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Maine's Aquaculture Sector & Its R&D Priorities

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MAINE AQUACULTURE ECONOMIC IMPACT REPORT

https://umaine.edu/aquaculture/economic-impact-report/

MAINE'S AQ SECTOR: ECONOMIC IMPACT

- Direct Economic Impact
  - $73.4 million output (e.g. sales revenue)
  - 571 employment
  - $35.7 million labor income
- Total Economic Impact (including multipliers)
  - $137.6 million
  - 1078 employment
  - $56.1 million labor income

MAINE'S AQ SECTOR: EMPLOYMENT

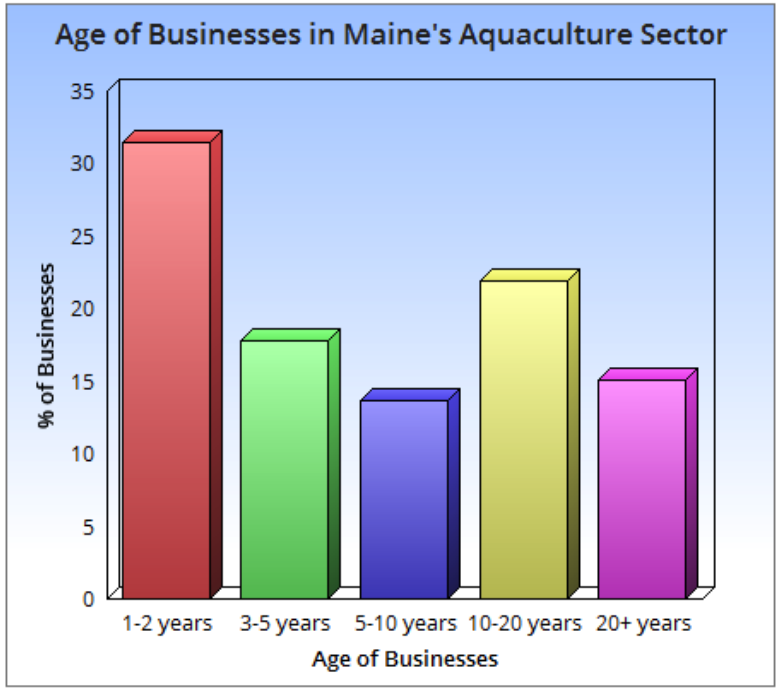
- Majority of jobs, related to aquaculture production are full-time, all-year positions.
- Less than 30% of employment is seasonal

PRE-REVENUE?

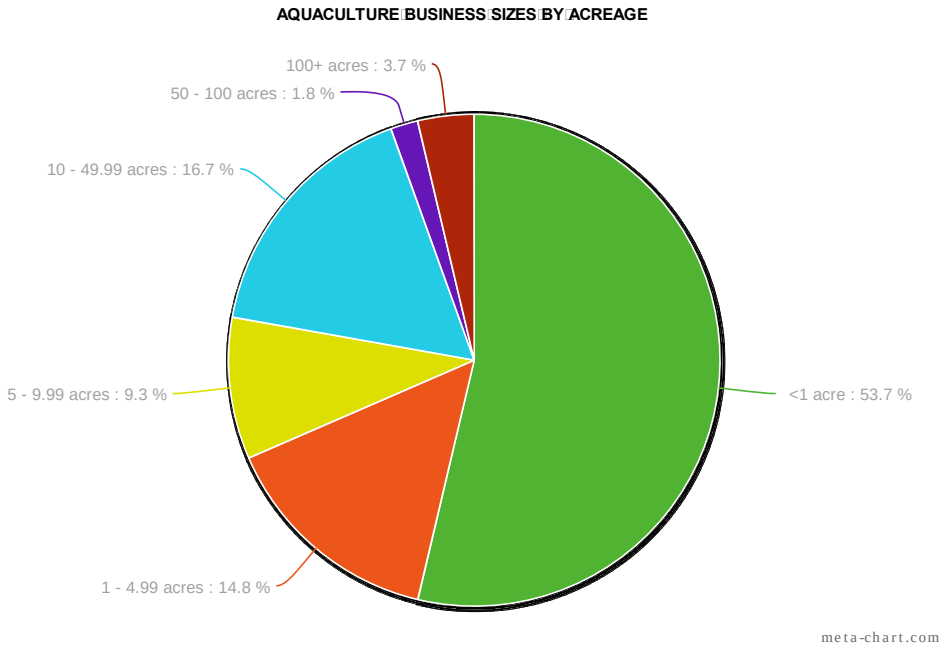
- 39%of respondents reported $0 revenue
- An unknown portion of this percentage represents start-up companies

MAINE'S AQ SECTOR

MOSTLY NEW



MOSTLY SMALL & MEDIUM SIZED BUSINESSES



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

R&D PRIORITIES FOR MAINE'S AQUACULTURE SECTOR

HISTORY

PREVIOUSLY

- MAA Economic Development Plan 2010
- MAIC/Maine Sea Grant/MAA R&D Priorities Survey 2012
- Algae Cluster Survey

RECENTLY

- ARI/MAIC R&D Summit 2015
- ARI/MAIC R&D Summit 2016
- MAIC/Maine Sea Grant/MAA/ARI R&D Priorities Survey 2016

