

Aquaponics Association Survey Report

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PUTTING OUT FRUITS

AQUAPONICS ASSOCIATION 2019 CONFERENCE

September 21, 2019



AUBURN
UNIVERSITY



**KENTUCKY STATE
UNIVERSITY**

Purpose and Objectives

- ❑ Create a 'snapshot' of the current state of the aquaponics industry
 - ❑ User groups
 - ❑ Size and scale
 - ❑ Costs and benefits
 - ❑ Knowledge and needs of user groups
 - ❑ Establish trends
- ❑ Inform research and extension activities surrounding aquaponics
 - ❑ Opportunities
 - ❑ Educational programs and materials



Methods

- ☐ Survey developed in Qualtrics online survey platform
- ☐ Survey groups identified
 - ☐ Hobbyist
 - ☐ For-Profit Producer
 - ☐ Educator
 - ☐ Supporting Groups
- ☐ Administered to 2019 Aquaponics Association Conference registrants.
- ☐ 90 responses recorded



Fish Production



F2. How long have you been producing fish?

0 5 10 15 20 25 30 35 40 45 50

Number of Years Producing Fish

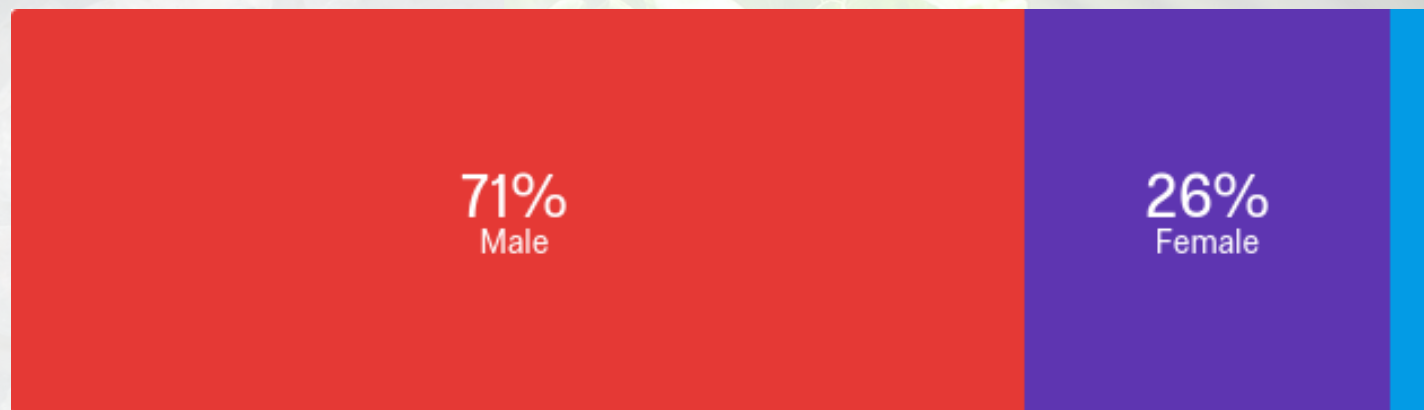
F3. What aquaculture techniques do you use? (mark all that apply)

- ☐ Recirculating Aquaculture Systems (Clear Water)
- ☐ Pond Systems (Green Water)
- ☐ Biofloc Systems (Brown Water)
- ☐ Flow-Through Systems (Raceways)
- ☐ Cages (Net Pens)

