

2016年度日本水産増殖学会第15回大会
第12回日韓・韓日水産増養殖シンポジウム
講演要旨集

Annual Meeting of Japanese Society for
Aquaculture Science in 2016

12th Japan-Korea, Korea-Japan Joint
Symposium on Aquaculture

Program and Abstract



2016年11月3日～5日
三重大学

November 3rd-5th, 2016
Mie University, Mie, Japan

日本水産増殖学会
Japanese Society for Aquaculture Science (JSAS)

2016 年度日本水産増殖学会第 15 回大会/
第 12 回日韓・韓日水産増養殖シンポジウム 日程表

Schedule for Annual Meeting of JSAS 2016 /
12th Japan-Korea, Korea-Japan Joint Symposium on Aquaculture

	日本水産増殖学会大会 (Annual Meeting of JSAS 2016)	日韓・韓日水産増養殖シンポジウム (J-K, K-J Joint Symposium)
11 月 3 日 (木・祝) / Nov. 3rd (Thu)		
09:00～	受付/ Registration	
10:30	開会式(第 3 会場) / Opening Address at R#3	
10:40～11:40	口頭発表/ Oral Presentation	
	第 1 会場(R#1)	第 2 会場(R#2)
	【O-01】～【O-04】	【O-08】～【O-11】
11:40～13:10	昼休み / Lunch Break	
12:00～13:00	2016 年度第 2 回日本水産増殖学会 評議員会(中会議室) / JSAS Councilors' Meeting	
13:10～13:55	口頭発表/ Oral Presentation	
	第 1 会場(R#1)	第 2 会場(R#2)
	【O-05】～【O-07】	【O-12】～【O-14】
14:00～14:15	休憩 / Coffee Break	
14:15～14:30	開会式(第 3 会場) /Opening Address at R#3	
14:30～16:00	合同ポスター発表 / Joint Poster Presentation (2 階ピロティアー / Poster Gallery) JSAS:【P-01】～【P-11】 J-K, K-J Joint Symposium: 【KP-01】～【KP-23】	
16:00～16:15	休憩 / Coffee Break	
16:15～17:30	口頭発表(第 3 会場) / Oral Presentation (Room #3) 【KO-01】～【KO-05】	
17:30	閉会式 / Closing Remark	
18:00～	懇親会(生協第 1 食堂) / Banquet (University Cafeteria #1)	

11月4日(金)～5日(土) / Nov. 4th (Fri) - 5th (Sat)

エクスカージョン(海女サミット 2016 in 志摩) / Excursion (Ama-Summit 2016 in Shima)

<http://www.satoumi-shima.jp/event/information/in-2.html>

※エクスカージョンの詳細は11月3日にご案内を配布いたします。

/ Please refer to the travel guidance distributed on Nov. 3rd in detail.

***KP-16**

The estimation of seaweed production and nitrogen flux in the Integrated Multi Trophic Aquaculture (IMTA) system using STELLA model

○Cicilia Kambey¹, Calvyn Sondak² and Ik Kyo Chung¹ (¹Division of Earth Environmental System Oceanography major, Pusan National University, Republic of Korea; ²Faculty of Fisheries and Marine Science, Sam Ratulangi University, Indonesia)

***KP-17**

The effects of eutrophication and acidification on the ecophysiology of *Ulva pertusa* Kjellman

○Jin Woo Kang and Ik Kyo Chung (Division of Earth Environmental System Oceanography major, Pusan National University, Republic of Korea)

***KP-18**

Molecular monitoring for the dynamic features of eukaryotic plankton communities in the Nakdong river estuary of Korea

○Jee Eun Lee¹, Ik Kyo Chung¹, Tongsup Lee¹, Sang-Rae Lee² (¹Department of Earth Environmental System Oceanography major, Pusan National University, Republic of Korea; ²Marine Research Institute, Pusan National University, Republic of Korea)

KP-19

Carbon dioxide mitigation potential of seaweed aquaculture beds (SABs)

○Ik Kyo Chung¹ and Jin Ae Lee² (¹Department of Oceanography, Pusan National University, Korea; ²School of Environmental Science and Engineering, Inje University, Korea)

KP-20

Cultivation and utilization of green algae in Korea

○Jong-Ahm Shin¹, Tae-Ho Seo¹, Hyang Ran Baek¹, Seong Ju Kim¹, Yeo Ho Lim¹, Man-Gu Kang¹ and Bin Sun² (¹College of Fisheries and Ocean Sciences, Chonnam National University, Republic of Korea; ²College of Fisheries and Life Science, Shanghai Ocean University, China)

KP-21

Principal considerations in marine afforestation

○Jong-Ahm Shin¹, Hyun-Soo Shin², Man-Gu Kang¹, Su-Yeon Lim¹, Chang-Hyeok Lee¹, Sung-Je Choi³, Yun-Ho Kang¹, Han-Gil Choi⁴, Jeong Ha Kim⁵, Hyung Geun Kim and Shin Ja Ko⁷ (¹Chonnam National University, ²Honam Regional Statistics Office, ³Jeollanamdo Maritime & Fisheries Institute, ⁴Wonkwang University, ⁵Sungkyunkwan University, ⁶Gangneung-Wonju National University, ⁷Jeju National University, Republic of Korea)

*** KP-16**

The estimation of seaweed production and nitrogen flux in the Integrated Multi Trophic Aquaculture (IMTA) system using STELLA model

[○]Cicilia Kambey¹, Calvyn Sondak² and Ik Kyo Chung^{1*}

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Recently seaweed cultivation has been considered as a measure to mitigate the coastal eutrophication and therefore, seaweeds are incorporated in the Integrated Multi trophic Aquaculture (IMTA) system. To estimate the ecophysiological mitigation potential and biomass production of two commercially important red algal species, *Kappaphycus alvarezii* and *Gracilaria* sp., a STELLA model was implemented with respect to their nitrogen pools and dynamics in IMTA systems. Growth rates, productivity, stocking densities and removal efficiencies were calculated under various conditions. The external forcing factors such as current velocity, temperature and irradiance were also considered for 45-days culture period. Combination of N content from 0.05 g N m⁻³ to 5 g N m⁻³ and stocking density of 50 g FW m⁻² to 1000 g FW m⁻² were considered. *Gracilaria* sp. showed have higher growth rate of above 5 g N m⁻³. The N removal rate reached peak up to 65 % under the conditions of low DIN concentrations up to 1 g N m⁻³ and stocking densities of 500 to 1000 g FW m⁻². We could apply the result of STELLA simulation studies in selecting location for culture ground, setting stocking densities, adjusting the fish cage effluents and other factors which could affect seaweed growth and production.

Keywords: Nitrogen, Production, Stocking density, STELLA model, *Kappaphycus alvarezii*, *Gracilaria* sp.