BARRIERS 2016

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

	2016	2012
1	Regulatory	Management/Capital
2	Management/Capital	Regulatory
3	Culture Tech	Marketing
4	Marketing	Seed Source
5	Disease	Product Dev/Culture Tech
6	Workforce	Predation/Biofouling

Market Research Needs

"*Market for sea greens*"

"*Market expansion year round*"

"*Locally grown seafood marketing*"

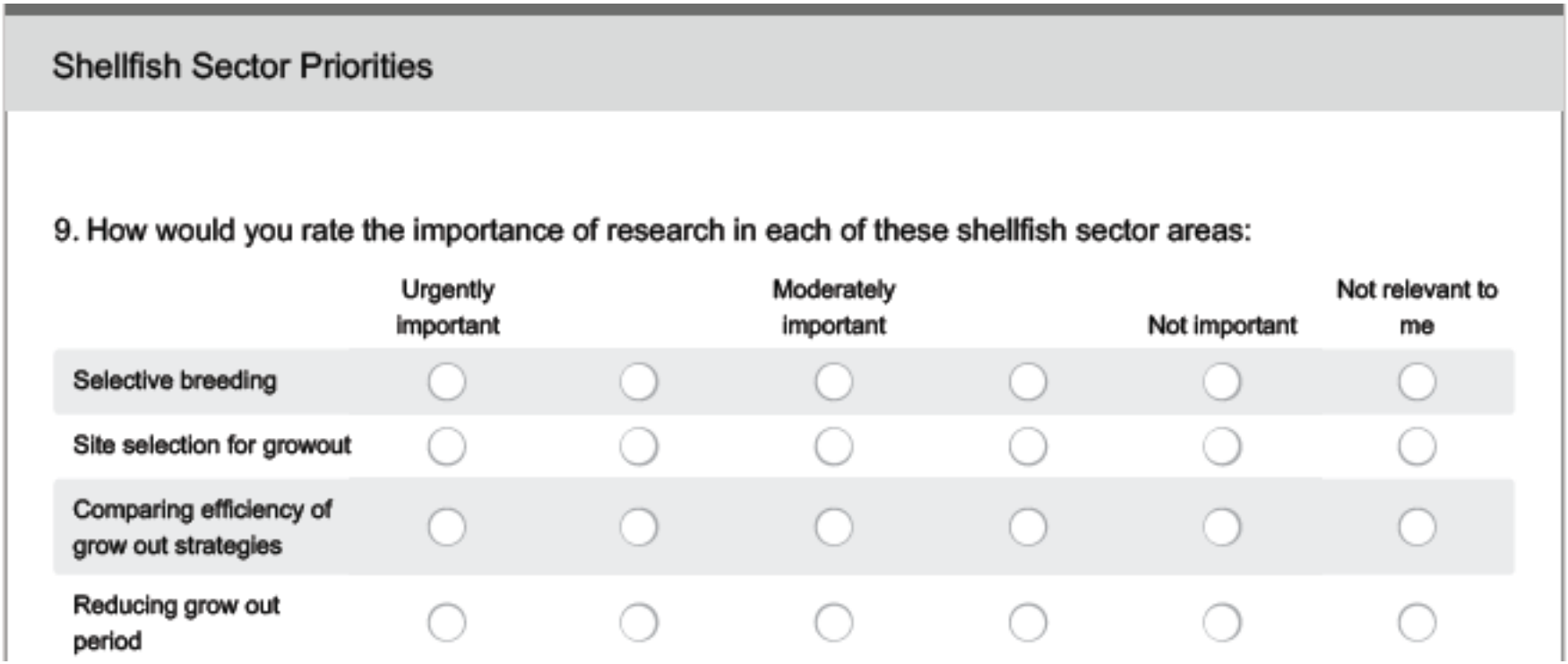
"*Marketing initiative for public awareness*"

"*Access to international markets*"

"*Cooperative Maine brand promotion* "

Previous Issues Are Still Relevant

- Took issues identified in 2012 and 2015
- Likert Scale 1-5, and option of not relevant
- All issues rated 3 or less