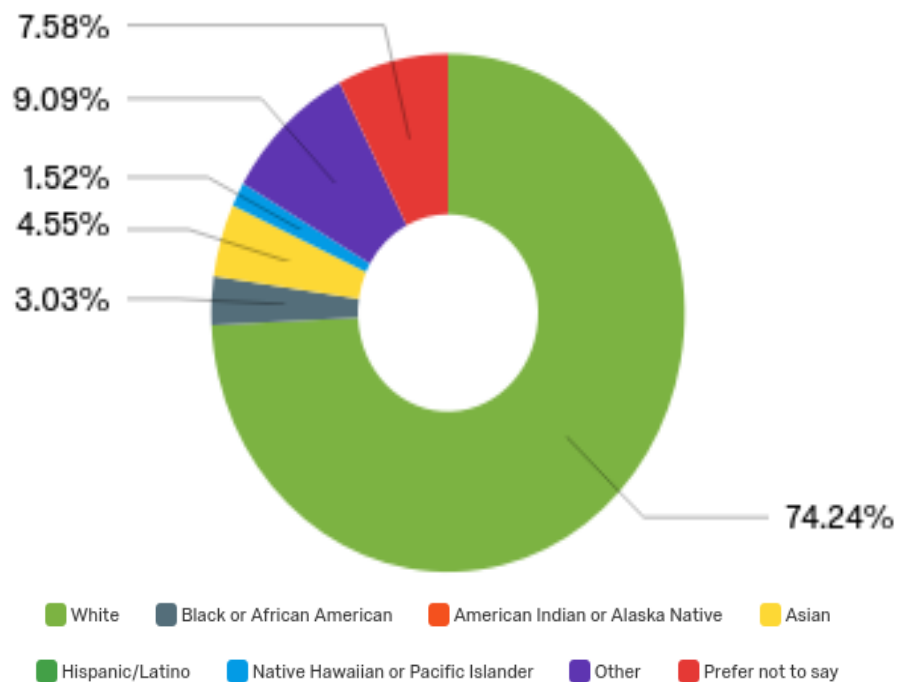


Participant Demographics

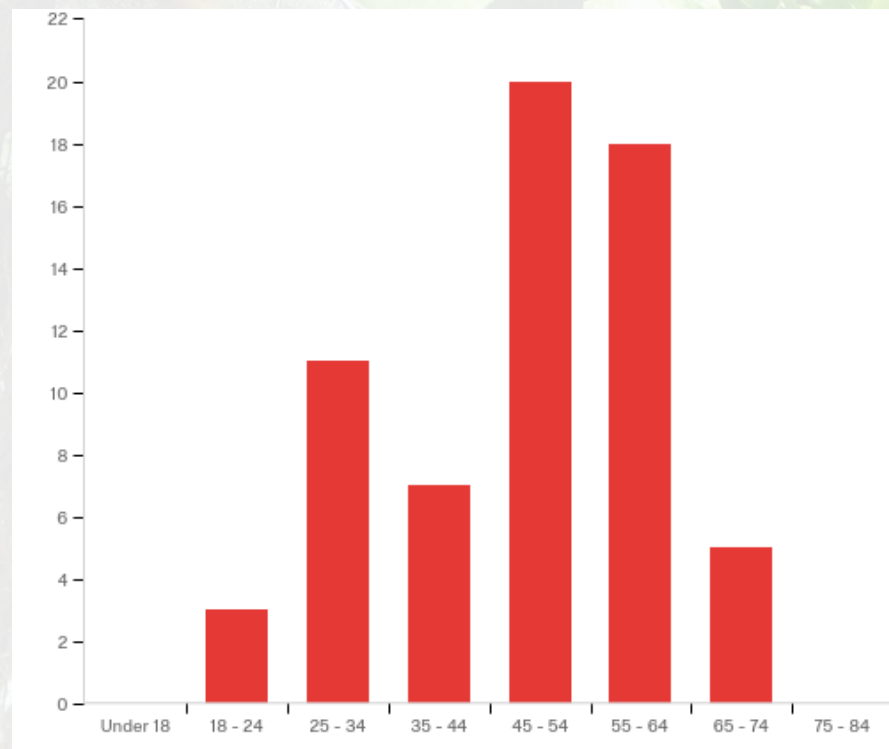
Gender



Ethnicity



Age



Masters

Bachelors

Associate

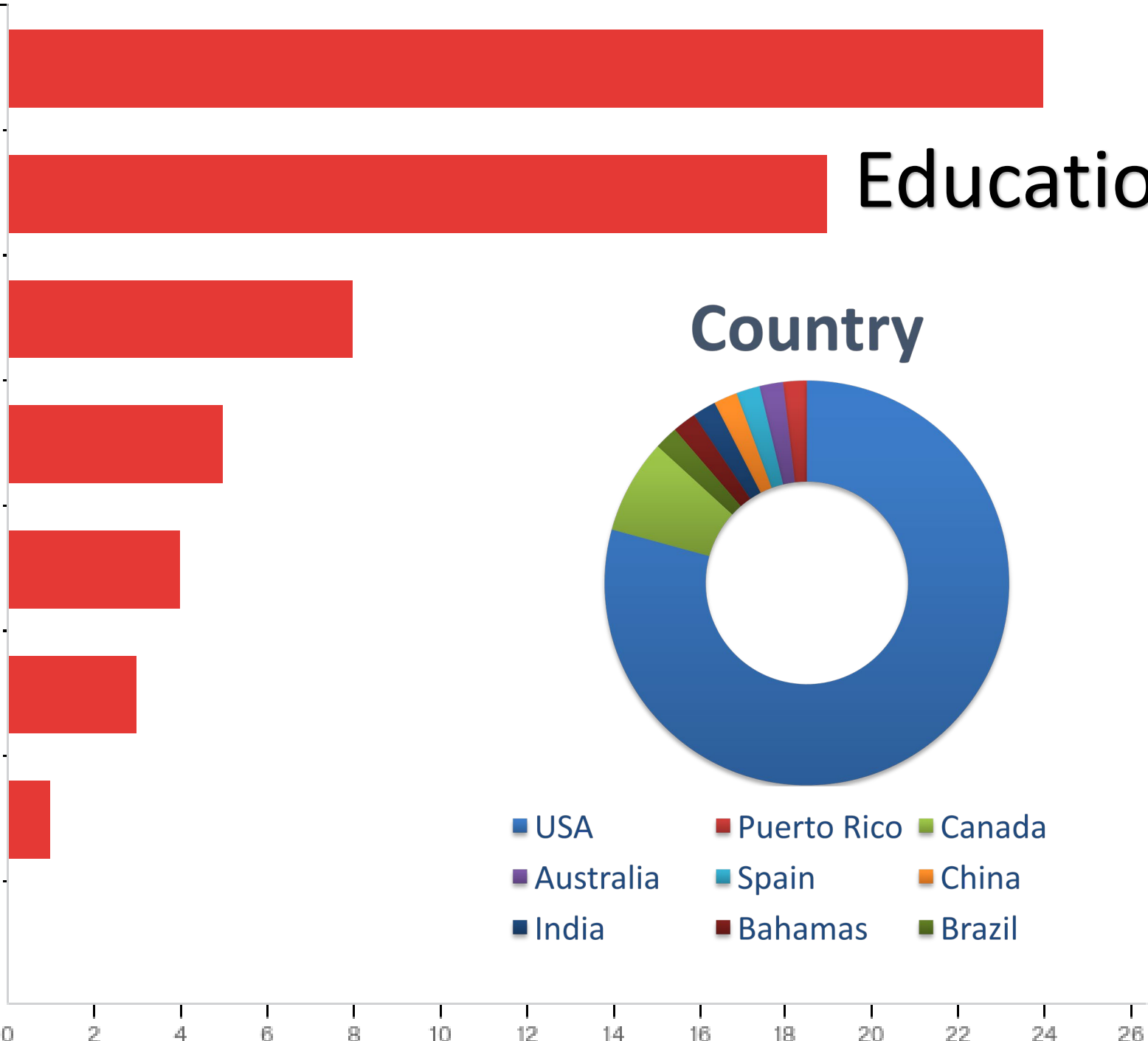
Doctorate

Some College

High School

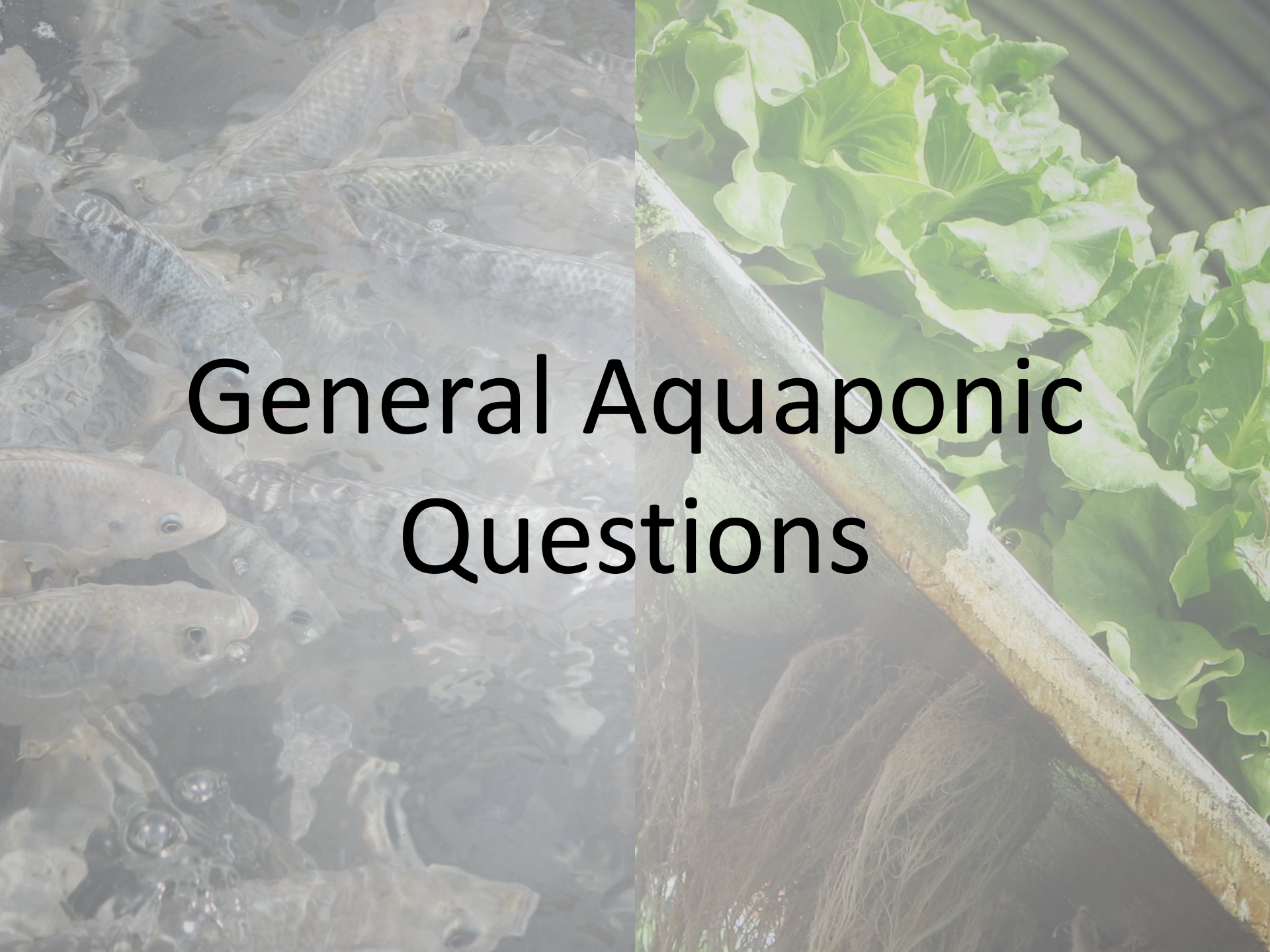
Prefer not to say

Less than high school



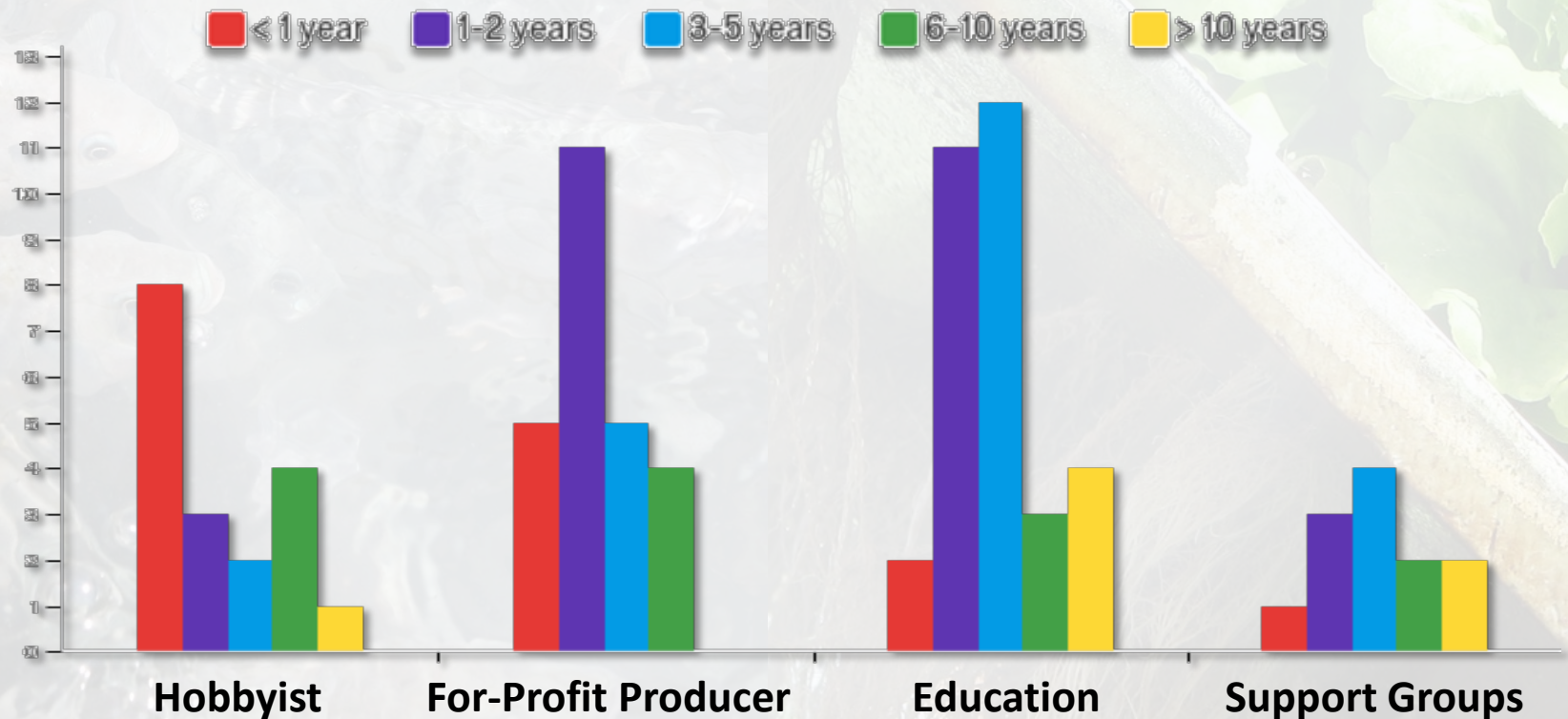
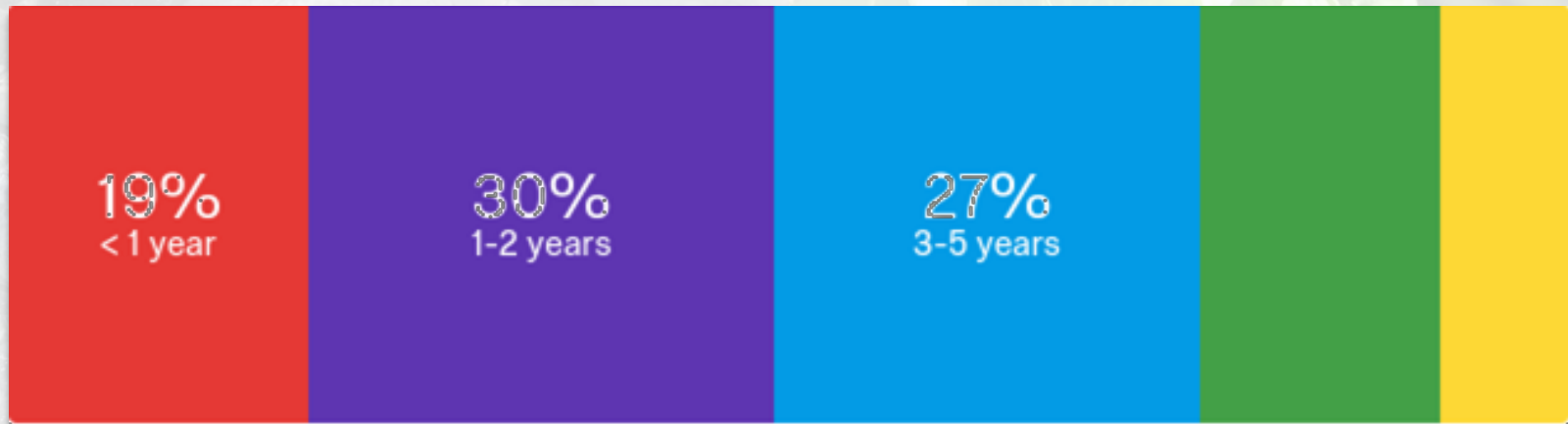
Country



The background image shows an aquaponic system. On the left, several fish, likely tilapia, are swimming in clear water. On the right, there is a wooden frame containing lush green leafy plants, possibly lettuce, growing in a nutrient-rich water solution. A wooden plank runs diagonally across the middle of the image, separating the fish from the plants. The overall scene is bright and healthy, representing a sustainable food production method.

