

Costs of Producing Freshwater Prawns in Mississippi Ponds



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Objectives:

- Develop hypothetical farms:
 - new and existing
 - single & multiple-enterprises
 - single stocking
 - single harvesting
- Compare costs & returns
 - stocking densities
 - yields



Data Sources

- **Pond grow-out experiments:**
 - NWAC, Stoneville and Starkville
 - MSU-CAU, Gulfport
- **Pond design, construction & operation:**
 - Mississippi Delta, Black Belt Area, Coastal Area

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New Single-Enterprise Farm



- 60.5 land acres
- 25 two-water-acre ponds
- harvesting sumps
- aeration, feeding & weed control equipment
- well & pump
- truck & storage building

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New Pond Construction Cost



- Earth moving
(adjacent ponds)
- Drainage structure
- Gravel
- Vegetative cover

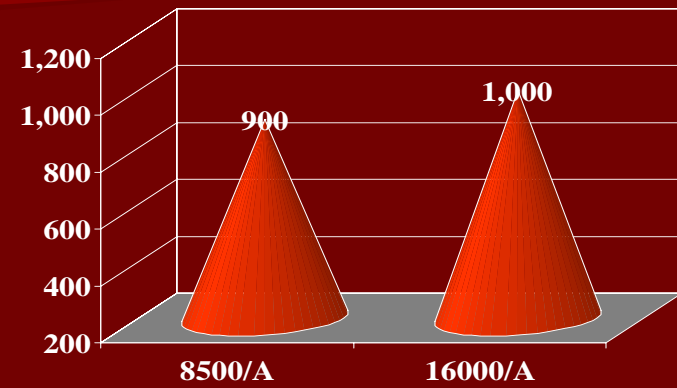
**\$60.5K/farm,
\$2.4K/pond or
\$1.2K/water acre**

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2003 NWAC FWP Yields (Pounds, heads-on per water acre)

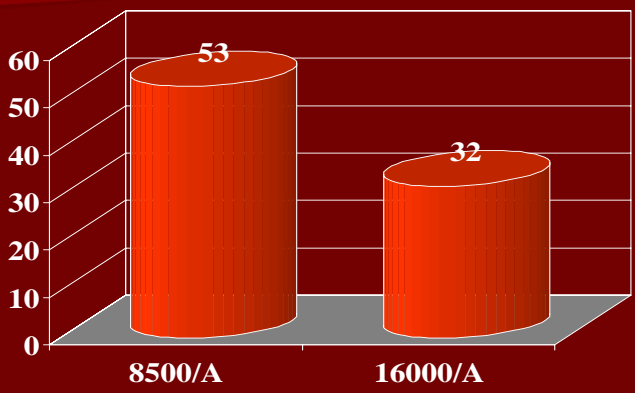


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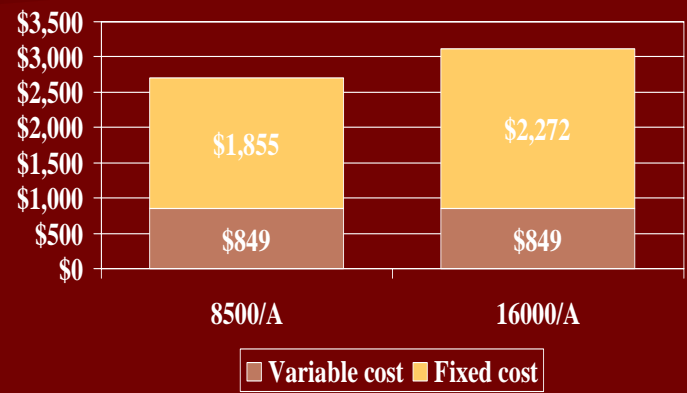
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2003 NWAC Harvest Weights (grams, heads-on)



Average Production Costs (Per water acre, heads-on)



2003 FWP Production Costs (\$/water acre)

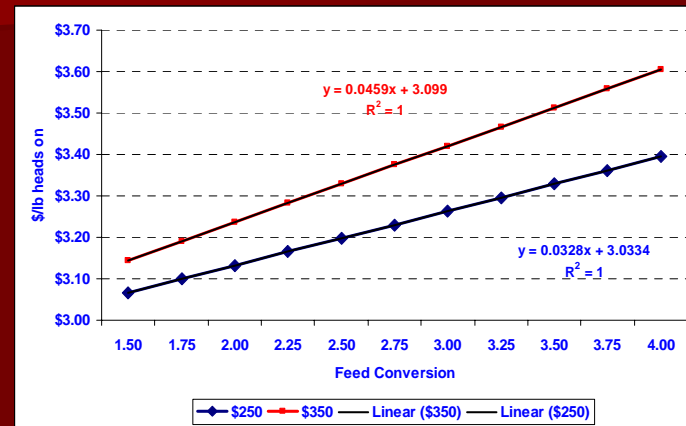
	8500/A	16000/A
1. Variable costs:		
2. Repair and maintenance	229	229
3. Fuel	117	117
4. Electricity		
5. Electric aerators	124	124
6. Water pump	5	5
7. Chemicals	104	104
8. Telephone expense	50	50
9. Juveniles	383	720
10. Feed	318	363
11. Labor	319	319
12. Crushed ice	50	57
13. Hauling	47	54
14. Miscellaneous	25	25
15. Operating interest	86	105
16. Total variable costs	1,855	2,272
17. Fixed costs:		
18. Depreciation	472	472
19. Interest on investment	315	315
20. Taxes and insurance	62	62
21. Total fixed costs	849	849
22. Total costs	2,705	3,121