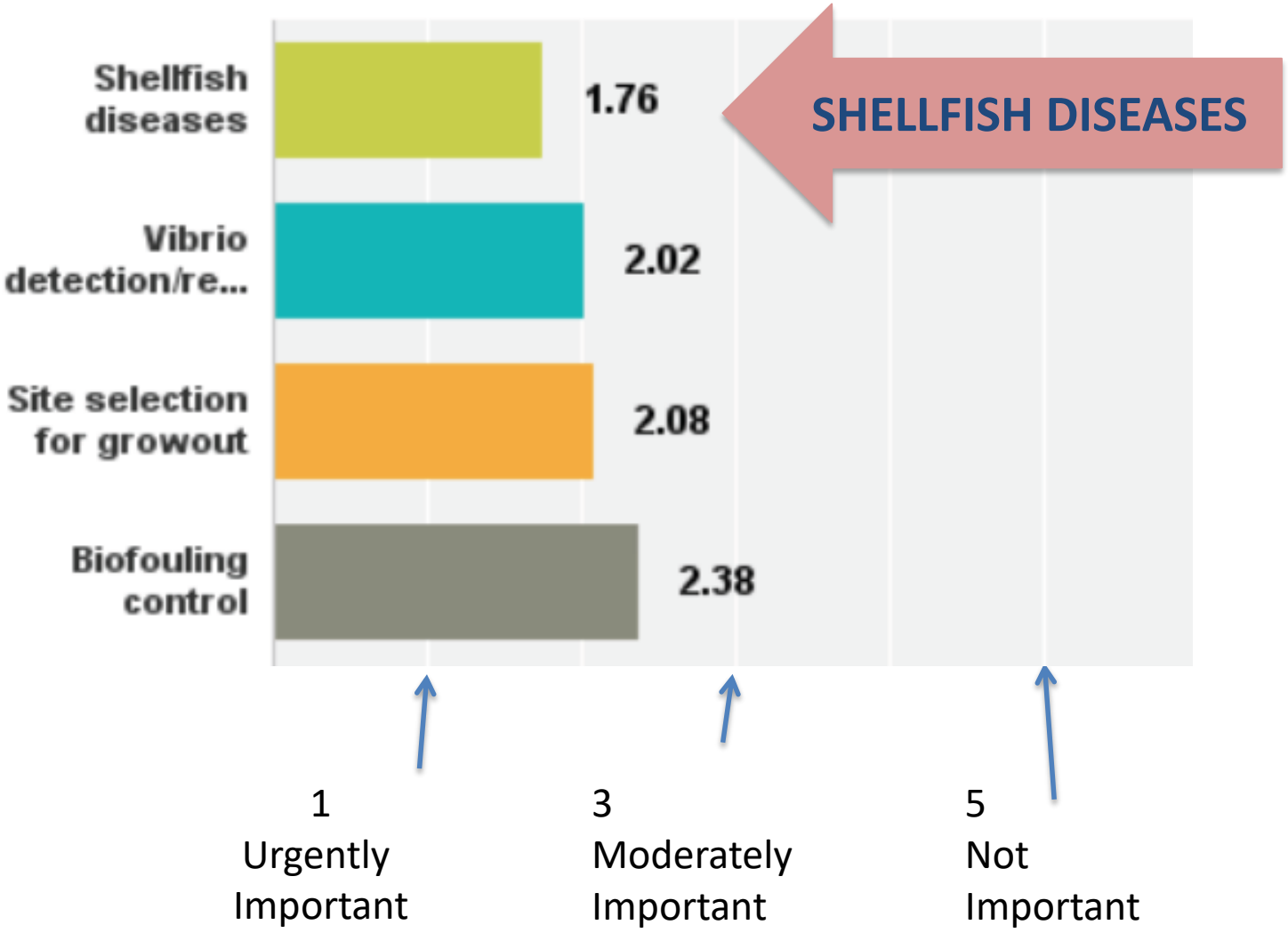
Shellfish Sector Priorities

9. How would you rate the importance of research in each of these shellfish sector areas:

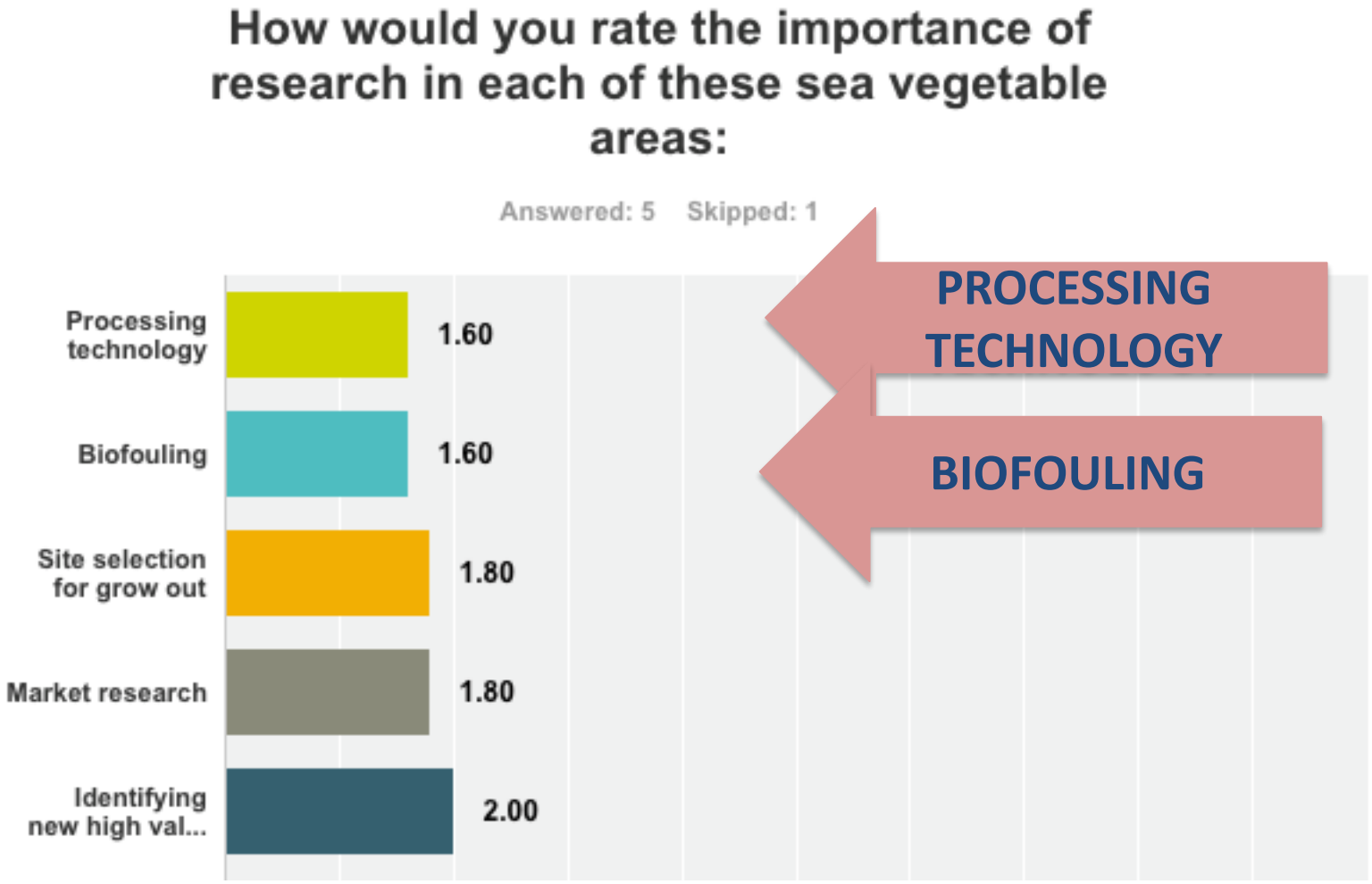
	Urgently important		Moderately important		Not important	Not relevant to me
Selective breeding	○	○	○	○	○	○
Site selection for growout	○	○	○	○	○	○
Comparing efficiency of grow out strategies	○	○	○	○	○	○
Reducing grow out period	○	○	○	○	○	○

