Why Prawns?

• Potential profits from relatively small facilities
• High quality product
• Can be grown with low or high intensity management
• Can double crop with a cool water species
Key Points

• Temperature
  – 80 to 90 degrees (some say 75 to 80)

• Space****
  – 2.0 to 2.5 square feet per prawn

• Water circulation
  – Keep ammonia low and oxygen high
  – No sediment accumulation

• Feed quality
  – Complete feed supplemented with natural organisms
  – Or, in less dense systems, only natural organisms
Prawn Tank Adjacent to Pond

200 pounds of prawns in a 24 ft diameter pool in 122 days.

$3,000 at $15.00/lb
Production Parameters for Tank Culture of Freshwater Prawns From Aquaculture of Texas, 3 year Study

Stocking Density: 4,000 Juveniles

Grow out Time: 122 days

Survival: 91%

FCR: 1:1.09

Average: 18/lb.

Production: 201 lbs.
# Back-yard Prawns

<table>
<thead>
<tr>
<th>Item</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>24’x52” Pool+pump</td>
<td>$1,500</td>
</tr>
<tr>
<td>Substrate</td>
<td>$ 500</td>
</tr>
<tr>
<td>Air pump</td>
<td>$ 500</td>
</tr>
<tr>
<td>Plumbing</td>
<td>$ 200</td>
</tr>
<tr>
<td><strong>Total Set Up Cost</strong></td>
<td><strong>$ 2,700 (~5 year payback)</strong></td>
</tr>
<tr>
<td>Electricity for pump and blower</td>
<td>$2.75/day</td>
</tr>
<tr>
<td>High quality prawn feed</td>
<td>500 lb</td>
</tr>
<tr>
<td>4,000 prawn juveniles</td>
<td>$100/1,000</td>
</tr>
<tr>
<td><strong>Total (Per Crop)</strong></td>
<td><strong>$1,660</strong></td>
</tr>
</tbody>
</table>

Breakeven at $11.00 per pound
Filters for Tank
(Simple, but sized for the amount of feed)
Substrate Frames

- 256 sq ft per substrate
- 5 substrates per tank
- 640 sq ft tank bottom
- 1,920 total sq ft resting

Aquaculture of Texas

0.1 lb/ sq ft
Substrate Construction

- 2 inch PVC – 44 ft, $49.00
- Fittings – 8, $24.00
- Wire – 70 ft, $10.00
- Bird netting – 50 ft x 4 ft, $20.00

»Total Materials $103.00

Labor per substrate: 30 minutes to 1 hour
Growth Rate in Tanks

• Prawns should grow to 50 grams (9/pound) in 5 months

• Need heat, space and food

• Survival is good, growth can be slower than in ponds
  – Space and food are the key
Pond Preparation

• No structure for low input production

• Lime if necessary (release phosphorus)

• Ponds filled with water 5-7 days before stocking
  – Preferably from an established pond

• Fertilization started and zooplankton monitored (1000/L)

• Grass carp stocked
  » less than 3 inches
Grass carp can control algae so that seining is easier. This pond needs a smooth bottom and harvest basin. An external catch basin may reduce required harvest labor.
Vertical Structure in Pond
This structure allows filamentous algae a point of attachment.
Horizontal Substrate

Keep substrate underwater, use plastic that does not float.
Screen Box Below Prawn Pond

One Acre-ft of water takes 5.4 hours to drain at 1,000 GPM.

Example: ½ Acre pond that is 4 feet deep. Regulate draining with external valve at 1,000 GPM. Drain over 10 to 12 hours. Slow draining allows prawns time to move toward drain. Control of drain valve prevents heavy water flow and injury to prawns.
Low-input Demonstrations, Kentucky

- Stocked May 26 – 0.25 g post larvae
- 4 ponds (2.75 ac)
- 8,000 & 10,000 PLs/ac
- Harvested September 13, 19, & 27
- 108 to 121 days
## Shrimp Harvest Data

<table>
<thead>
<tr>
<th>Density (pL/ac)</th>
<th>Survival (%)</th>
<th>Yield (lb/ac)</th>
<th>Count (shrimp/lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8,000</td>
<td>33.3\textsuperscript{a}</td>
<td>146</td>
<td>18</td>
</tr>
<tr>
<td>8,000</td>
<td>40.4\textsuperscript{b}</td>
<td>204</td>
<td>16</td>
</tr>
<tr>
<td>10,000</td>
<td>56.4</td>
<td>326</td>
<td>17</td>
</tr>
<tr>
<td>10,000</td>
<td>55.6</td>
<td>348</td>
<td>16</td>
</tr>
</tbody>
</table>

\textsuperscript{a} filamentous algae
\textsuperscript{b} largemouth bass
Stocking for Low Input

- Use larger stockers
- Stock early in the year, when water is warming to 70 degrees (May 1 in south GA)
- Stock at low densities
  - 8,000 per acre
  - Assuming 8 per pound at harvest and 60% survival, yield should be 600 pounds per acre
  - Harvest in early October – ~160 days
Phase Feeding of Prawns

• Studied at MSU

• Phase feeding schedule
  – Distillers grain, first month
  – 32 % protein prawn diet, wks 5 to 12
  – 40 % protein shrimp diet, till harvest

• Compared to 32% protein Prawn pellet the entire season
Prawn Production on Phase Feeding, Mississippi

- Phase: 1200 lb/A
- Prawn: 800 lb/A
Catfish feed vs. Shrimp feed

- Catfish
- Shrimp

200 lb/acre more

Okay if shrimp feed costs less than $750/ton
US Freshwater Prawn and Shrimp Growers Association
655 Napanee Road, Leland, MS 38756
662-686-2894 or 662-390-3528
Usually meets in March in Tunica, MS

http://freshwaterprawn.org/
Suppliers of Post Larvae

- Aquaculture of Texas, Inc., Craig Upstrom, 817-594-4872, Fax 817-732-8248 e-mail: upstrom5@airmail.net Website Delivery of Juveniles Available

- Lauren Farms, Leland, MS, Steve and Doloris Fratesi 662-686-2894 e-mail: lsfarms@tecinfo.com Website Delivery of Juveniles Available

- Throughbred Shrimp Company, Shawn Coyle 8715 US 421 N Frankfort, KY 40601, 502-875-2461 or 502-330-4803 tbredshrimp@aol.com Delivery of Juveniles Available