Maine's Aquaculture Sector & its R&D&E Priorities

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Chris Davis
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Maine Aquaculture Innovation Center
Importance of Aligning Research Needs & Capabilities

• To enable sector development:
  – vibrant and enabling R&D & Education environment
  – with integrated components
  – that are easy to access

• Many of Maine’s AQ businesses have common characteristics such as:
  – small size; small workforce and therefore a reduced diversity of in-company skills to draw on; limited access to capital; and
  – reduced capacity for research and innovation.

• These characteristics can hinder growth both as a business and a sector
Methods

• Survey Summer 2019
• Response rate = 208
• Average completion rate of 76%
• A range of question styles were used:
  – Multiple choice
  – Likert scale
    • Took issues identified in previous surveys
    • Likert Scale 1-5, and option of not relevant
  – Open-ended
    • Qualitative, thematic analysis
### BARRIERS 2019

**6. What is the single greatest barrier to your business’s success?**

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regulatory</td>
<td>Workload/Time</td>
</tr>
<tr>
<td>2</td>
<td>Management/Capital</td>
<td>Access to capital</td>
</tr>
<tr>
<td>3</td>
<td>Culture Tech</td>
<td>Regulations/Lease Process</td>
</tr>
<tr>
<td>4</td>
<td>Marketing</td>
<td>Crop loss/mortality</td>
</tr>
<tr>
<td>5</td>
<td>Disease</td>
<td>Price/Market Competition</td>
</tr>
<tr>
<td>6</td>
<td>Workforce</td>
<td>Workforce</td>
</tr>
</tbody>
</table>
Fin Fish Priorities

Sea Lice top priority in 2016, but effluent treatment much lower priority
Biofouling is a research priority that crosses sectors.
Shellfish Priorities

- 1 Urgently Important
- 3 Moderately Important
- 5 Not Important

- Shellfish diseases: 1.78
- Crop protection: 2.11
- Vibrio detection/re...
- Direct sales from farms: 2.32
- Site selection for growout: 2.38
SHELLFISH DISEASES

Crop Protection

Biofouling

Crop protection is a research priority that crosses sectors
Mussel Farmer Priorities

SITE SELECTION

SEED & NURSERY

Biofouling

1  Urgently Important
3  Moderately Important
5  Not Important
Sea Scallop Farmer Priorities

- **Direct Sales**
- **Crop Protection**

<table>
<thead>
<tr>
<th>Priority Level</th>
<th>Urgently Important</th>
<th>Moderately Important</th>
<th>Not Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct sales from farms</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Seed collection...</td>
<td>1.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selective breeding</td>
<td>1.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crop protection</td>
<td>2.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biofouling control</td>
<td>2.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Urgently Important

Moderately Important

Not Important
Question 16. How would you prioritize curricula and training needs?

- Community relations: 1.89
- Best management strategies: 1.93
- Stewardship of the environment: 1.93
- Addressing riparian ownership: 2.00
- Technical skills: 2.14
Question 17. Other education and outreach needs. Do we need programs to address the following?

- Increasing acceptance of aquaculture amongst fishermen & other water users: 1.78
- Educating the public: 1.73
- Addressing riparian own...: 1.82
- Engaging citizen...: 2.57
- Knowledge portal/impro...: 2.18

PUBLIC COMMUNITY ACCEPTANCE
“Building & strengthening a network of growers, researchers, end consumers, policy makers, and educators”