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Break-even Prices 8500/A

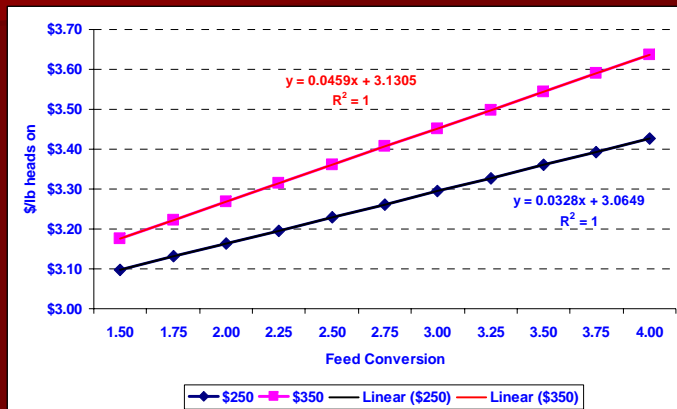


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Break-even Prices 16000/A

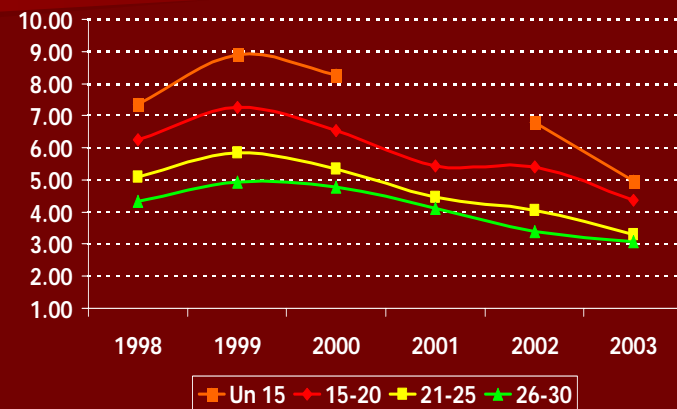


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GoM Nov Shrimp Ex-vessel Prices (Per pound, heads-off)

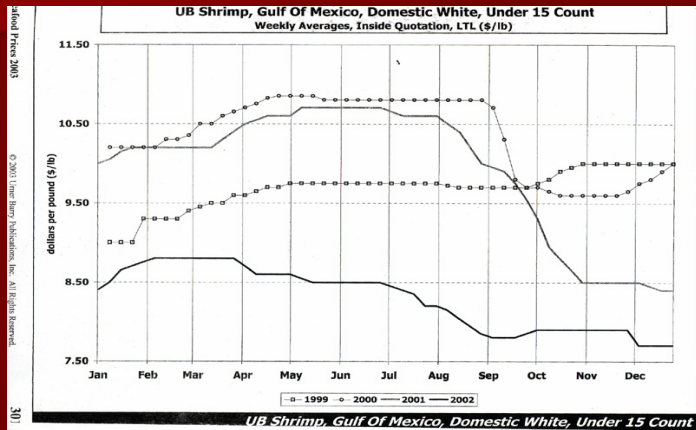


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GoM Shrimp Wholesale Prices (Per pound, heads-off)

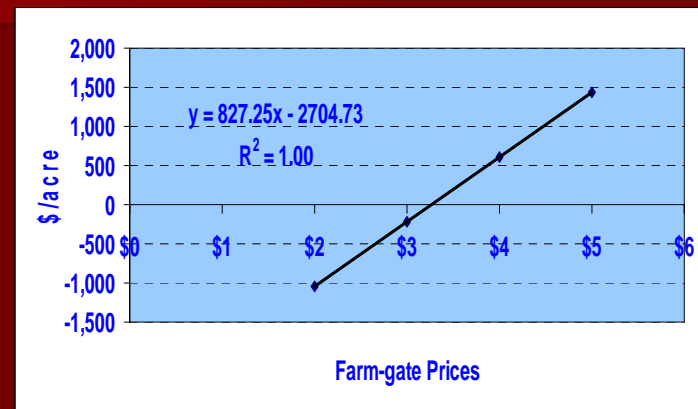


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Net Returns Above Specified Expenses 8500/A