General Aquaponic Questions

How long have you been working with aquaponics?

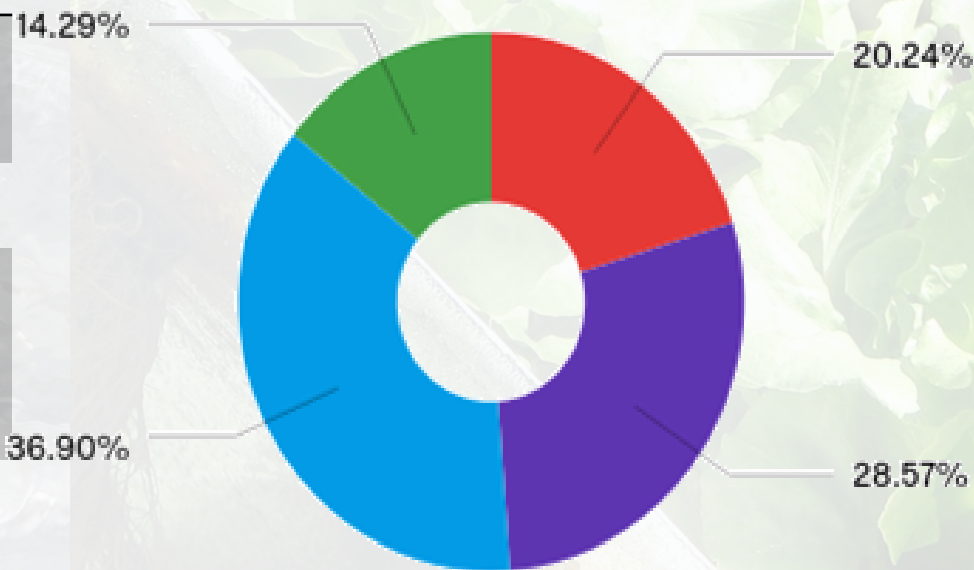


What first got you interested in aquaponics?



Which of the following categories best describes your interest in aquaponics?

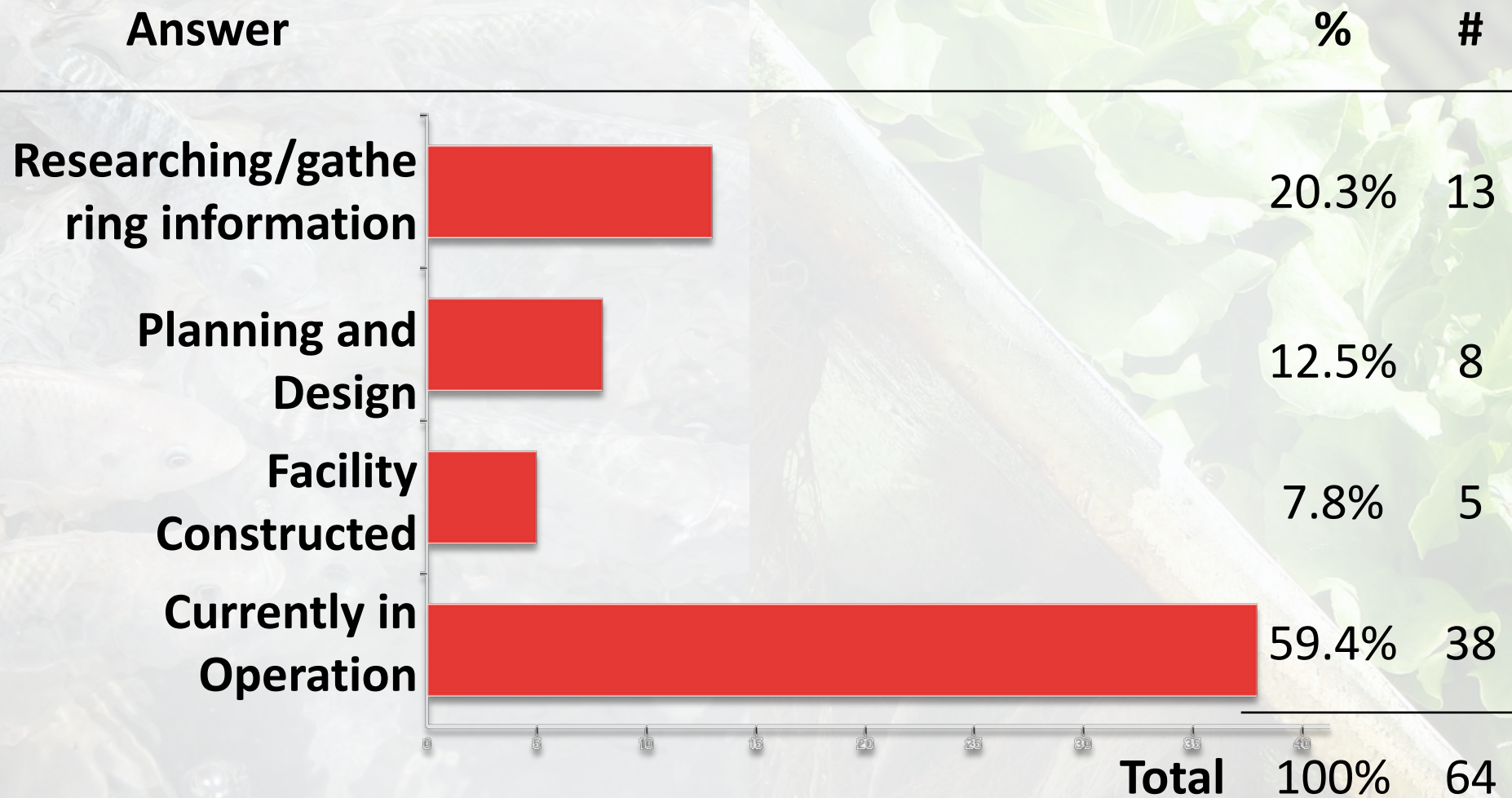
Category	%	Count
Hobby/Home Gardening	21.3%	17
For-Profit Producer	28.8%	23
Education (College/University, K-12, Extension, etc)	35.0%	28
Supporting Groups (Public Agency, Not for Profit Groups, equipment supplier, etc.)	15.0%	12
Total	100%	80



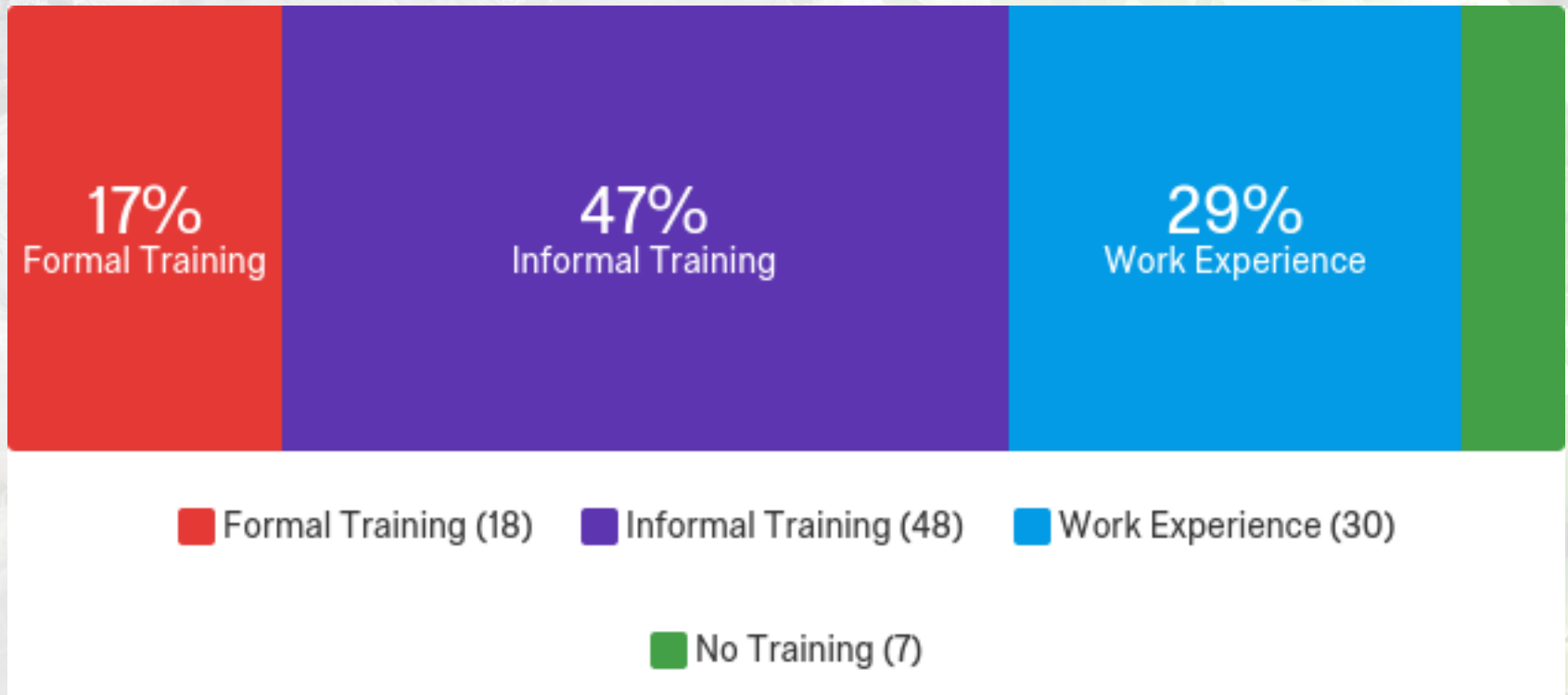
■ Hobby/Home Gardening ■ For-Profit Producer
■ Education (College/University, K-12, Extension, etc)

■ Supporting Groups (Public Agency, Not for Profit Groups, equipment supplier, etc.)

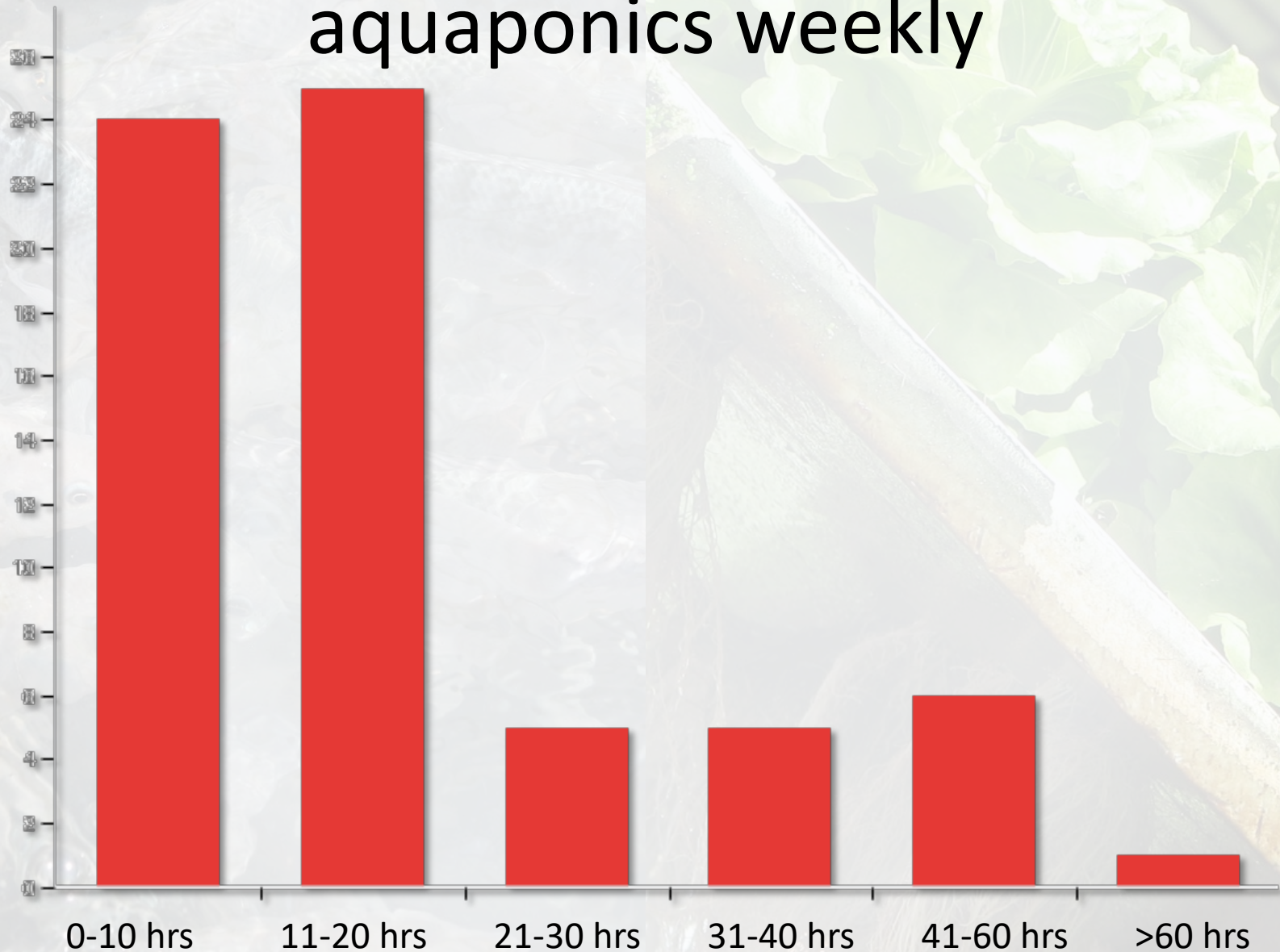
What is your current stage of aquaponic system development?