R&D PRIORITIES BY SUB-SECTOR

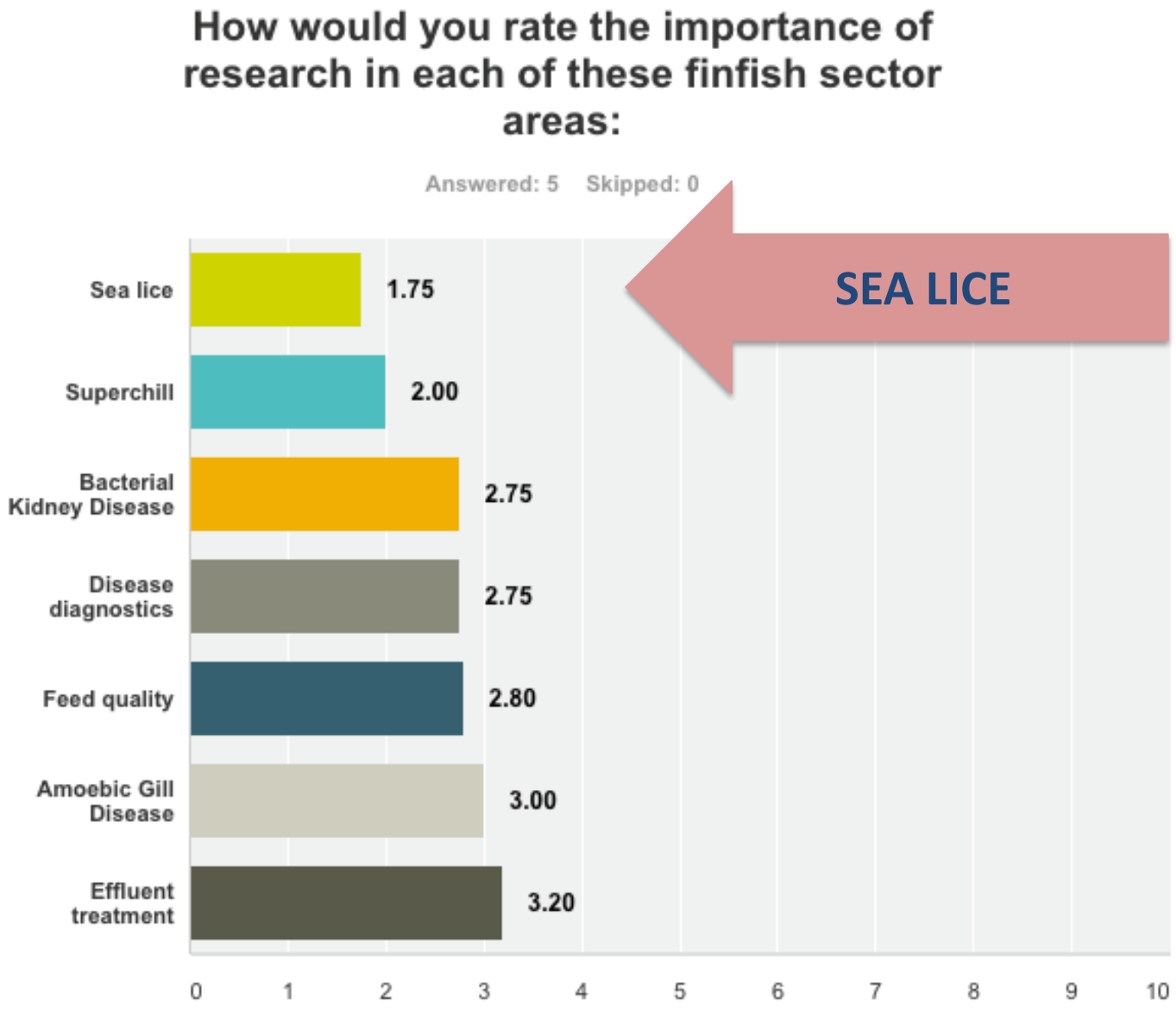
Shellfish Priorities



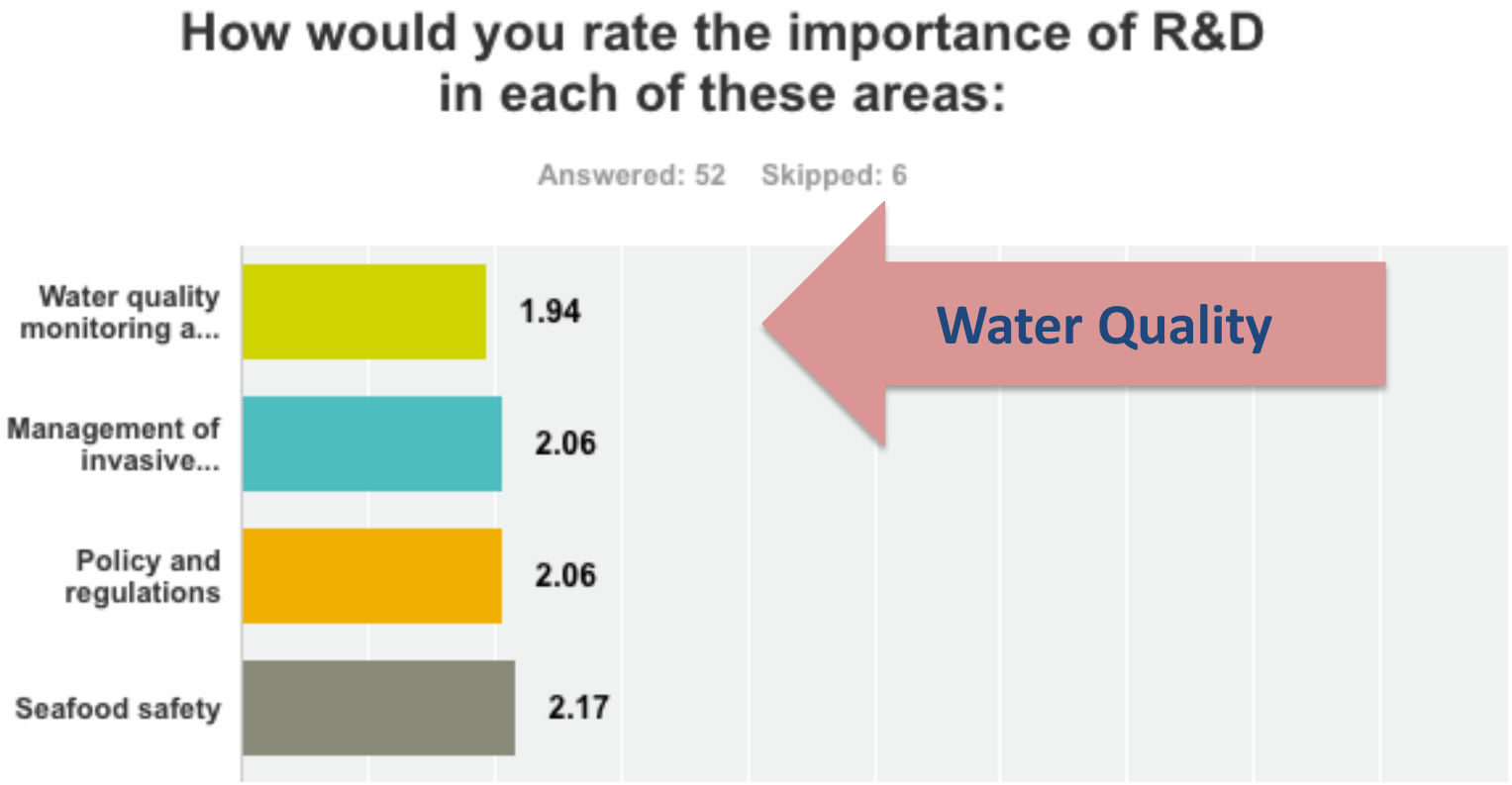
Sea Vegetable Priorities



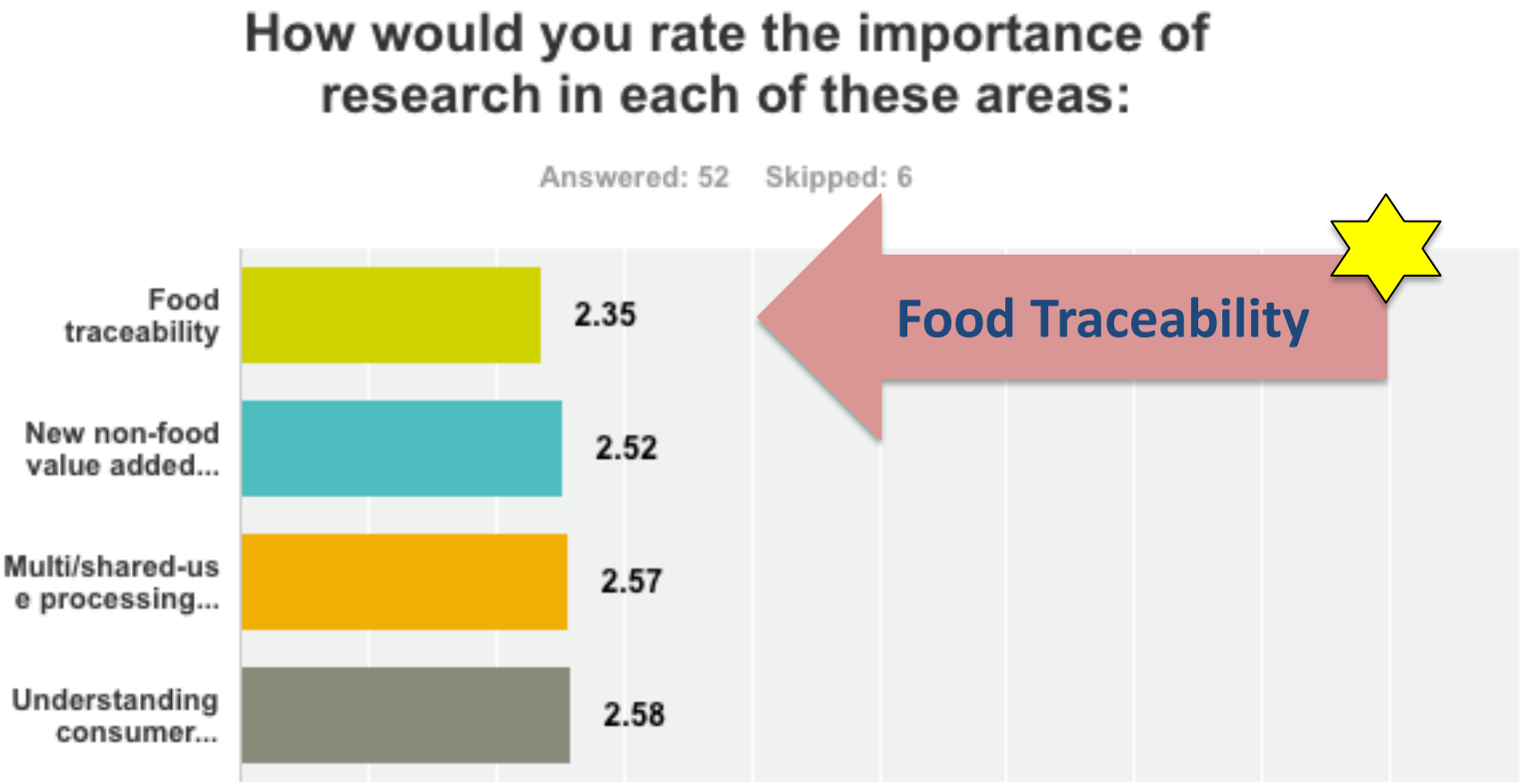
