://www.webofscience.com/wos/woscc/full-record/WOS:000427804800016
Author	Prof. Dr MARIA DYAH NUR MEINITA, S.Pi