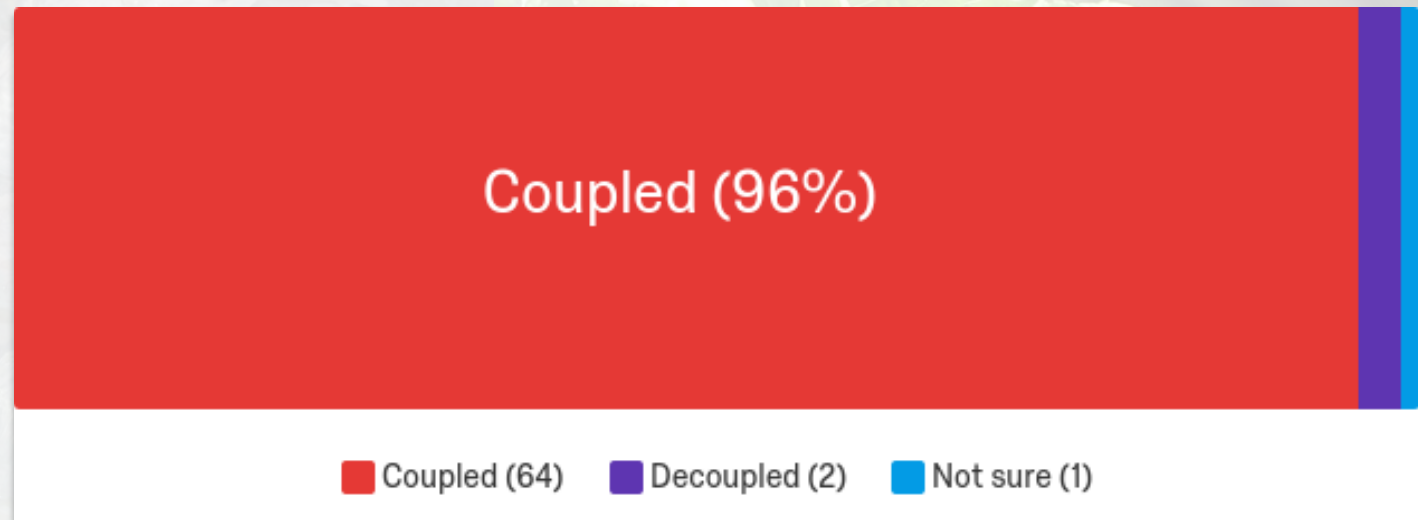
Type of Aquaponic Training



Personal time spent working with aquaponics weekly



System Design



36%
Do-It-Yourself

20%
Turn-Key

43%
Hybrid of both

■ Do-It-Yourself (25) ■ Turn-Key (14) ■ Hybrid of both (30)

Fish

78%
Recirculating Aquaculture Systems (Clear Water)

Recirculating Aquaculture Systems (Clear Water) (53) Pond Systems (Green Water) (5)

Biofloc Systems (Brown Water) (2) Flow-Through Systems (Raceways) (3)

Cages (Net-Pens) (1) Other (Specify) (4)

Plants

39%
Deep Water Culture/Floating Rafts

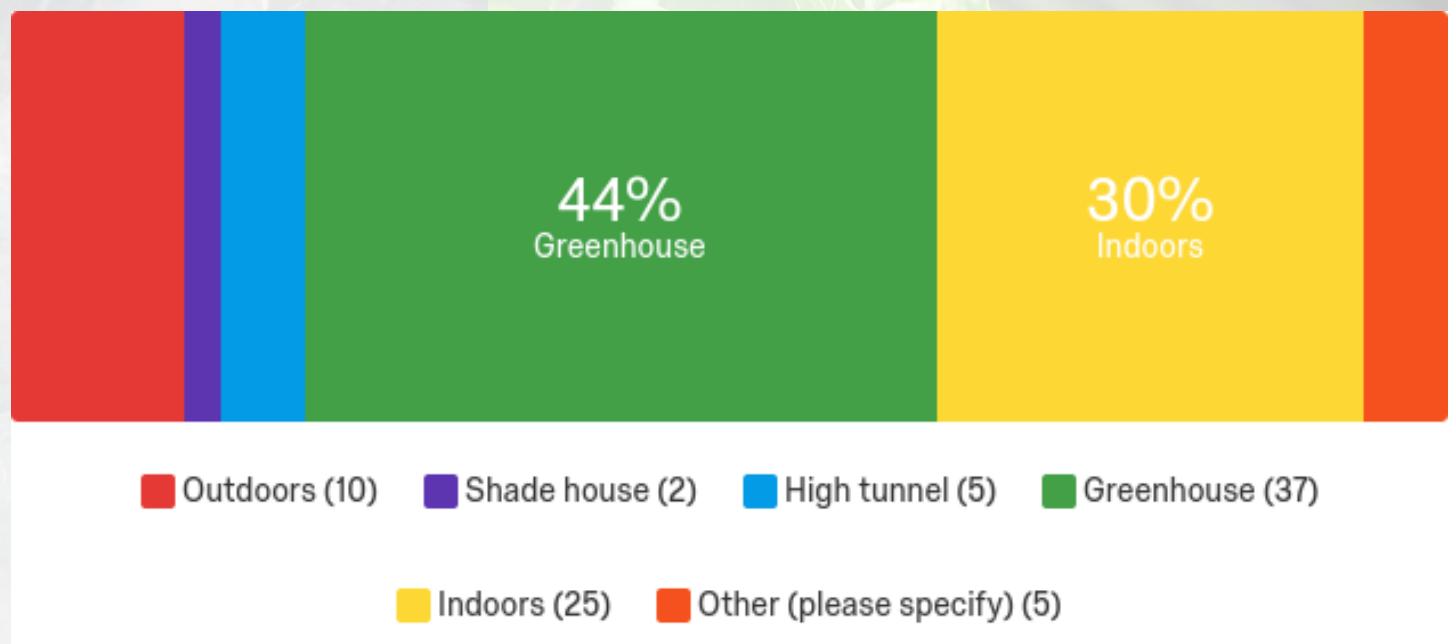
31%
Media Beds/Flood and Drain

Deep Water Culture/Floating Rafts (46) Drip Irrigation/Dutch/Bato Buckets (8)

Media Beds/Flood and Drain (37) Nutrient Film Technique (11) Vertical Towers (9)

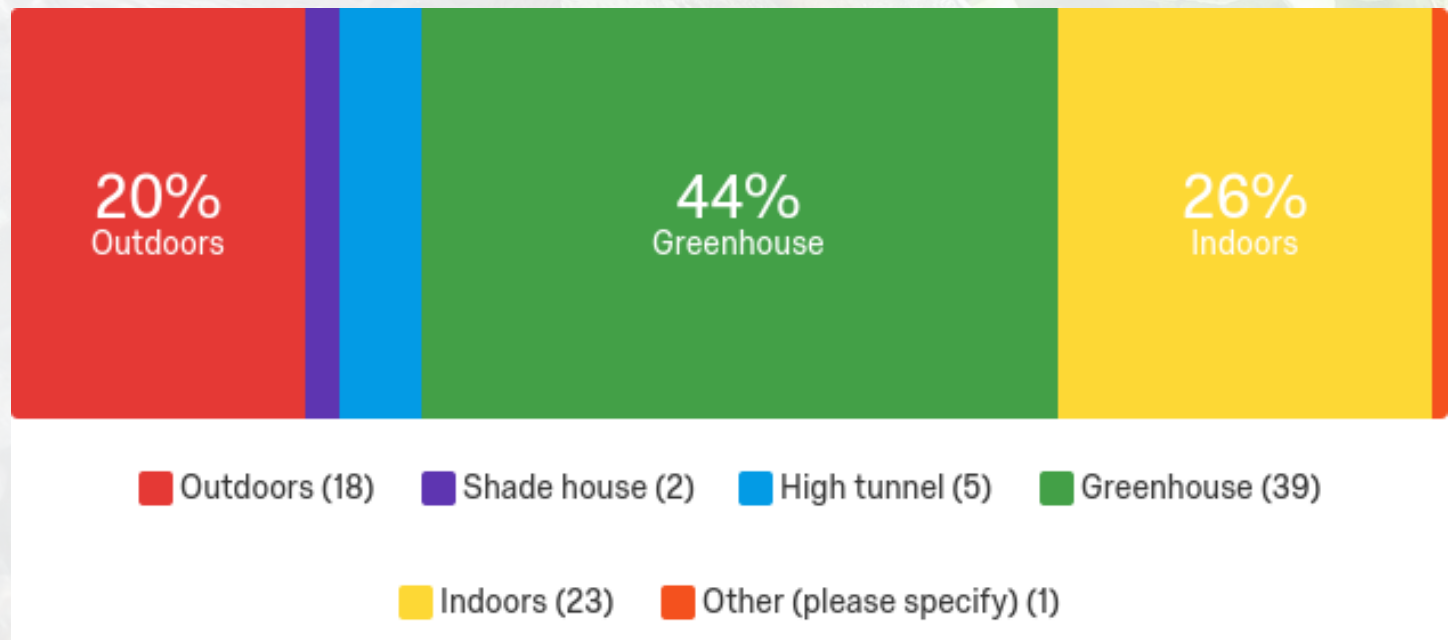
Other (Please specify) (7)

Fish



Production Environment

Plants



Species Produced



Rank	Species
1	Lettuce
2	Leafy Greens
3	Basil
4	Tomato
5	Culinary Herbs
6	Pepper
7	Cucumber
8	Microgreens
9	Strawberry
10	Chives/Onion
11	Other
12	Root Crops
13	Flowers
14	Eggplant
15	Hemp/Cannabis



Average Years of Production Experience

Fish

5.2

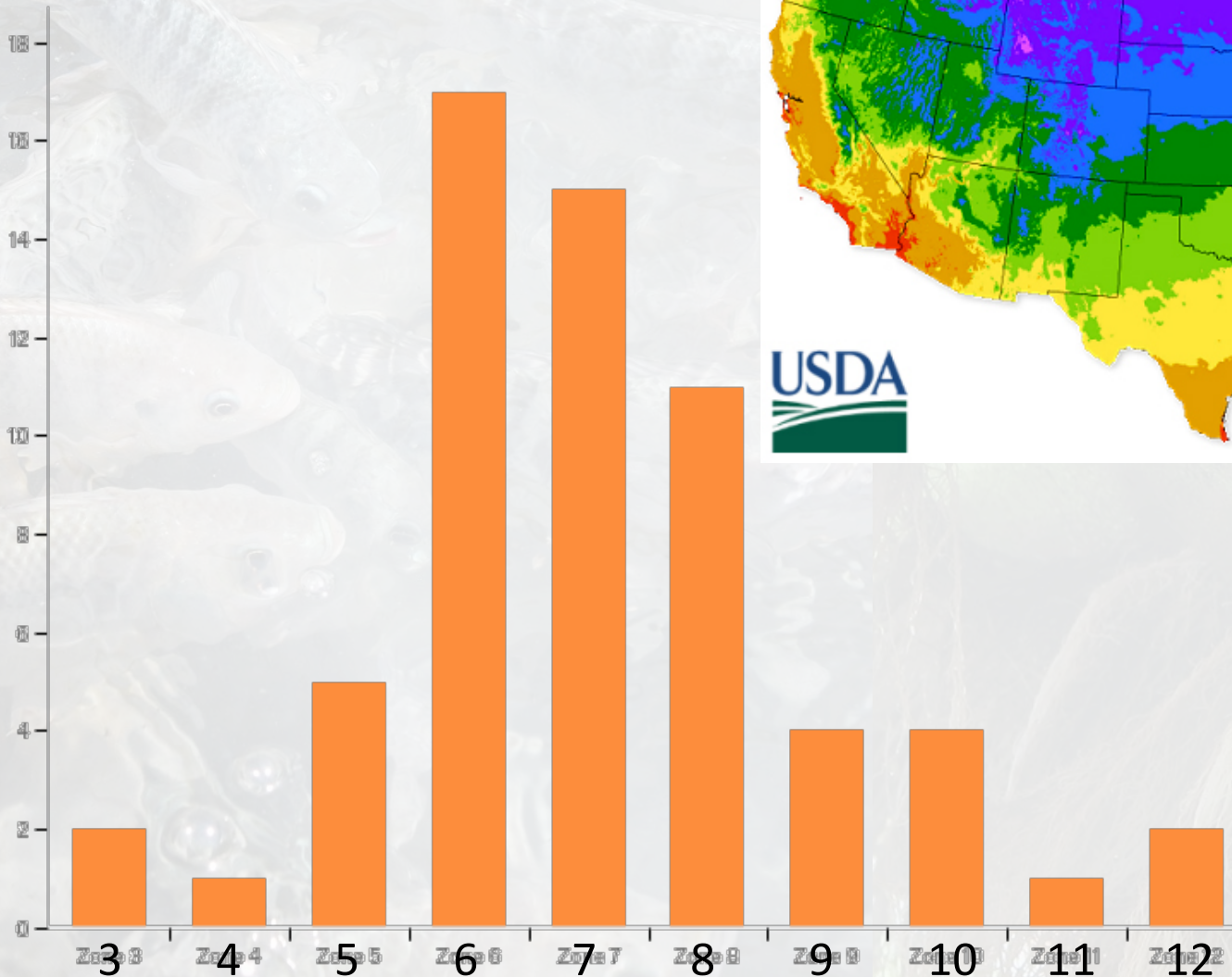
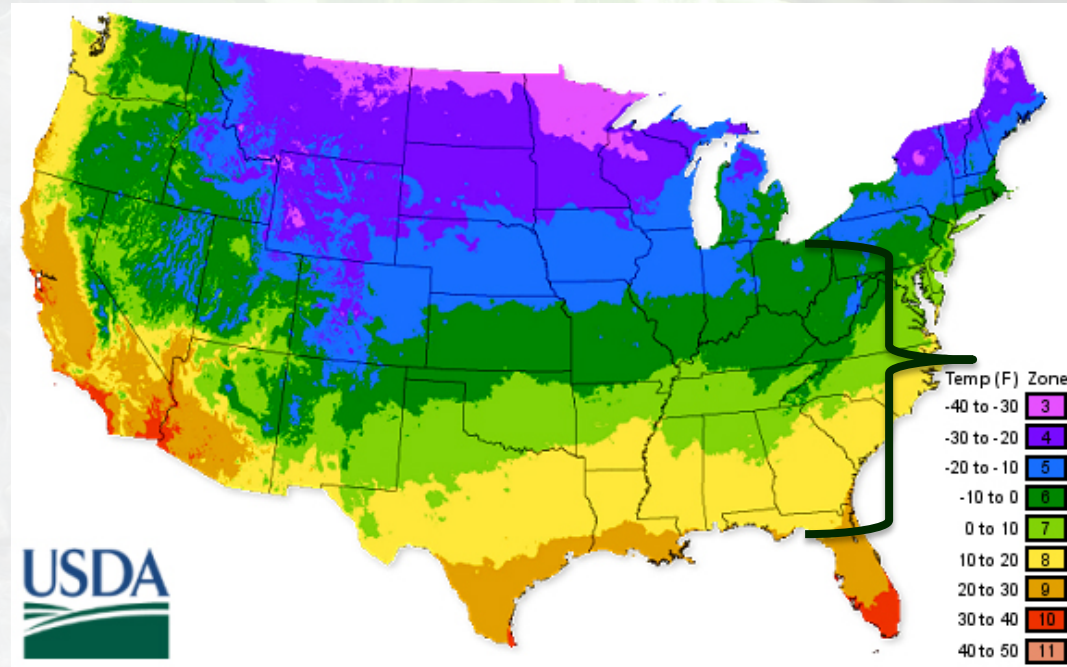
Median = 2

