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Performance of Inland Shrimp Culture in East Lampung, Indonesia

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INTRODUCTION

- White shrimp (*Litopenaeus vannamei*) farming in Indonesia has developed and reached good result
- White shrimp has been capable to increase pond productivity from 5-6 tons/ha/cycle to 10-20 tons/ha/cycle.
- Due to high density (up to 100 pcs/m^3) and survival rate (up to 90%)

- *In some areas in Indonesia (ex. : Lampung Province) recently farmers are facing some problems in growing up vannamei due to disease attack, mostly viral disease*
- Shrimp culture activity cause environmental problems (organic waste, mangrove destruction)

The case in East Lampung

- East Lampung District was a main producer of *P monodon* in Lampung Province in the past
- Due to water quality degradation and diseases, the production was declined
- Other problem : low fry qualitiy
- Farmers only culture *P monodon* at traditional scale, pond productivity under 300 kg/ha

- Need a suitable stategy to increases pond productivity
- Introduction of Litopenaeus vannamei to farmers
- Litopenaeus vannamei is euryhaline species (0,5-35 ppt)
- High tolerance at high density, fast growth, SPF fry, and lower feed coversion ratio

Previous study

- Conducted in laboratory scale
- Using lined pond : 4m x 2m x 0,7m in dimension
- Water volume : 4 m^3
- Water height : 0.5 m
- Salinty : +/- 5 g/L
- Density : 600 Pls/pond (150 Pls/m^3)
- PL age : 10
- Acclimation : single step acclimation
- Treatment : - using indigenous bacteria
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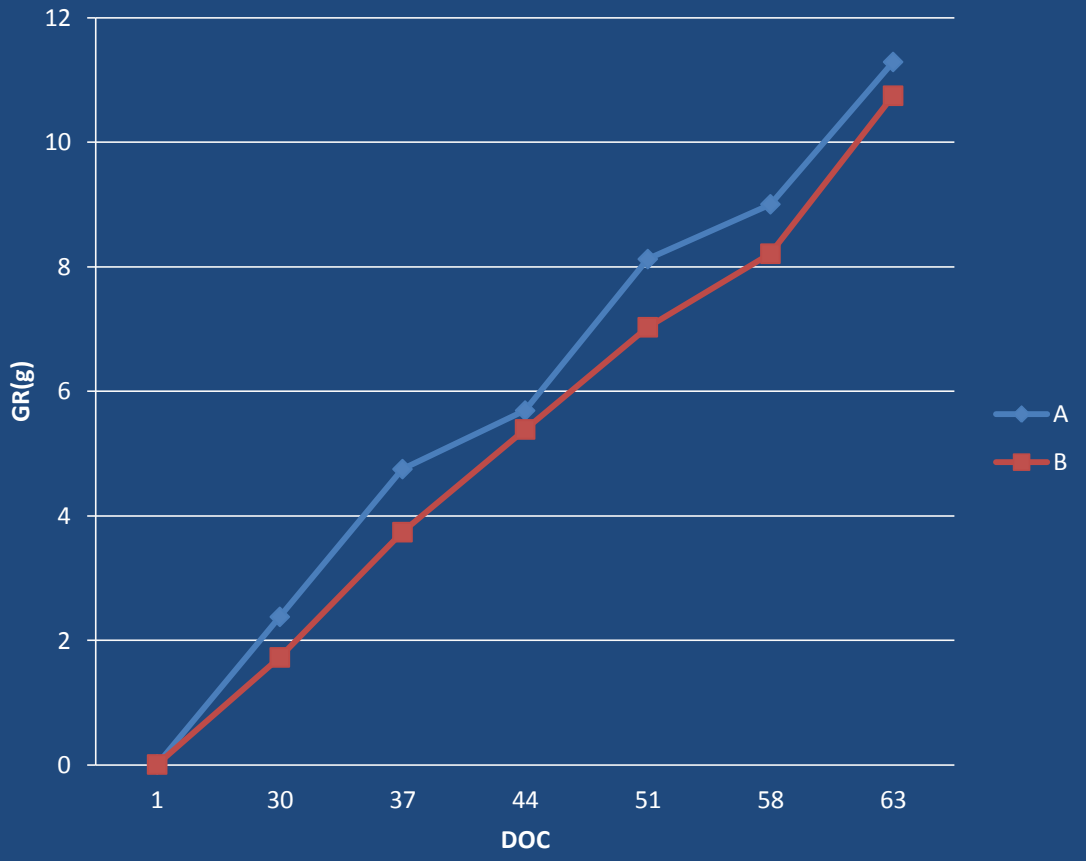
TRIAL PONDS



