

Effect of Land Agricultural Fertilizer on Growth of Marine Single Cell Protein, Spirulina platensis, Chlorella vulgaris and Nannochloropsis

Title	Effect of Land Agricultural Fertilizer on Growth of Marine Single Cell Protein, Spirulina platensis, Chlorella vulgaris and Nannochloropsis
Author Order	4 of 7
Accreditation	2
Abstract	<p>This study aimed to determine the growth rate and protein content in Nannochloropsis oculata, Chlorella vulgaris, Spirulina platensis were cultured using agricultural fertilizers. The agricultural fertilizers used were Urea, ZA and TSP. Each single cell protein was cultured using the three types of fertilizers with a ratio of Urea: ZA and TSP as follows (A) 1: 2: 1 [(10:20:10 g / L)], (B) 2: 2: 1 [(20:20:10 g / L)] and (C) 3: 2: 1 [(30:20:10 g / L)], respectively. The results showed that the best ratio of Urea, ZA and TSP fertilizers to growth of Spirulina, Nannochloropsis oculata and Chlorella vulgaris was C [30:20:10 (g / L)] treatment. However, phyto-protein content in Nannochloropsis differed significantly between fertilization treatments, C fertilization yielded the highest protein content (28.75% ± 0.05%), when compared with A (25.13% ± 0.01%) and B (25.14% ± 0.02%), respectively. In Chlorella vulgaris, all fertilization treatments showed very significant differences, B fertilization (28.24% ± 0.006) yielded the highest phyto-protein content, if compared to A (23.63% ± 0.003) and C (19.74% ± 0.006), respectively. All fertilization treatments showed very significant differences (P < 0.05) on Spirulina platensis. The highest content of phyto-protein (62.68 + 0.05%) was present in treatment C, when compared to A (52.18 + 0.05%) and B (62.37 + 0.01%) treatments, respectively.</p>
Publisher Name	Fisheries and Marine Science Faculty - Jenderal Soedirman University
Publish Date	2019-12-25
Publish Year	2019
Doi	DOI: 10.20884/1.oa.2019.15.2.764
Citation	
Source	Journal Omni-Akuatika
Source Issue	Vol 15, No 2 (2019): Omni-Akuatika November
Source Page	69-74
Url	http://ojs.omniakuatika.net/index.php/joa/article/view/764/258
Author	Dr NORMAN ARIE PRAYOGO, S.Pi, M.Si