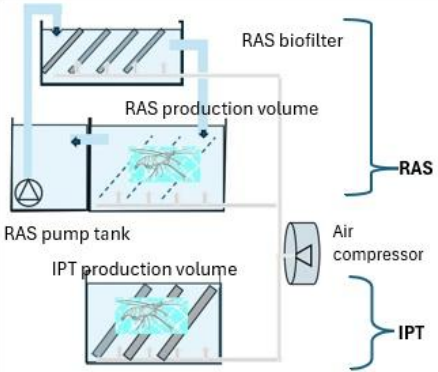





GRAPHICAL ABSTRACT

Validation of Integrated Periphyton Technology in Mixed Sex Culture of Giant Freshwater Prawn, *Macrobrachium Rosenbergii*: Insights into Impact of Heterogenous Independent Differentiation and Gender on Growth Dynamics in Grow Out

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IPT in parallel operation with RAS	Characteristics	Results
	RECIRCULATING AQUACULTURE SYSTEM (RAS) <ul style="list-style-type: none">Domain is limited to 2D surfaceEcdysis and Grazing Area equalSubstrate biomass limitedWater Quality (WQ) achieved in biofilter	<ul style="list-style-type: none">Heterogenous Independent Growth (HIG) at 104 daysHigher Blue Claw (BC) average BWSimilar FCR & WQSmaller males and femalesZero discharge
	INTEGRATED PERIPHYTON TECHNOLOGY (IPT) <ul style="list-style-type: none">Domain surface equivalentEcdysis and Grazing Area equalPeriphyton biofilm +200% of footprintWQ achieved in production volume3D substrate - high biofilm Specific Surface Area (SSA)	<ul style="list-style-type: none">Heterogenous Independent Growth (HIG) at 104 daysHigher Blue Claw (BC) total masDouble the BC populationLow energy consumption & less complexZero discharge & smaller footprint
	CONCLUSION: IPT growth performance is equivalent or better than RAS, while sustainability of culture is improved.	
Marioni, D.I, Kasan, N. A. Jung, L.H., Rosas, V.T., Vethamony, P., Al-Khayat, J.A. and Ikhwanuddin, M. Doi:	<div> FCR Similar</div> <div> Water Quality</div> <div> Sustainability</div>	Tropical Life Sciences Research