Plants

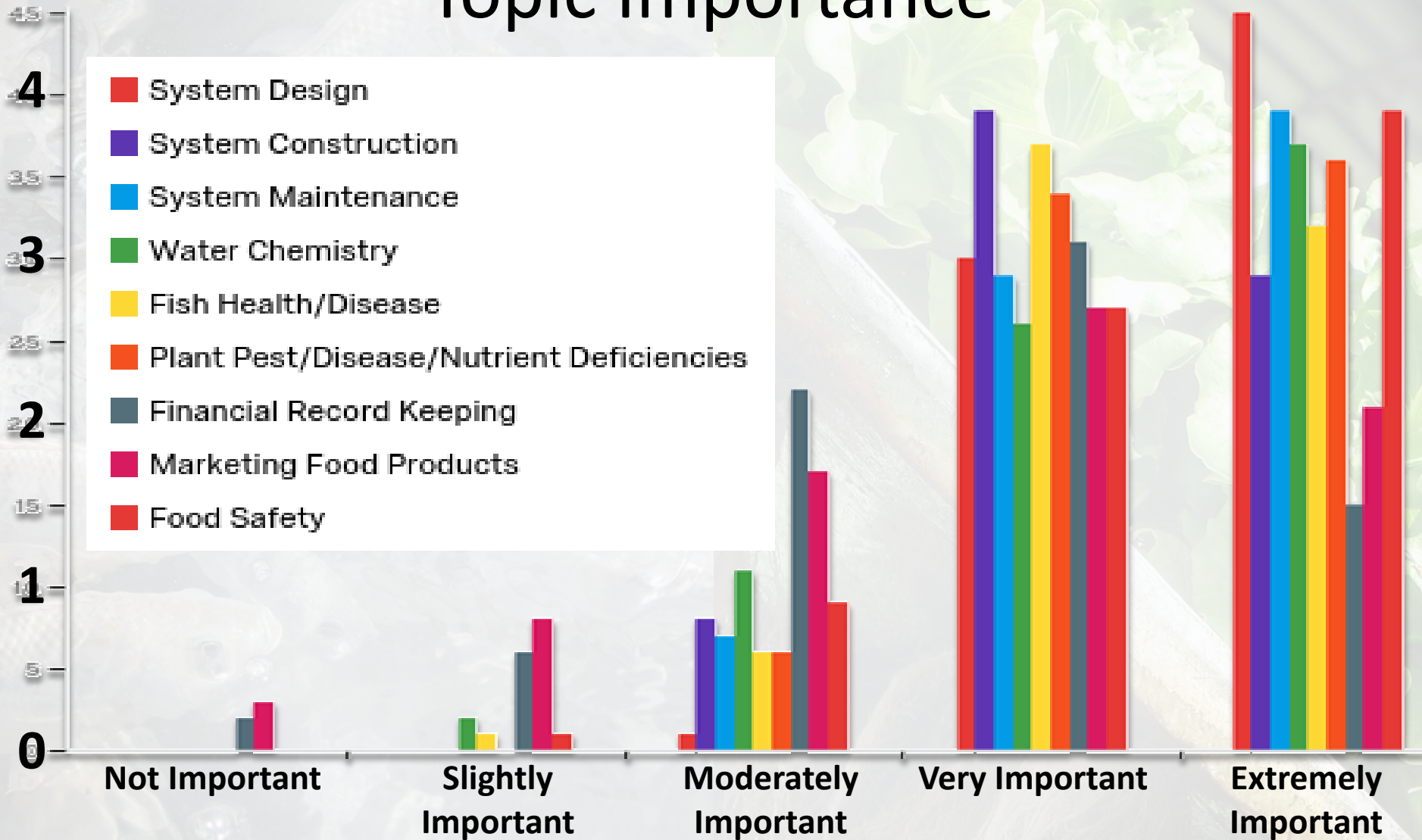
3.9

Median = 3

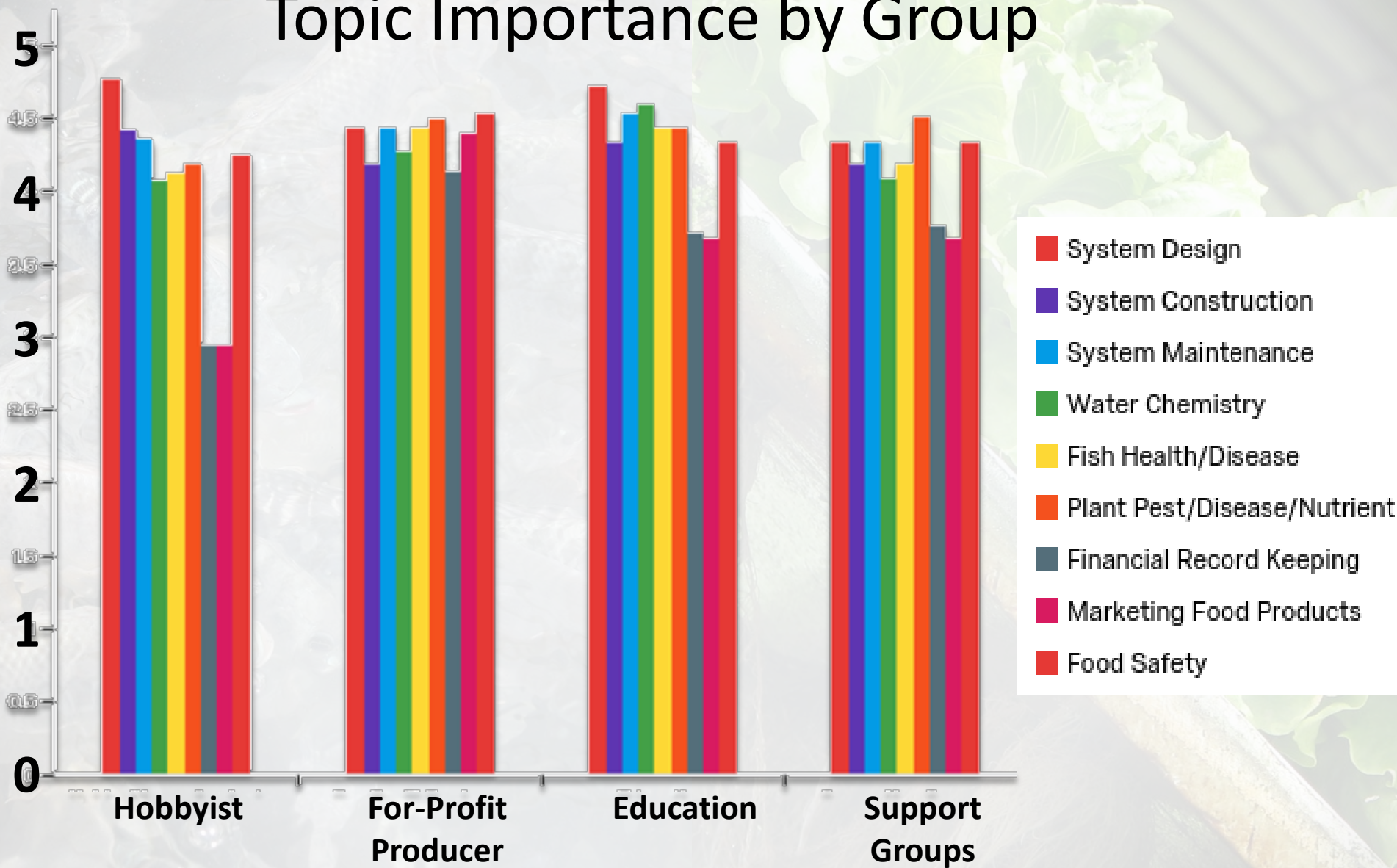
USDA Plant Hardiness Zone



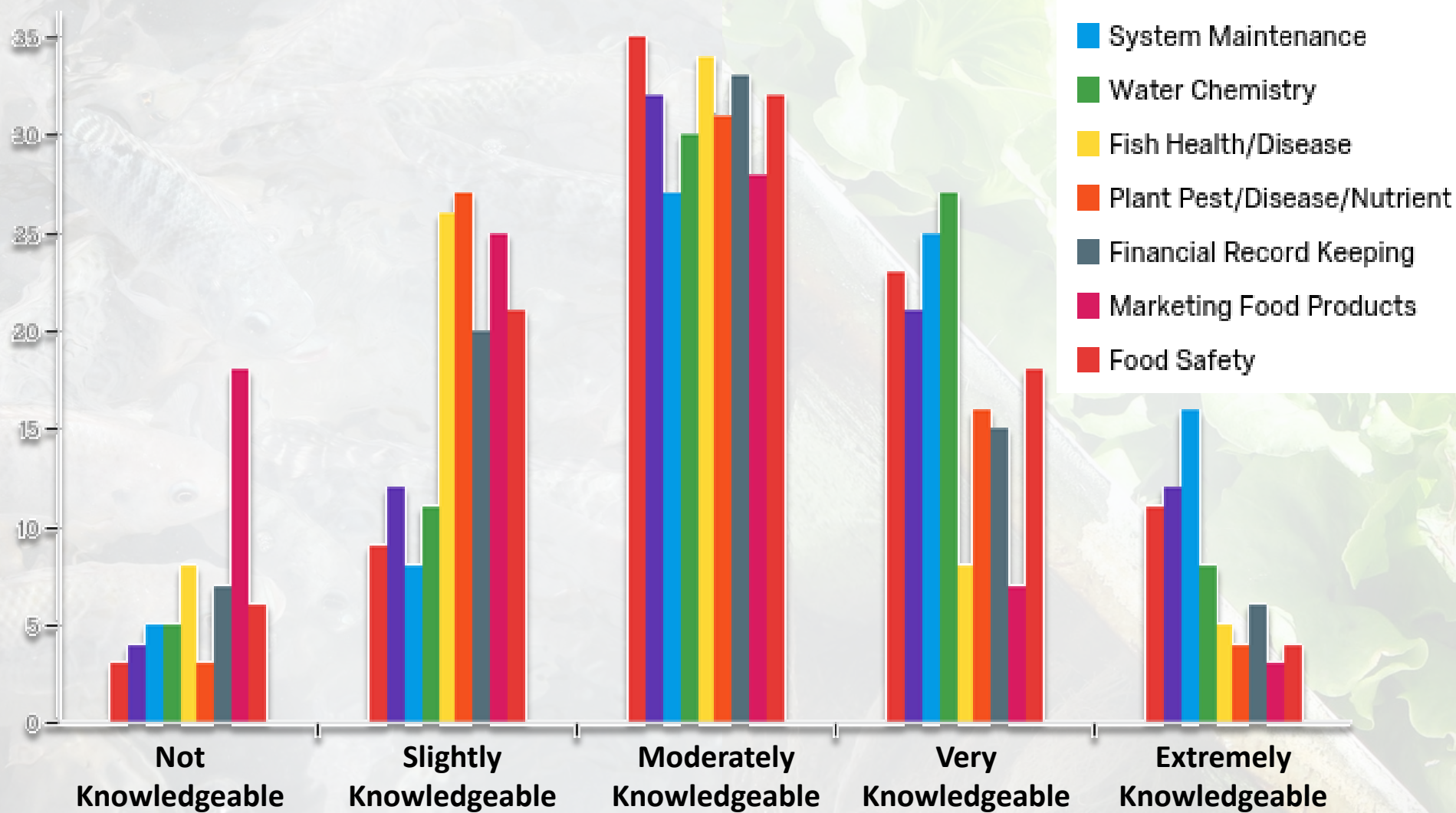
Topic Importance



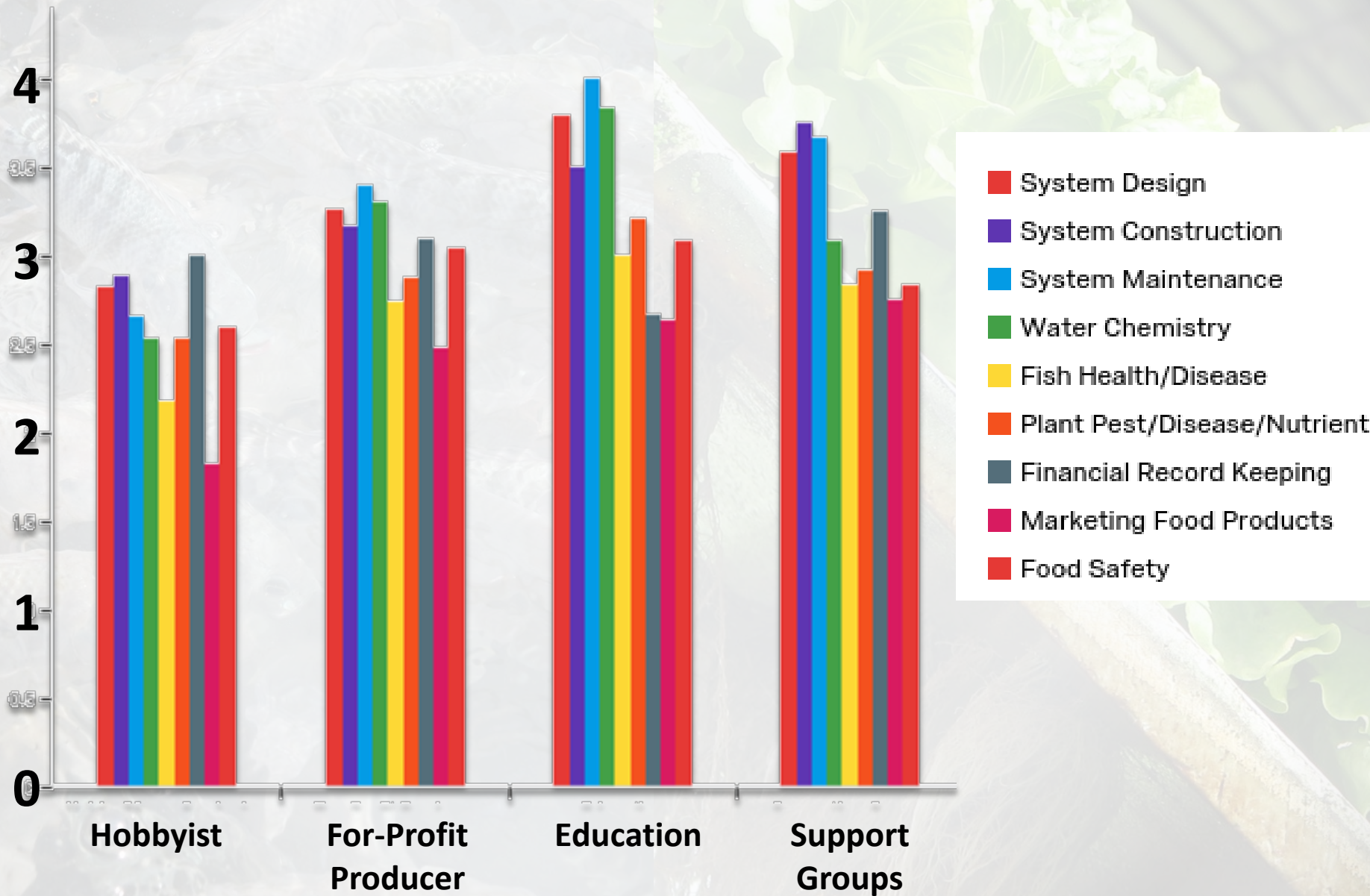
Topic Importance by Group



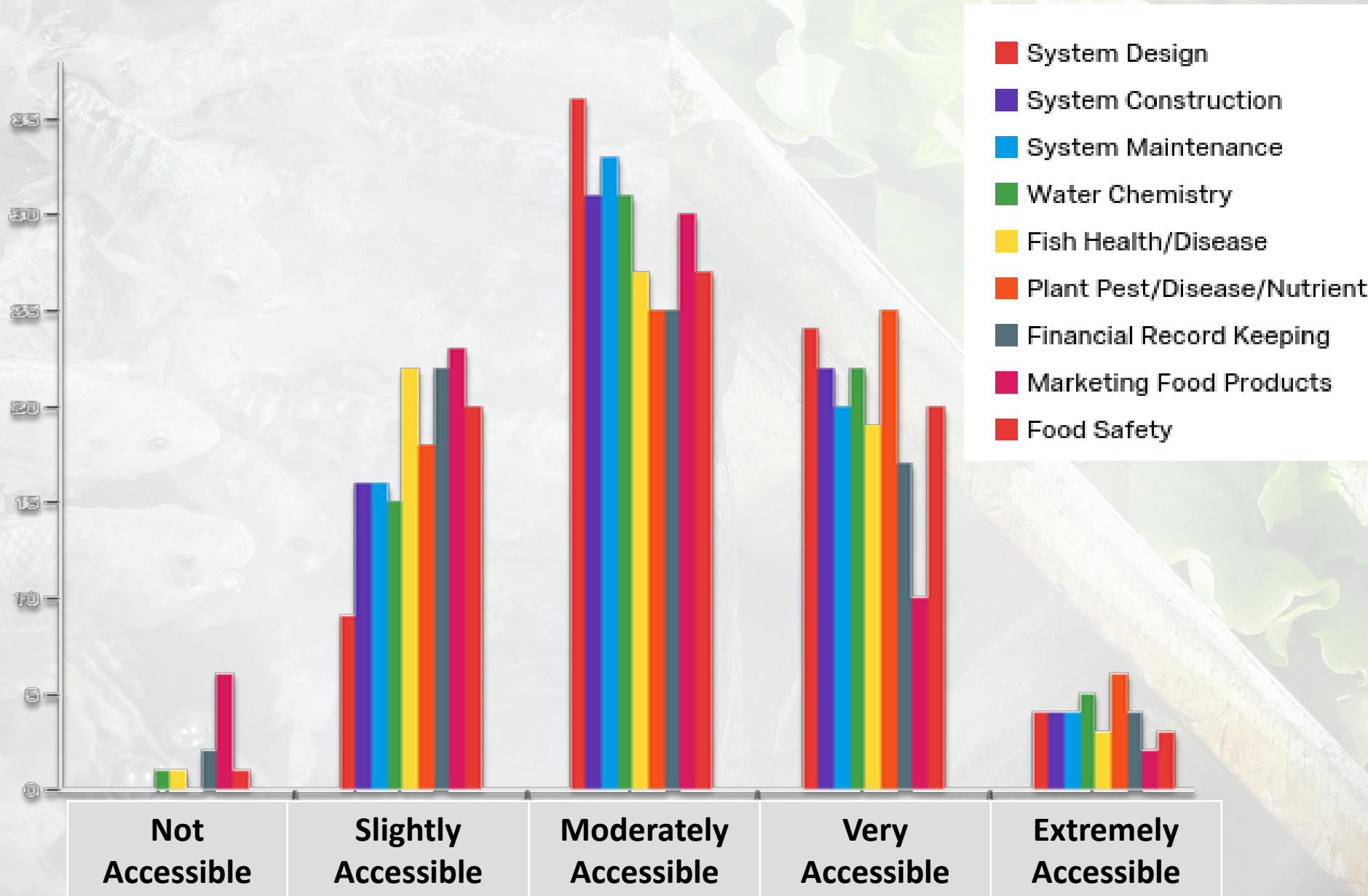
Topic Knowledge



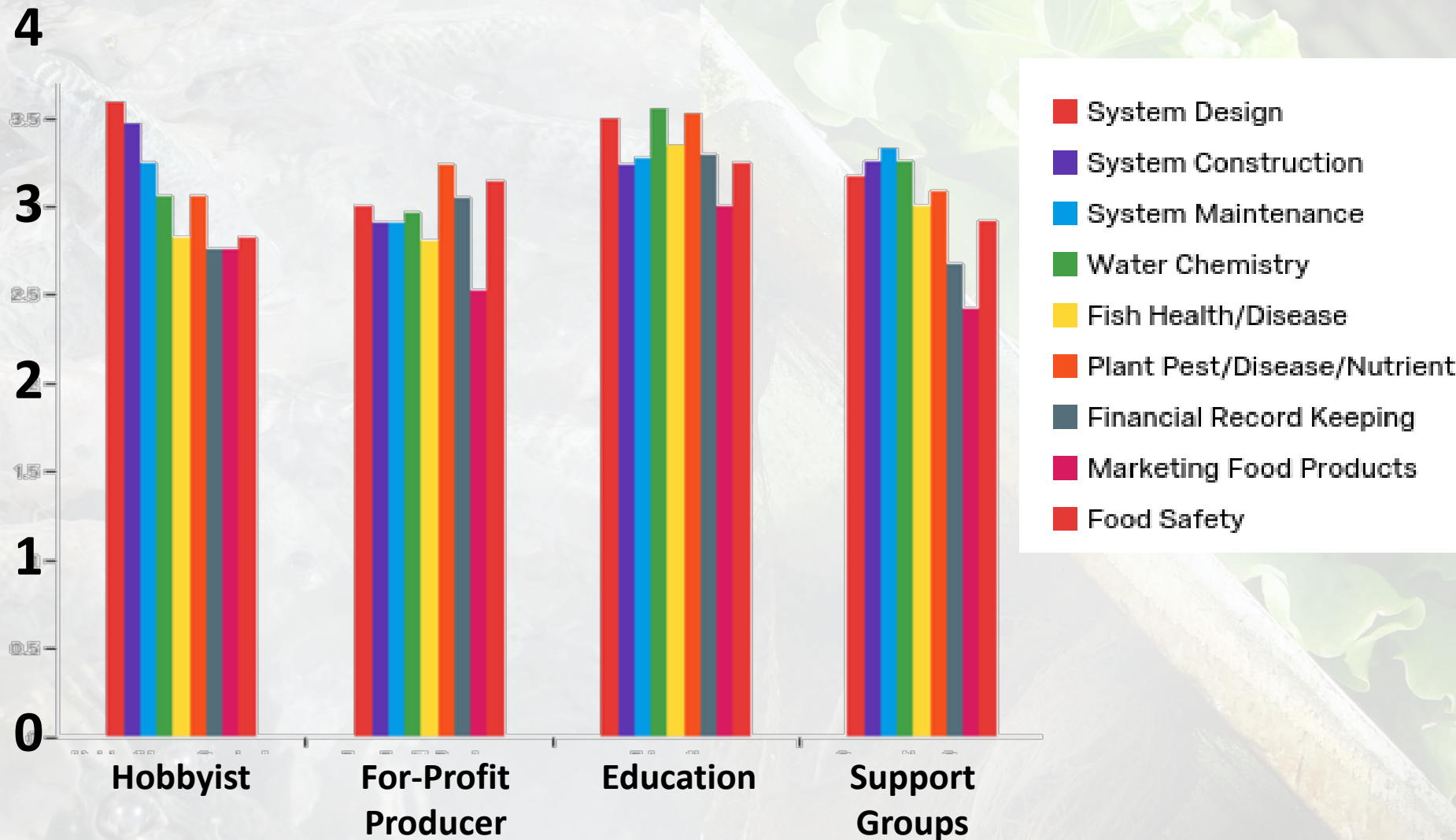
Topic Knowledge by Group



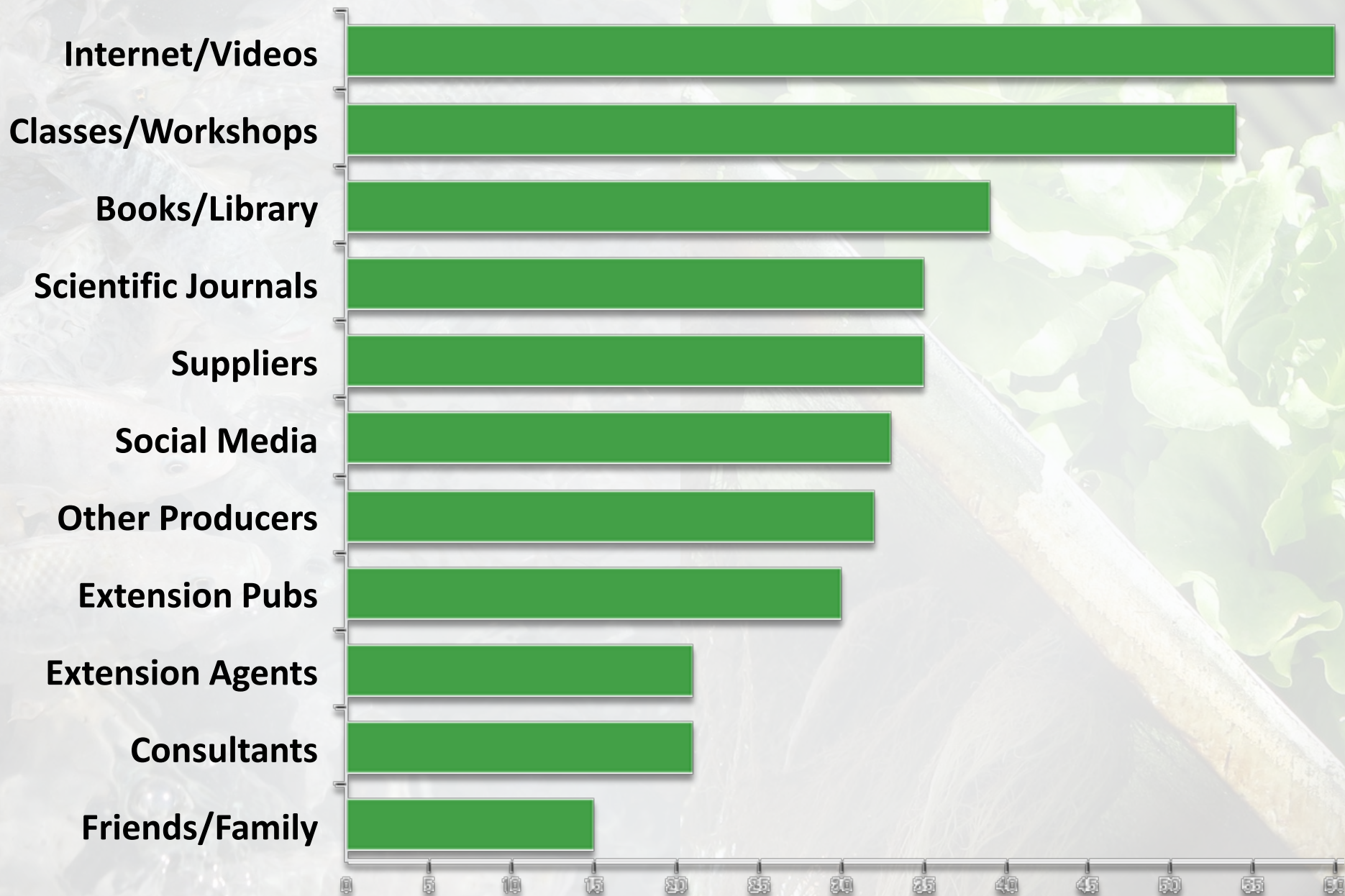
Accessibility of Quality Information



Accessibility of Topics by Group

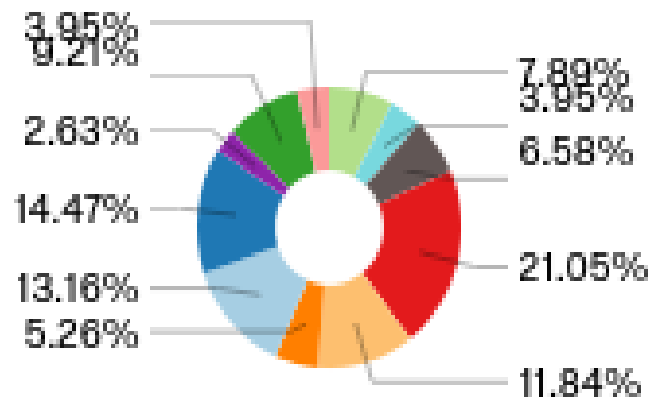


Currently Used Information Resources

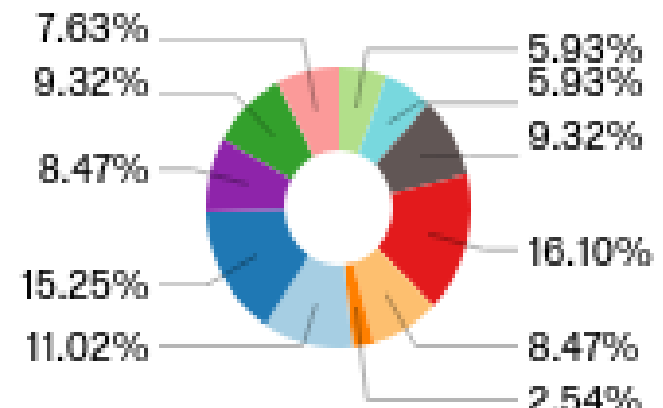


Information Sources Used by Group

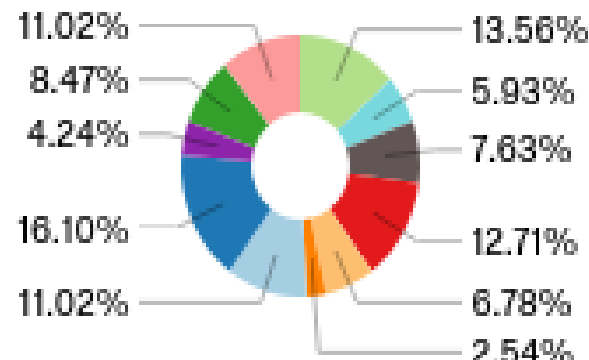
Hobby/Home Gardening



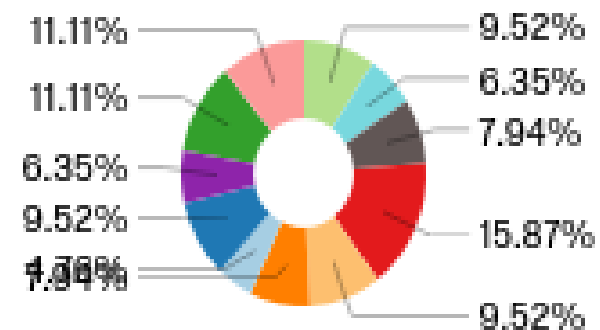
For-Profit Producer



Education (College/University, K-12, Extension, etc)



Supporting Groups (Public Agency, Not for Profit Groups, equipment supplier, etc.)