A = using indegenous bacteria

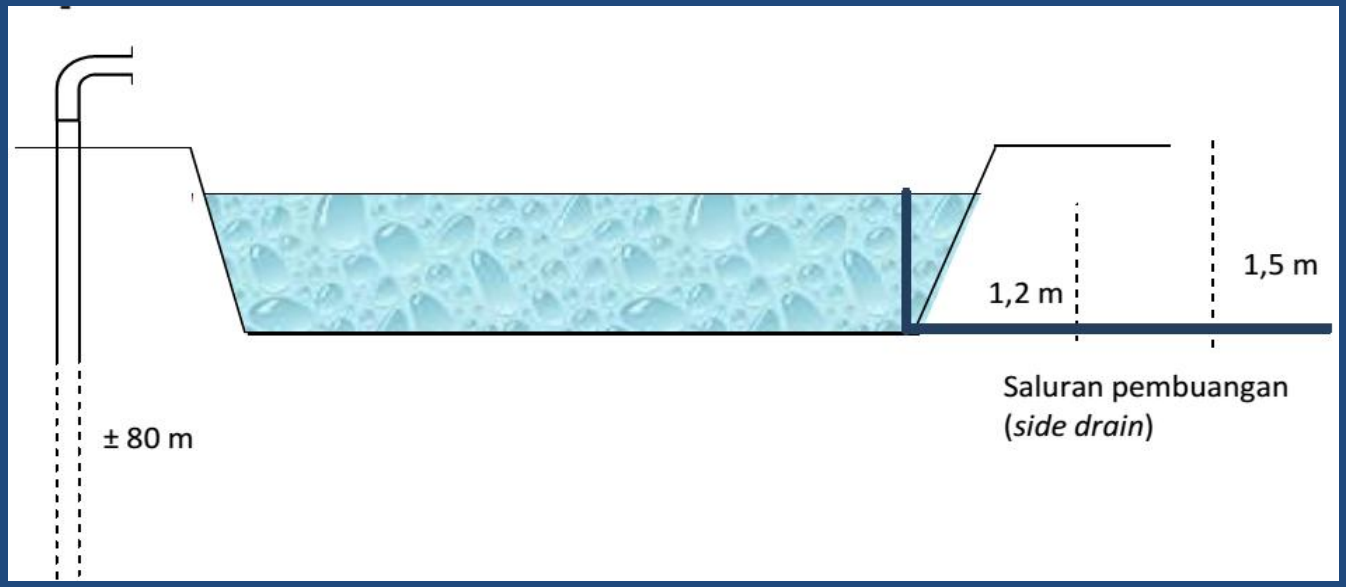
B = without bacteria

Shrimp performances (DOC 63 days)

	Using indigenous bacteria	Without bacteria
SR	73 %	66%
Biomass	4.8 kgs	4.1 kgs
GR	11.29 g	10.75 g
FCR	1.35	1.58