Fin Fish Priorities



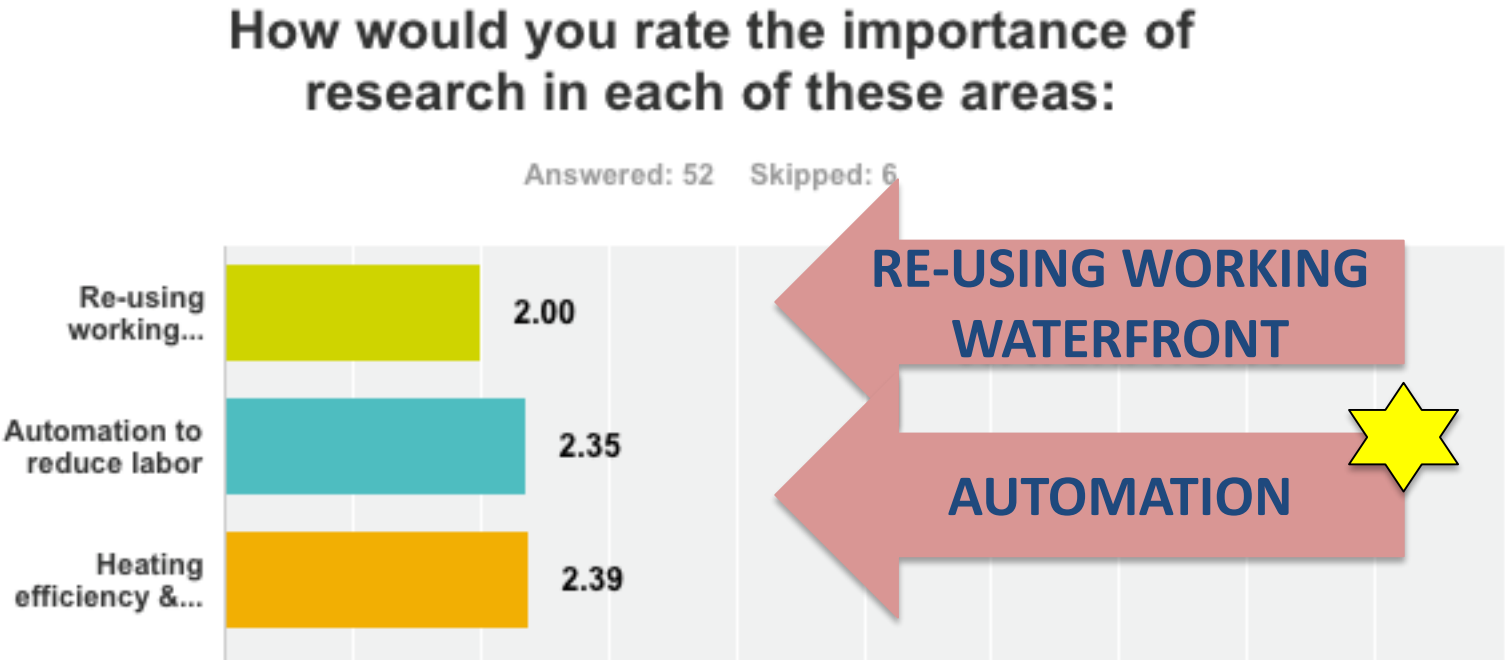
All Growers: General Priorities



All Growers: Processing & Product Development Priorities



All Growers: Gear & Technology Priorities