Peer-Reviewed Scientific Journals

Extension Agents

Extension Publications

Internet/Videos

Social Media

Friends/Family

Books/Library

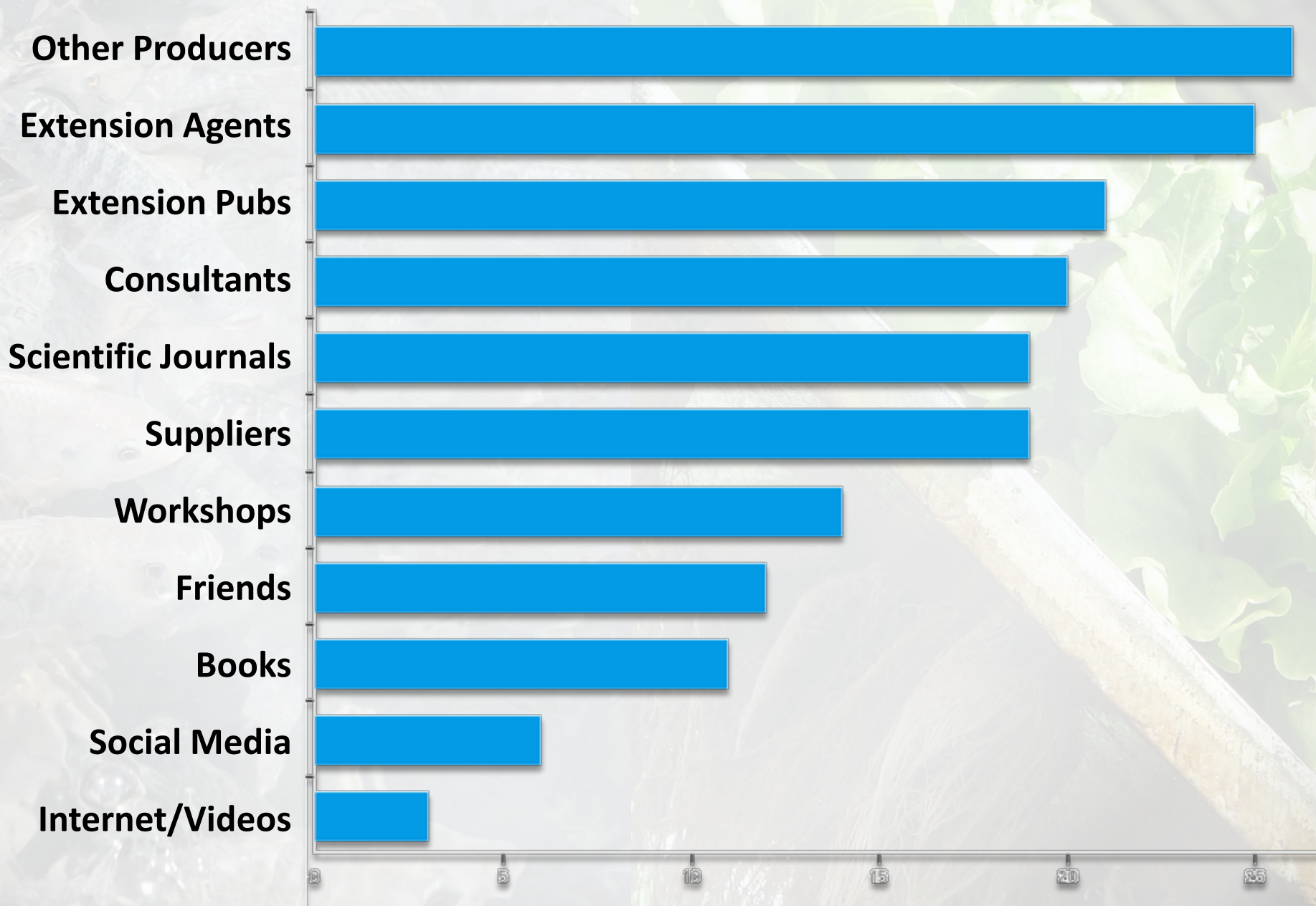
Classes/Workshops

Consultants

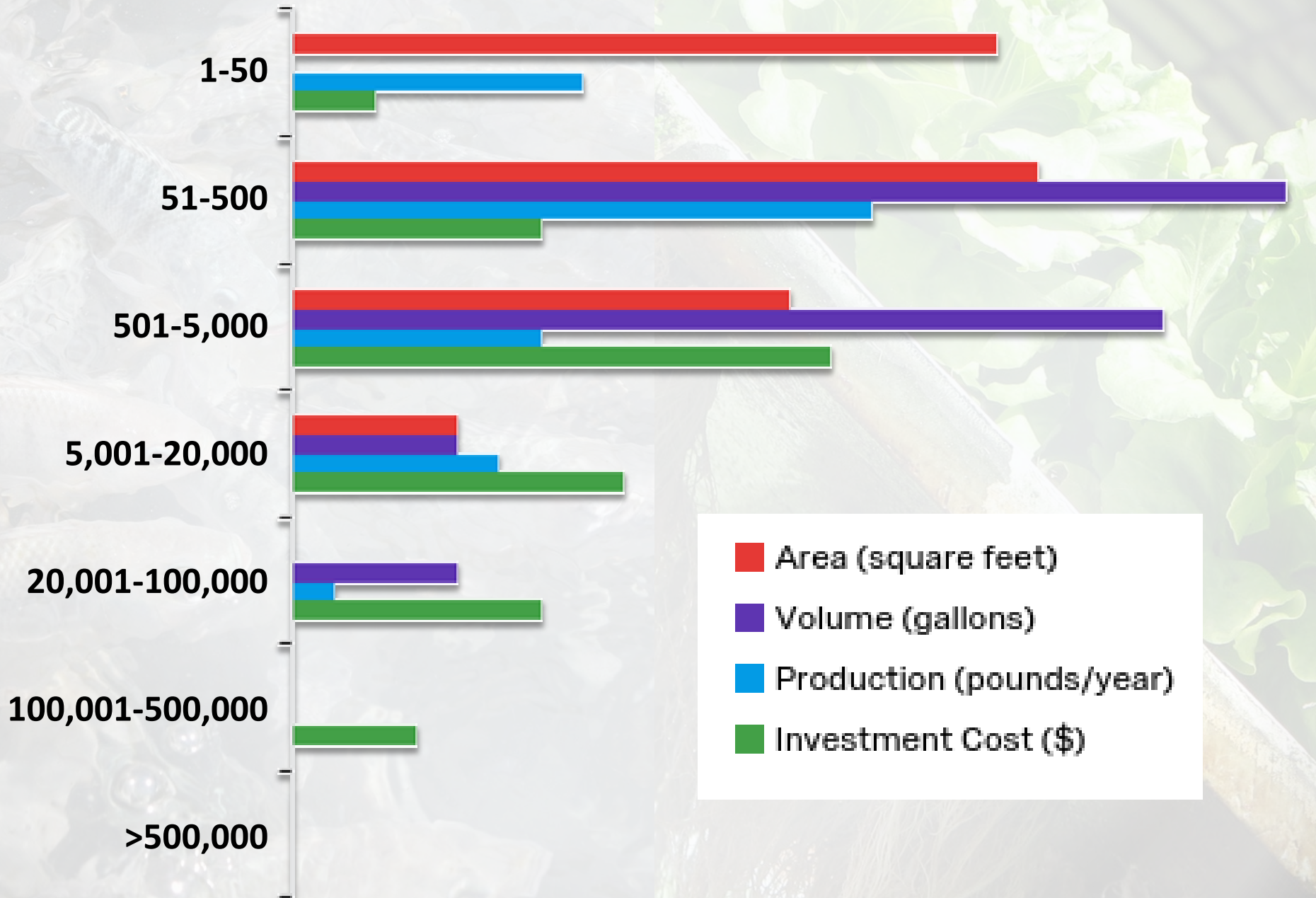
Manufacturers/Suppliers

Other Producers/Educators

Desired Information Resources



Fish Production System Size and Investment



Fish Production Area by Group

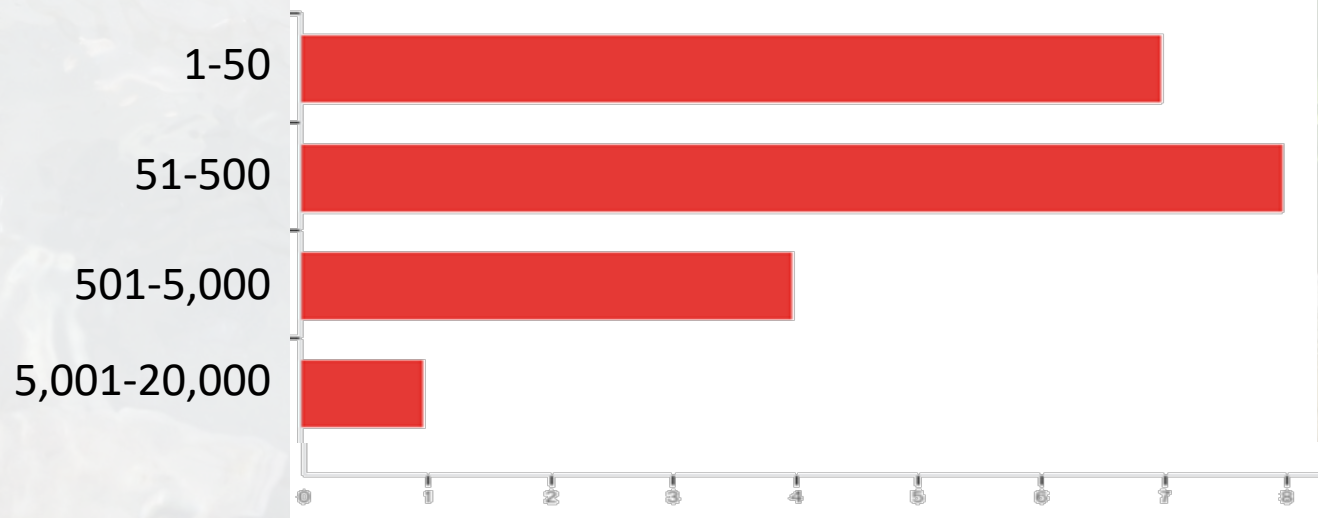
Hobbyist



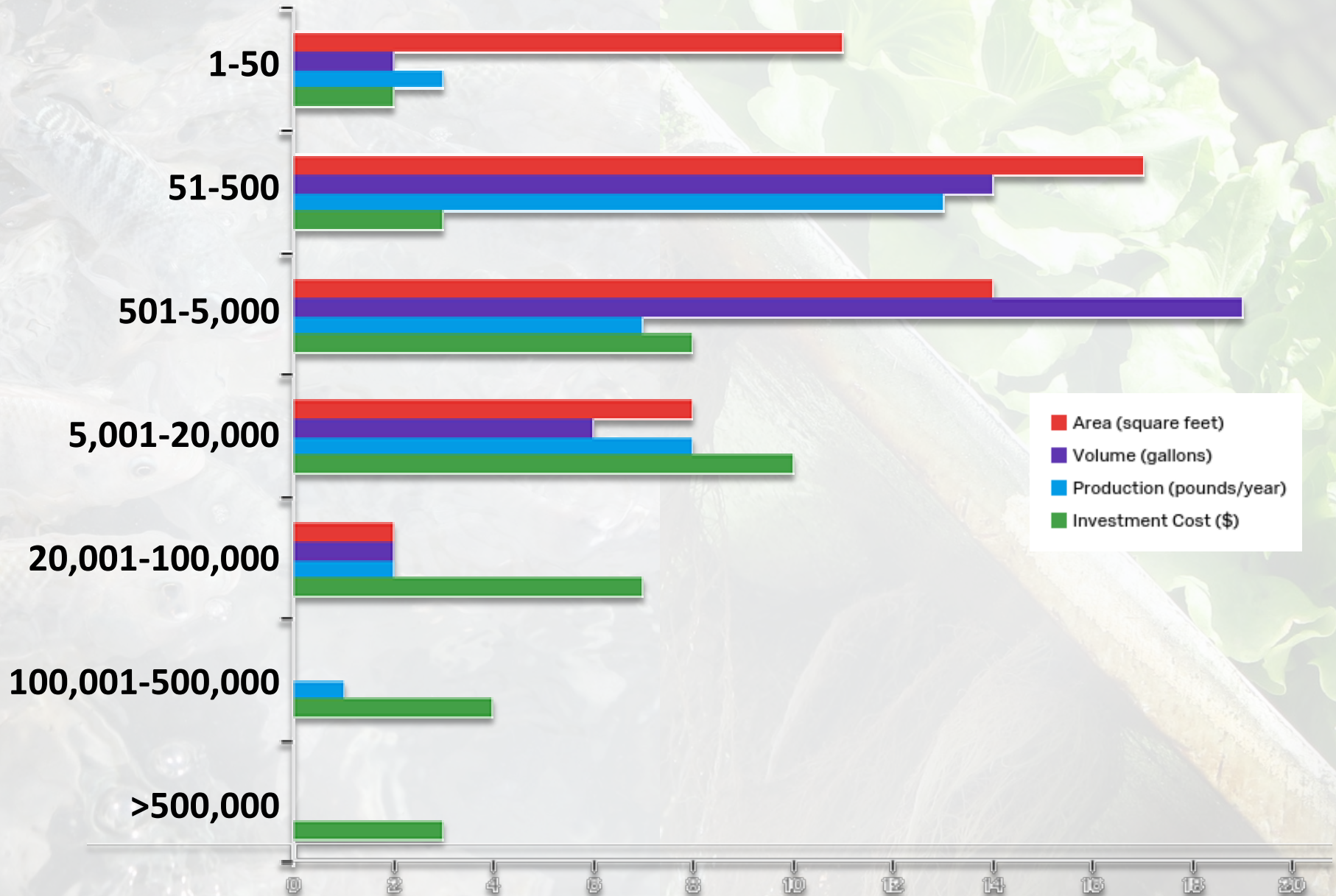
For Profit Producer



Education



Plant Production and Investment Scale



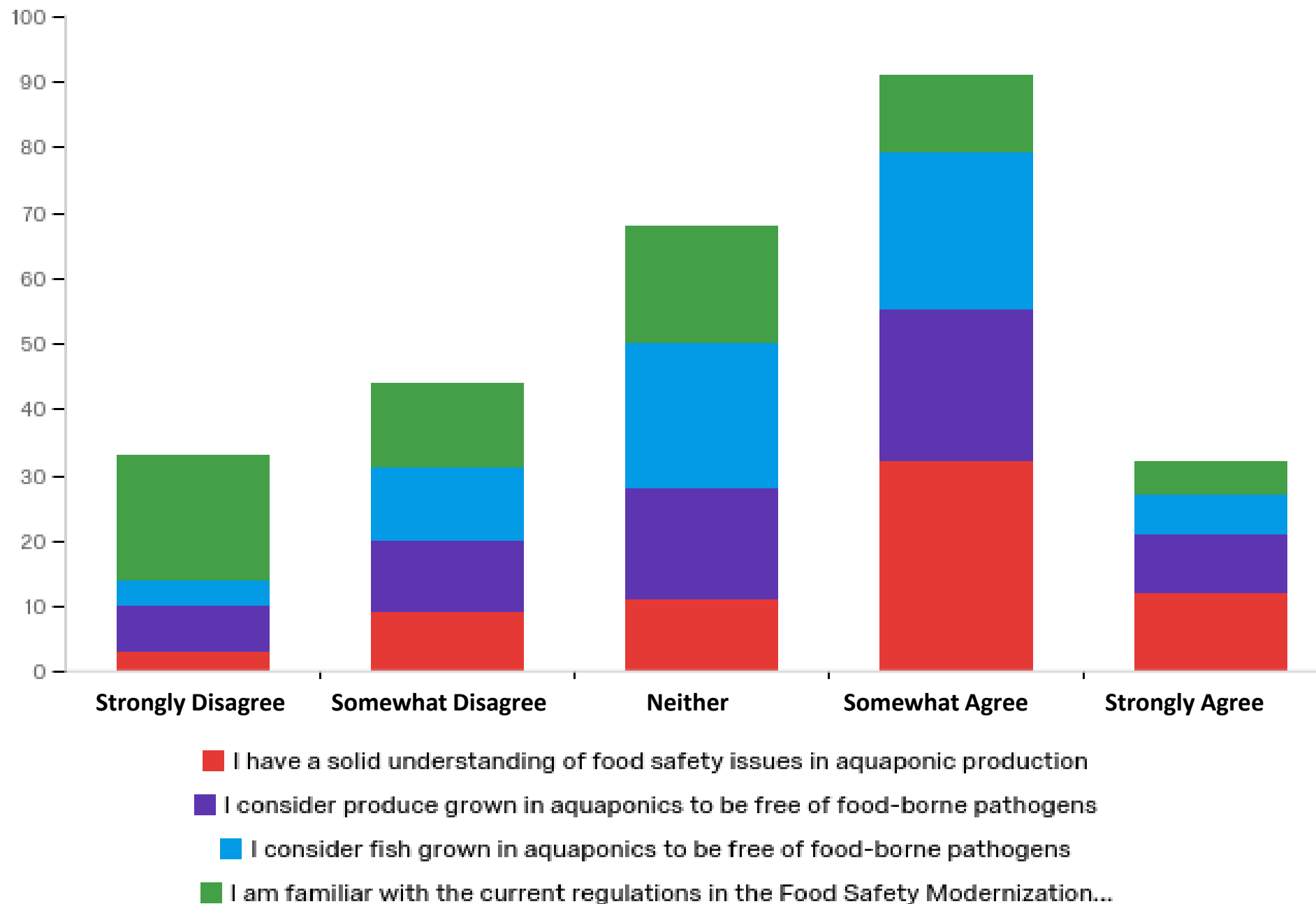
Top Challenges relating to Aquaponics



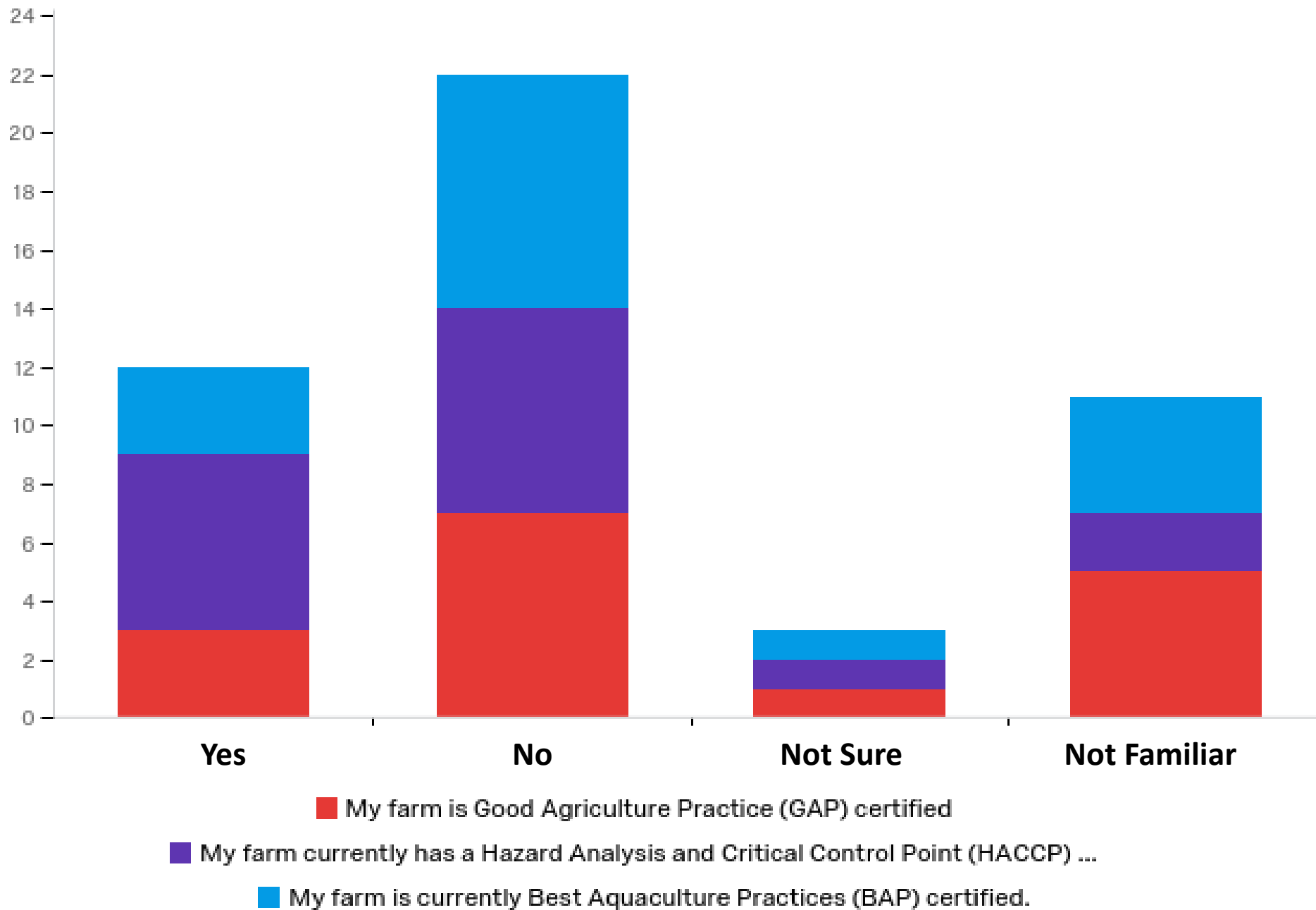


Food Safety in Aquaponics

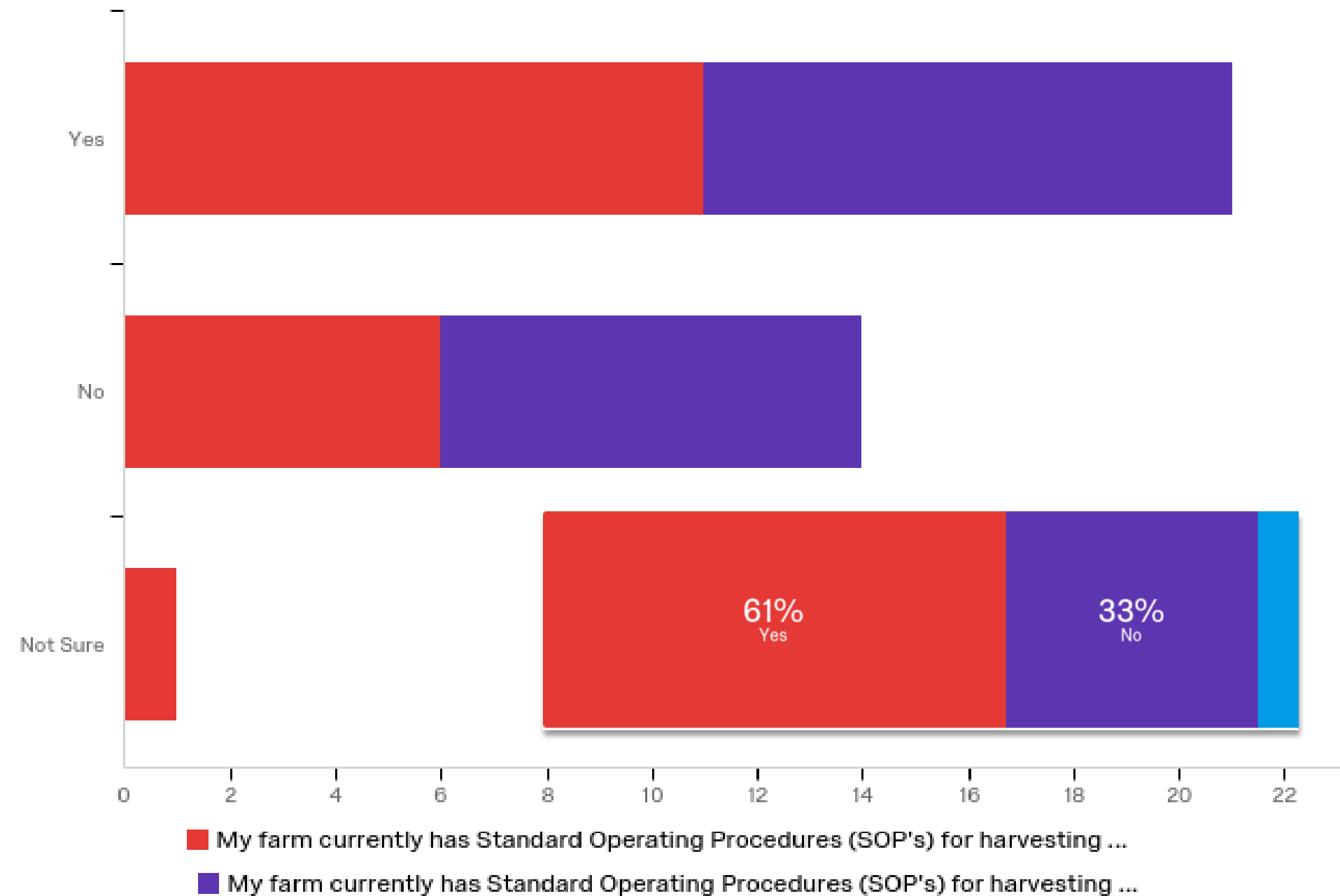
Aquaponic Food Safety Perceptions



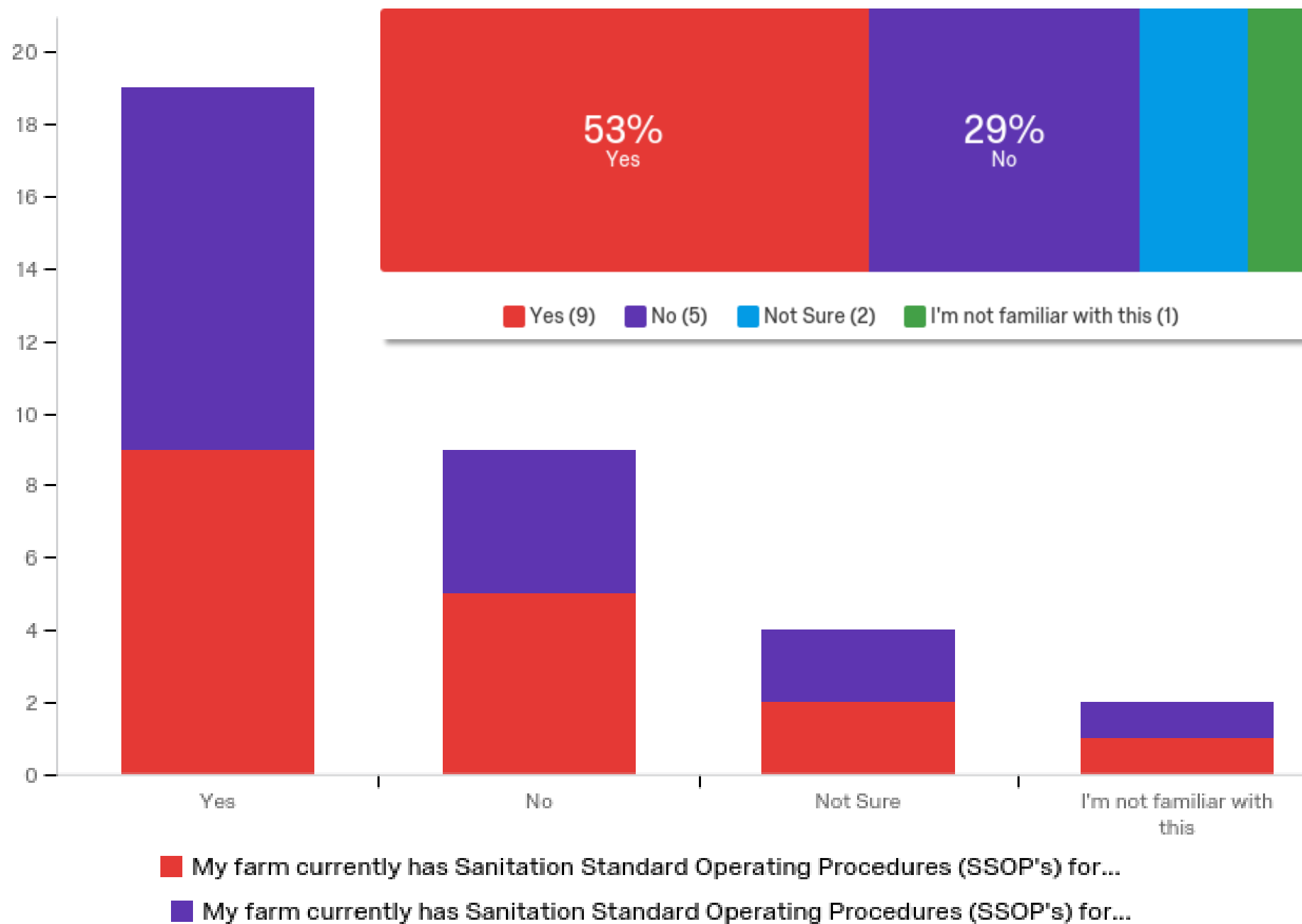
Aquaponic Certifications



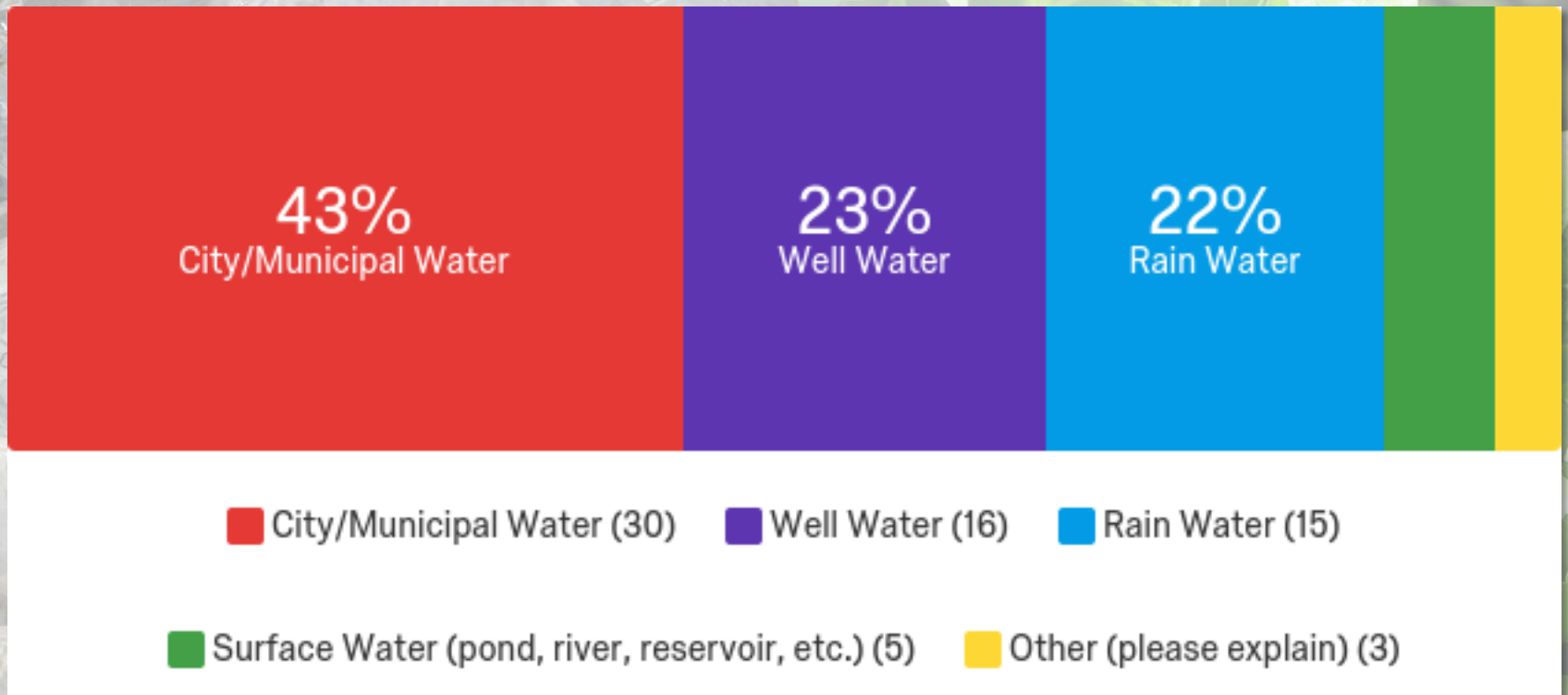
Standard Operating Procedures



Sanitation Standard Operating Procedures



Water Source



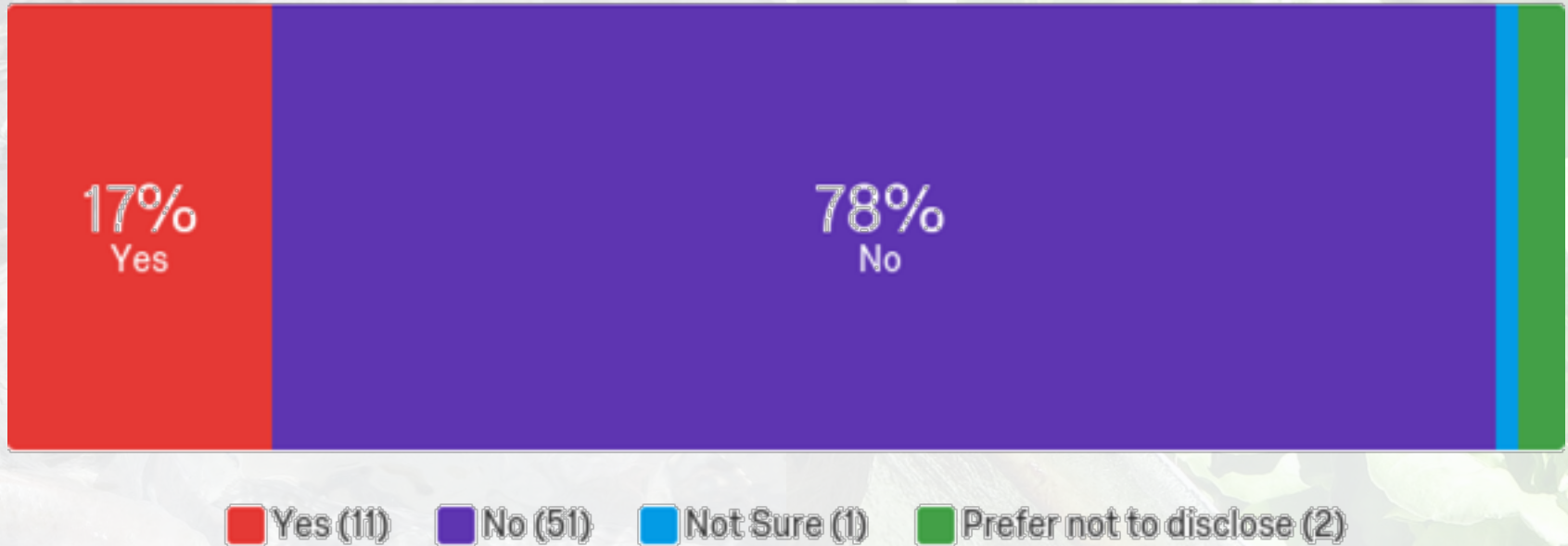
If you want to have your water tested
please contact Janelle!

Janelle.Hager@kysu.edu

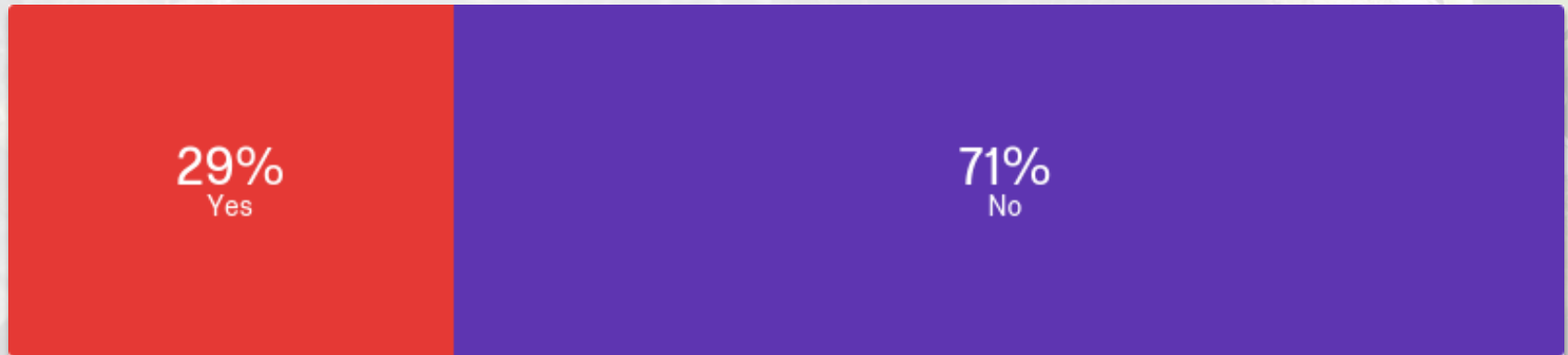
