

## Supplementary Materials

# Strategies for Enhancing Grow-Out Culture Technique of Community-Based Sea Cucumber (*Holothuria scabra*): A Case Study in Malawali Island, Sabah

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**Table S1.** Initial and final survival (%), total biomass (g), mean weight (g) of juveniles between each treatment within monitoring day

Parameters	Time/ Treatment	16U (C)	4U	16E	4E
Survival (%)	Initial	100.00 ± 0.00	100.00 ± 0.00	100.00 ± 0.00	100.00 ± 0.00
	Final	29.00 ± 21.21 <sup>a</sup>	7.00 ± 1.41 <sup>a</sup>	35.00 ± 12.73 <sup>a</sup>	20.00 ± 5.66 <sup>a</sup>
Total Biomass (g)	Initial	415.00 ± 9.00 <sup>a</sup>	432.20 ± 22.20 <sup>a</sup>	435.95 ± 17.05 <sup>a</sup>	418.80 ± 19.20 <sup>a</sup>
	Final	1667.65 ± 609.35 <sup>a</sup>	350.15 ± 22.25 <sup>a</sup>	1890.45 ± 557.75 <sup>a</sup>	889.70 ± 319.6 <sup>a</sup>
Mean weight (g)	Initial	8.30 ± 0.42 <sup>a</sup>	8.64 ± 0.40 <sup>a</sup>	8.72 ± 0.24 <sup>a</sup>	8.38 ± 0.40 <sup>a</sup>
	Final	115.02 ± 26.46 <sup>a</sup>	100.04 ± 36.9 <sup>ab</sup>	108.03 ± 29.09 <sup>ab</sup>	88.97 ± 28.74 <sup>b</sup>

Superscript letter indicates significant difference (One-way ANOVA and Duncan's Test as post-hoc test;  $p < 0.05$ ). Asterisk (\*) indicate significant difference. 16U = Low stocking density with no enrichment, 4U = high stocking density with no enrichment, 16E = low stocking density with enrichment, 4E = high stocking density with enrichment.

**Table S2.** Growth performance of juveniles *H. scabra* after 6 months

Parameters	16U	4U	16E	4E
AGR (g day <sup>-1</sup> )	0.63 ± 0.18 <sup>a</sup>	0.49 ± 0.06 <sup>a</sup>	0.52 ± 0.03 <sup>a</sup>	0.41 ± 0.11 <sup>a</sup>
Biomass increment (%)	298.61 ± 138.37 <sup>a</sup>	-18.49 ± 9.32 <sup>b</sup>	329.29 ± 111.35 <sup>a</sup>	116.37 ± 86.23 <sup>a</sup>

Different letter superscripts indicate significance differences (One-way ANOVA, Duncan's Test;  $p < 0.05$ ) among treatment after 6 months. 16U = Low stocking density with no enrichment, 4U = high stocking density with no enrichment, 16E = low stocking density with enrichment, 4E = high stocking density with enrichment

**Table S3.** Pooled data of TOM and Chl-a ± S.D in enriched and unenriched pens

Parameter/ Treatment	16U (Control)	4U	4E	16E	p- value
TOM (%)	3.14±0.07 <sup>ab</sup>	3.05±0.40 <sup>b</sup>	3.25±0.33 <sup>a</sup>	3.41±0.09 <sup>a</sup>	0.10
Chl-a (ug/g)	1.06±0.43 <sup>b</sup>	0.89±0.39 <sup>b</sup>	1.76±0.83 <sup>a</sup>	1.81±0.70 <sup>a</sup>	<0.01

Different letter superscripts indicate significance differences (Kruskal-wallis with pairwise comparison;  $p < 0.05$ ). 16U = Low stocking density with no enrichment, 4U = high stocking density with no enrichment, 16E = low stocking density with enrichment, 4E = high stocking density with enrichment.