Performances in commercial pond

- Using semi lined pond
- Pond size : 2000 m^2



Study Site

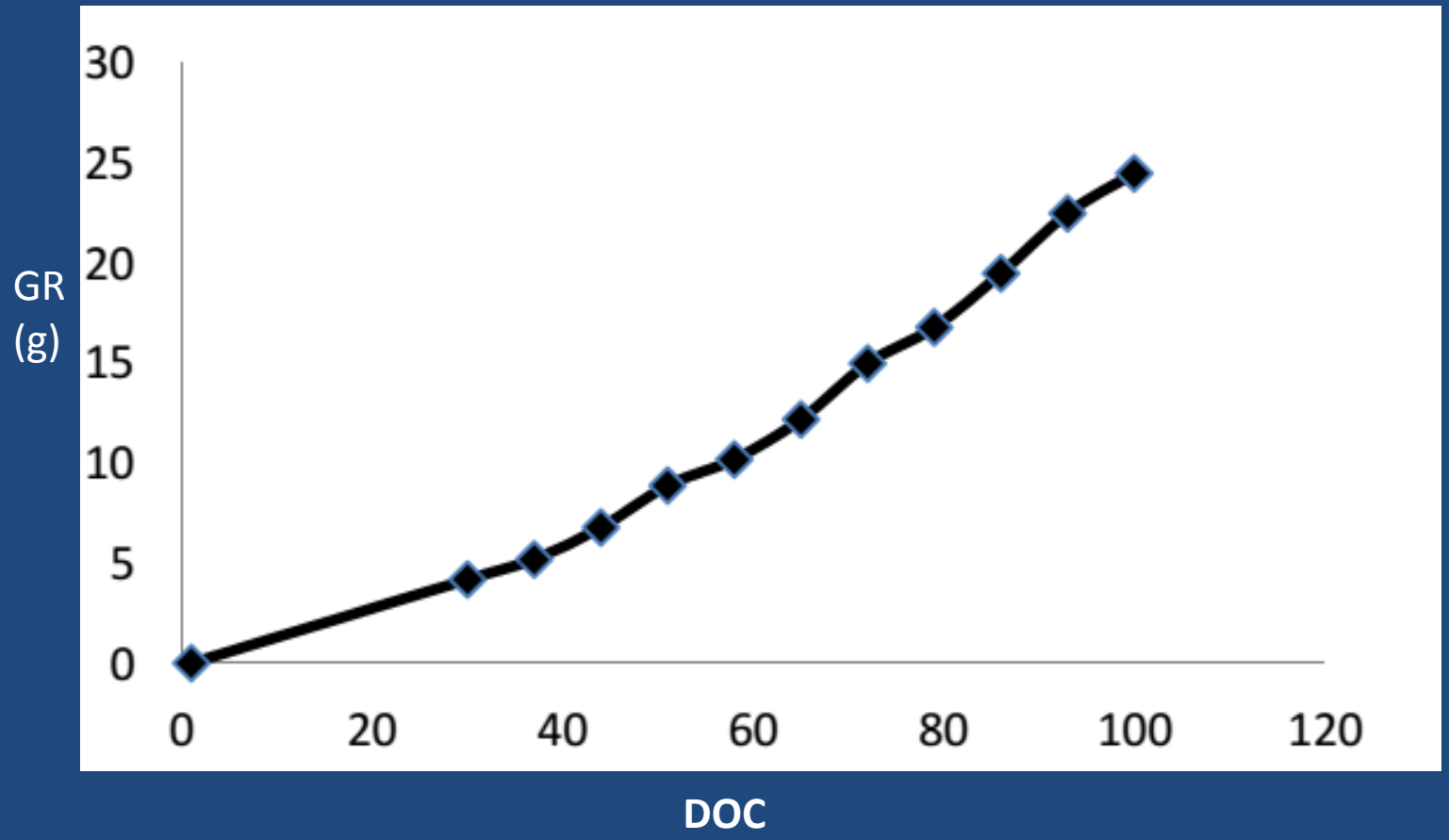
Pond site

Trial Pond

Single step acclimation

Summary

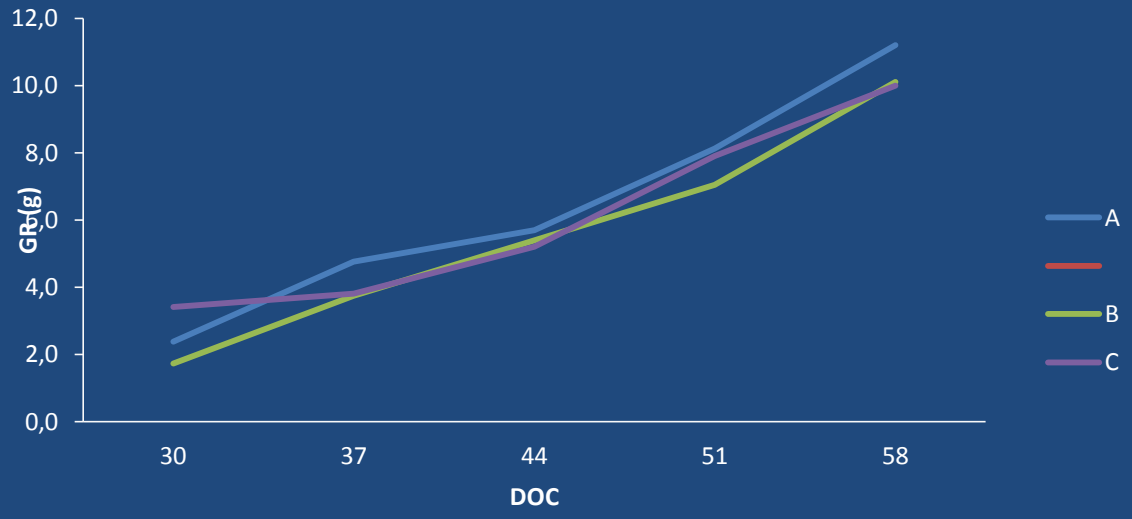
No	Variable	Information
1	Pond size	2000 m^2
2	Fries	140 000 PL's
3	Density	70 PL's/m^2
4	SR	85 %
5	Partial harvest I (size 97)	310 kgs (30.097 pcs)
6	Partial harvest II (size 76)	515 kgs (39.313 pcs)
7	Final harvest (size 42)	1180 kgs
8	Total harvest	2005 kgs
9	FCR	1.5
10	Day of culture (DOC)	110 days



Growth Curve

Harvesting

Compared to commercial pond



A = with bacteria
B = with out bacteria
C = Commercial Pond

Financial Analysis

Component	Quantity	Price (IDR)	Total Price (IDR)	Percentage (%)
Fries	120	45	5,400,000	7
Feed	3,025	14,000	42,350,000	55
chemicals			1,000,000	1
Fuel	2,600	5,800	15,080,000	20
employer	4	1,500,000	6,000,000	8
Incentive	2,000	1,000	2,000,000	3
Others			5,000,000	6
Depreciation			10,000,000	
total			**86,830,000**	

Harvest Result (IDR)	**157,950,000**
Benefit (IDR)	71,120,000
B/C ratio	0.82
R/C ratio	1.82