A composite image showing a fish tank on the left and a hydroponic lettuce grower on the right, connected by a central pipe. The fish are goldfish-like, and the lettuce is green and leafy. The text 'Aquaponic Business' is overlaid in the center.

Aquaponic Business

Is aquaponics your primary source of income?



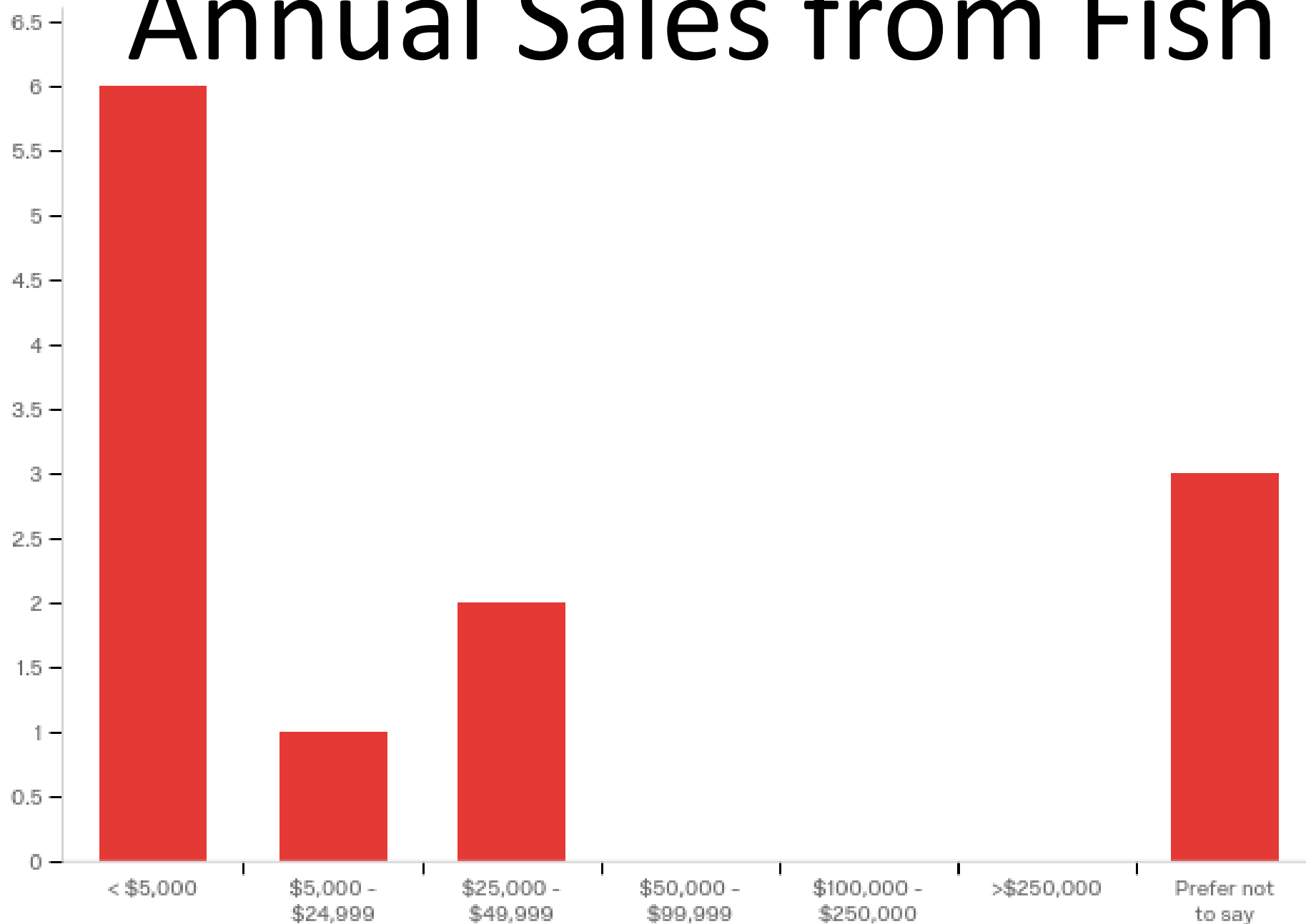
Do you sell any products relating to aquaponics?



Annual Sales from Plants



Annual Sales from Fish



What products do you sell relating to aquaponics?



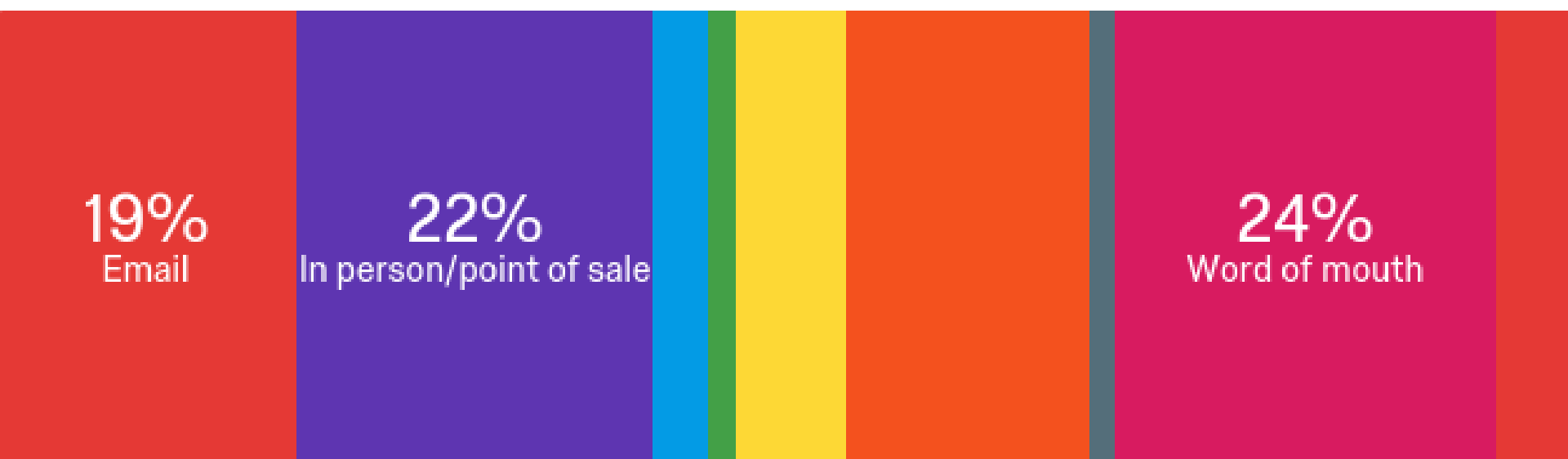
Marketing Radius



50 miles (14) 100 miles (3) 200 miles (1) 500 miles (1) 1,000 miles (0)

Market Outlet	Fish		Plants	
	Average (%)	SD	Average (%)	SD
Donations	38.6	44.8	39.3	43.2
Wholesale	13.3	29.7	27.9	32.7
Direct Sales	32.9	40.4	24.5	31.1
Retail	9.3	24.2	8.3	22.7

Marketing Methods used Currently

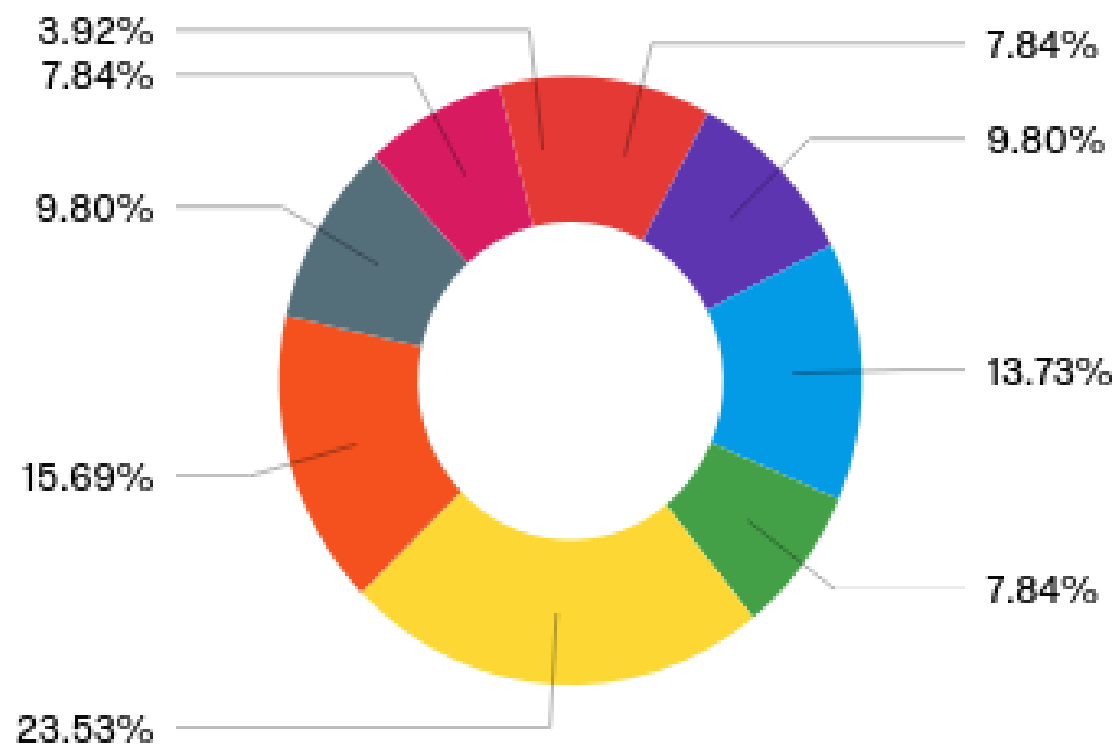


Email (19%) In person/point of sale (22%) Newspaper (3%) Radio (2%)

Search engine (ex. google) (7%) Social media (16%) Television (2%)

Word of mouth (24%) Other (specify) (5%)

Desired Marketing Methods



- Email
- In person/point of sale
- Newspaper
- Radio
- Search engine (ex. google)
- Social media
- Television
- Word of mouth
- Other (specify)



More to come after
further analysis...