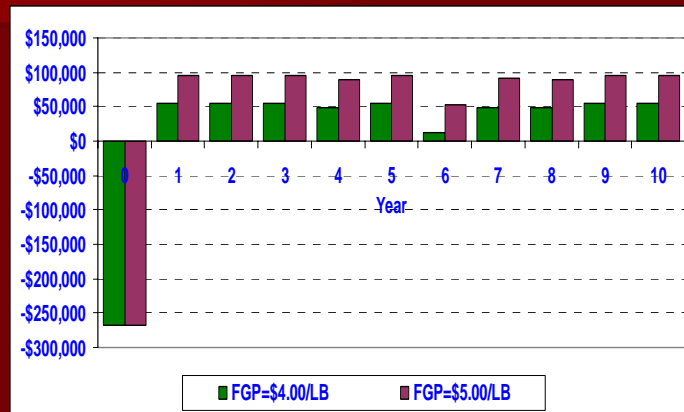


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10-Year Annual Cash Flow 8500/A

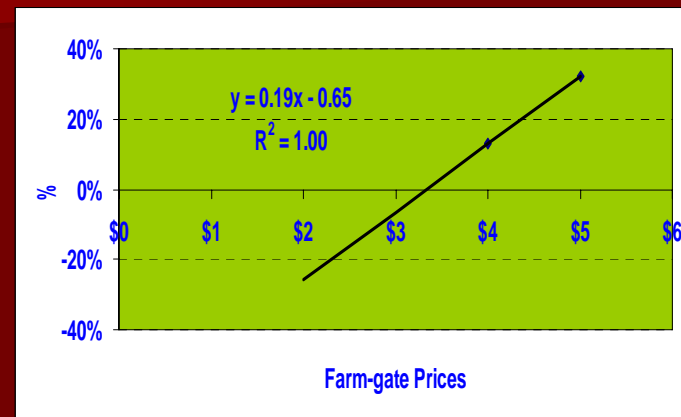


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Internal Rate of Return 8500/A

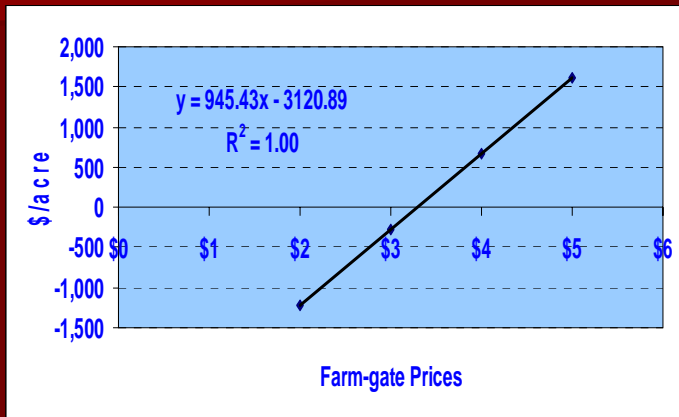


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Net Returns Above Specified Expenses 16000/A

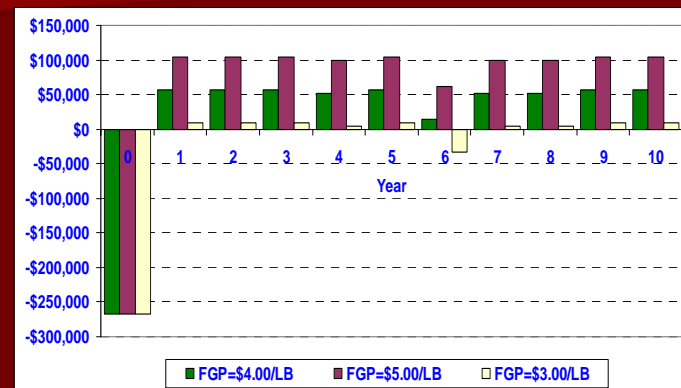


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10-Year Annual Cash Flow 16000/A

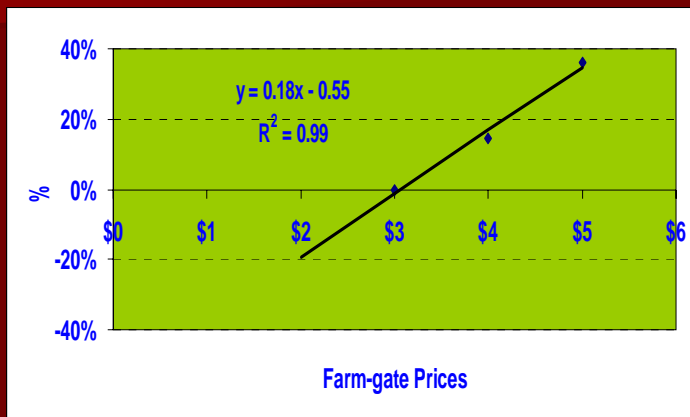


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Internal Rate of Return 16000/A



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Implications



- What is the optimal stocking density?
- What is the limit to a pond's holding capacity?
- The cost of juveniles ranged \$383-\$720/acre, ~ 20-31% of TVC.

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Implications



- Shrimp prices vary by count – larger sizes command higher prices at the ex-vessel and wholesale levels.
- Processing costs are incurred when selling headless prawns.
- Provide allowance for storage costs.

Thank you for your attention.

For further information, visit the
MSU-CREC Freshwater Prawn
website at:

<http://www.msstate.edu/dept/crec/fwpres.html>

Or go to any internet search engine and search for
Freshwater Prawn Production Systems