Re-using Working Waterfront

"*Waterfront access*"

"*Improvements to docks/boat ramps, parking areas*"

"*Dealer facility*"

"*Working waterfront*"

"*Established regionally available shared processing infrastructure*"

"*Blending aquaculture and traditional fisheries*"

Automation

"*Affordable mechanization to cut down labor costs*"

"*Ergonomics*"

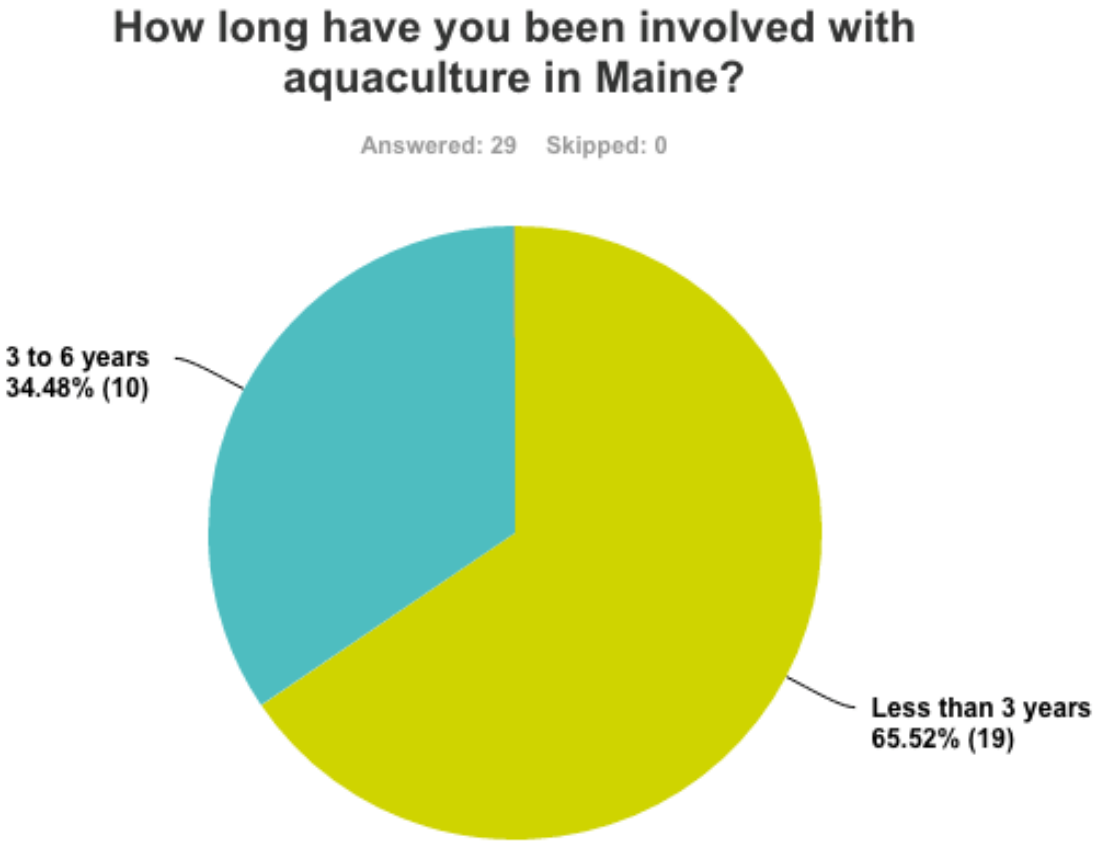
"*Technology transfer from abroad*"

"*Technical innovation and mechanization to reduce labor costs*"

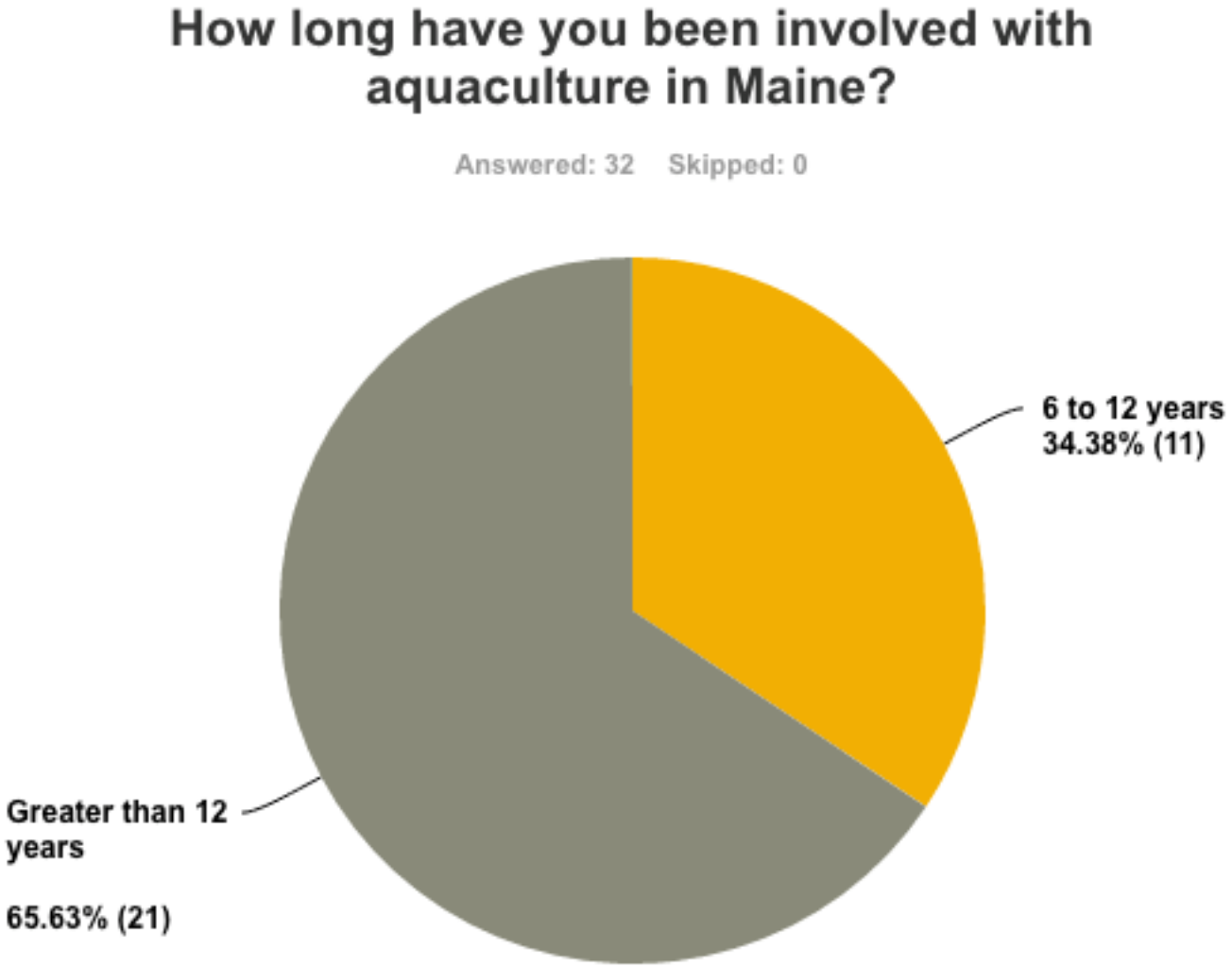
"*Increased efficiency of aquaculture*"

NEW VS EXPERIENCED GROWERS R&D PRIORITIES

Most New Growers Have Been Involved For Less Than 3 Years



Experienced Growers Mostly Involved For More Than 12 Years



Differing Research Priorities

	NEW GROWERS #1 PRIORITY	EXPERIENCED GROWERS #1 PRIORITY
Shellfish	Shellfish Disease	Vibrio
Sea Vegetables	Market Research	Market Research
Fin Fish	Disease Diagnostics	Sea Lice
General Aquaculture	Water Quality	Water Quality
Processing & Product Development	Multi-use/Shared Facilities	New Non-Food Value Added Products
Gear & Technology	Re-using Working Waterfront	Re-using Working Waterfront

EDUCATION & OUTREACH PRIORITIES

Educational/Outreach Needs

"*Public outreach to promote aquaculture products and allay concerns over antibiotics, feed, environment*"

"*Improving understanding between different resource users*"

"*Education materials for the public*"

"*Determining most significant detractors to acceptance of aquaculture*"

"*Addressing riparian land-owner concerns*"

"Building & strengthening a network of growers, researchers, end consumers, policy makers, and educators"

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