Aquaponics in Education



Average Years of Teaching Experience

Teaching

w/ Aquaponics

11.6

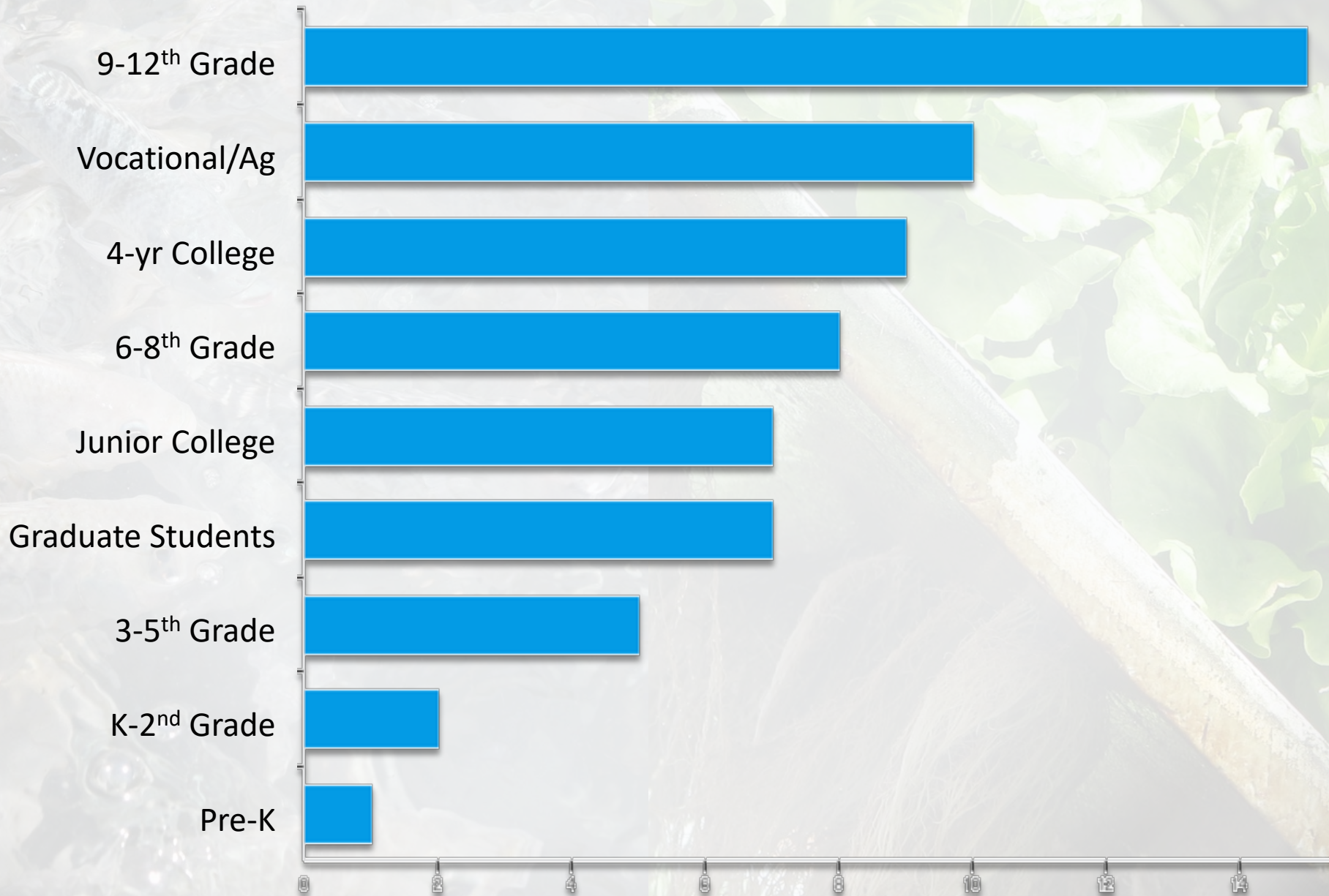
4.9

Median = 10

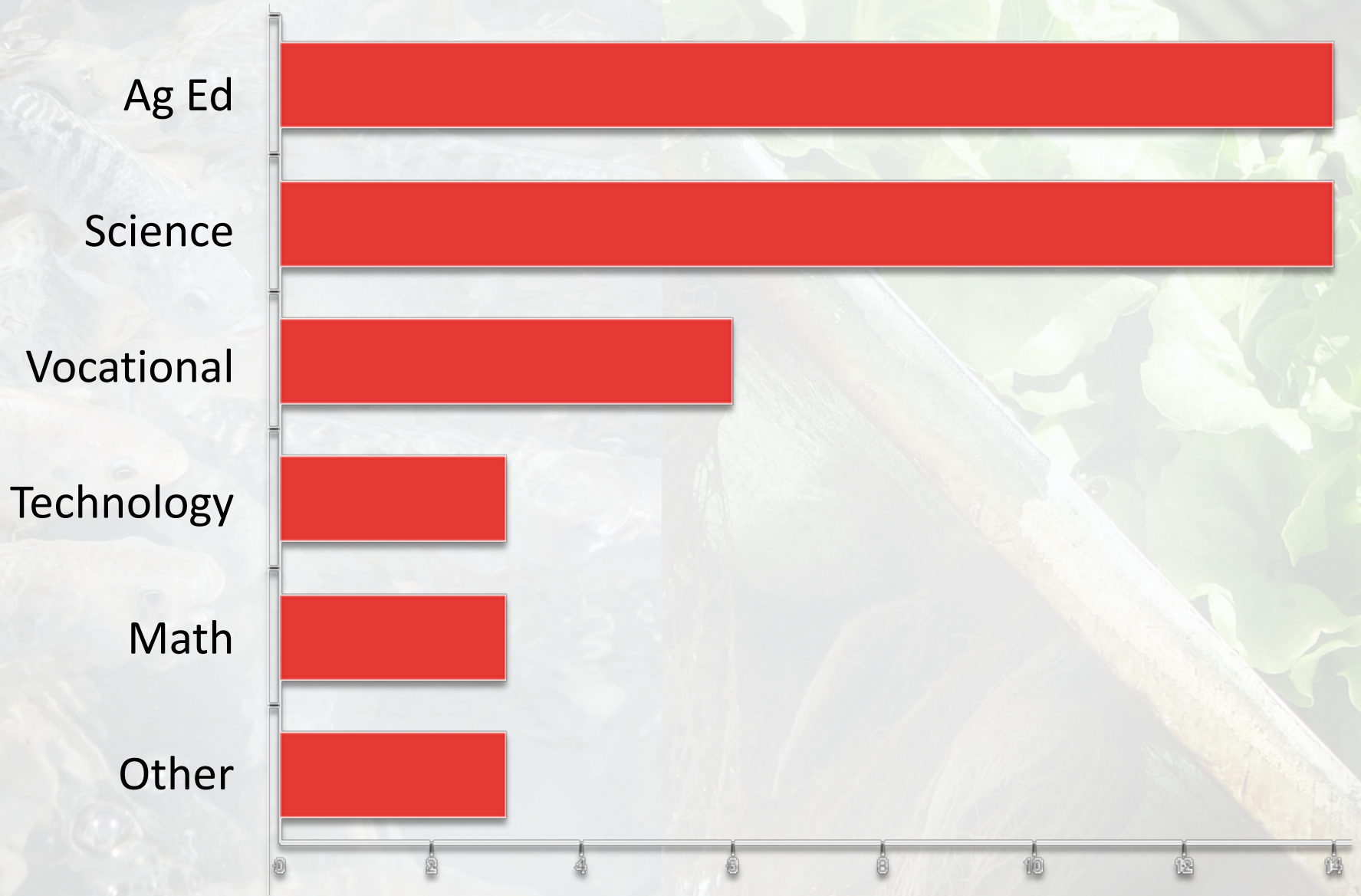
Median = 2.5

Ave. Diff. = 11.6; Median Diff. = 4.5

What group of students do you work with?



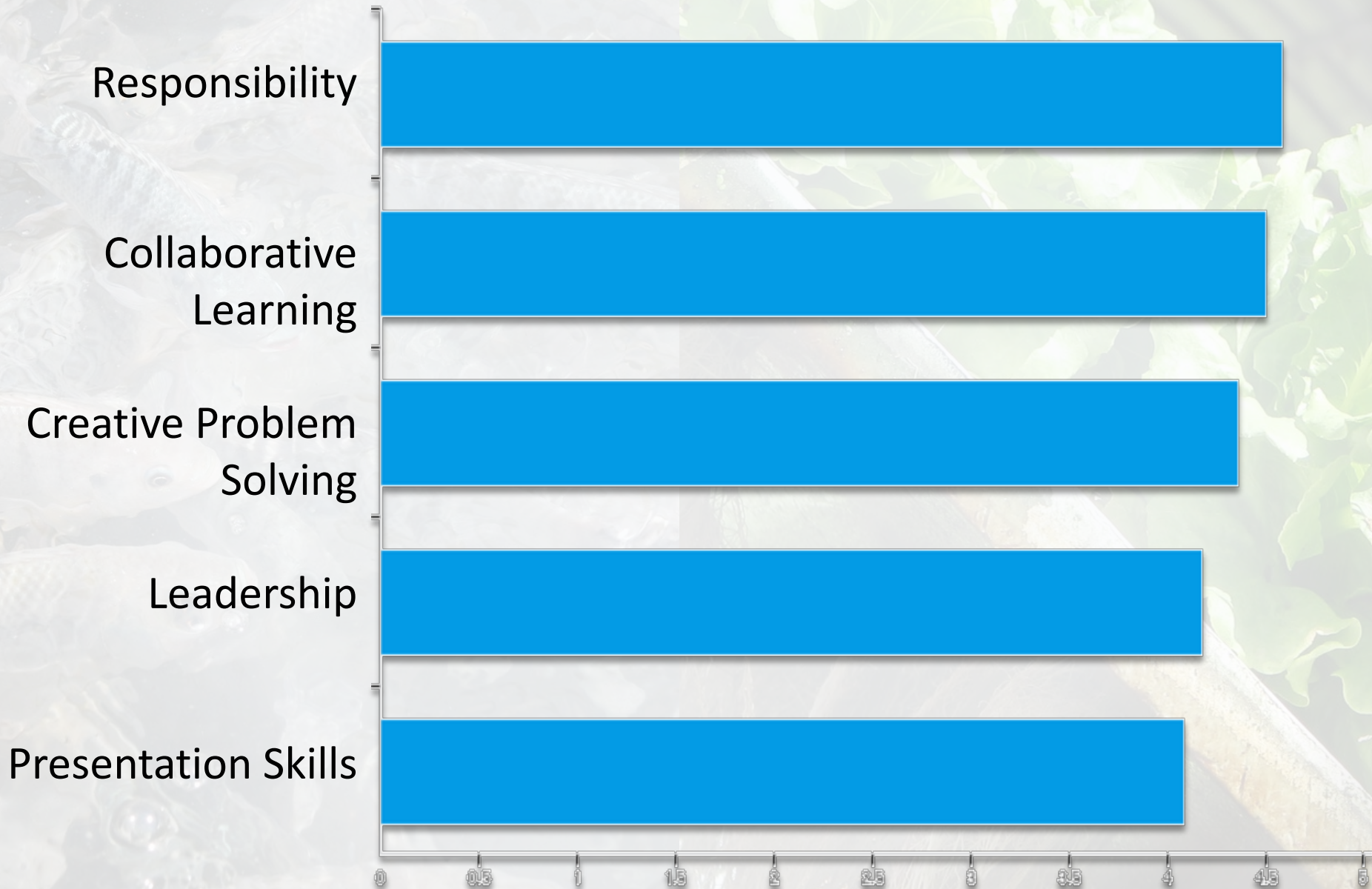
Which of the following best represents your teaching responsibilities?



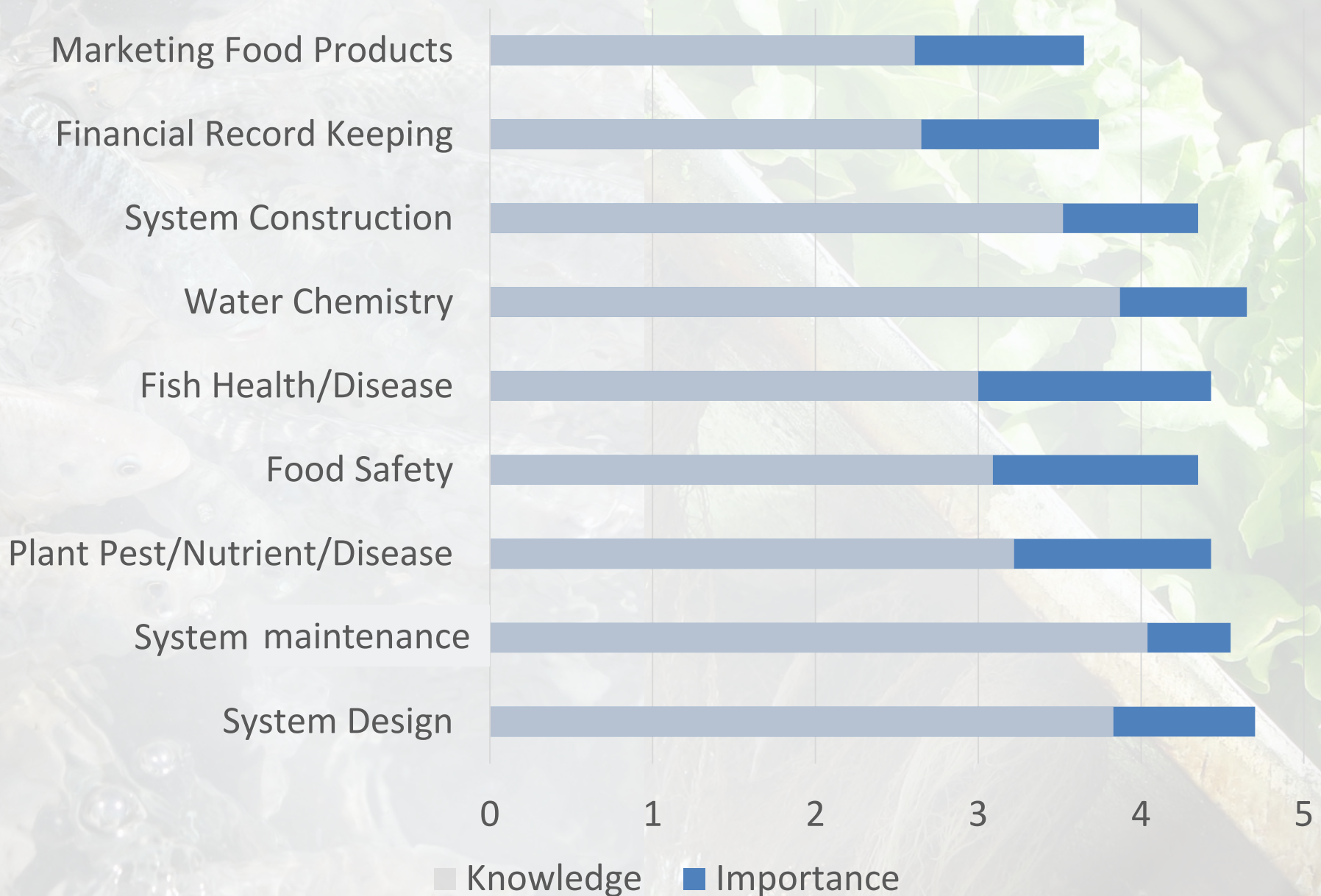
How useful is aquaponics to teach these subjects?



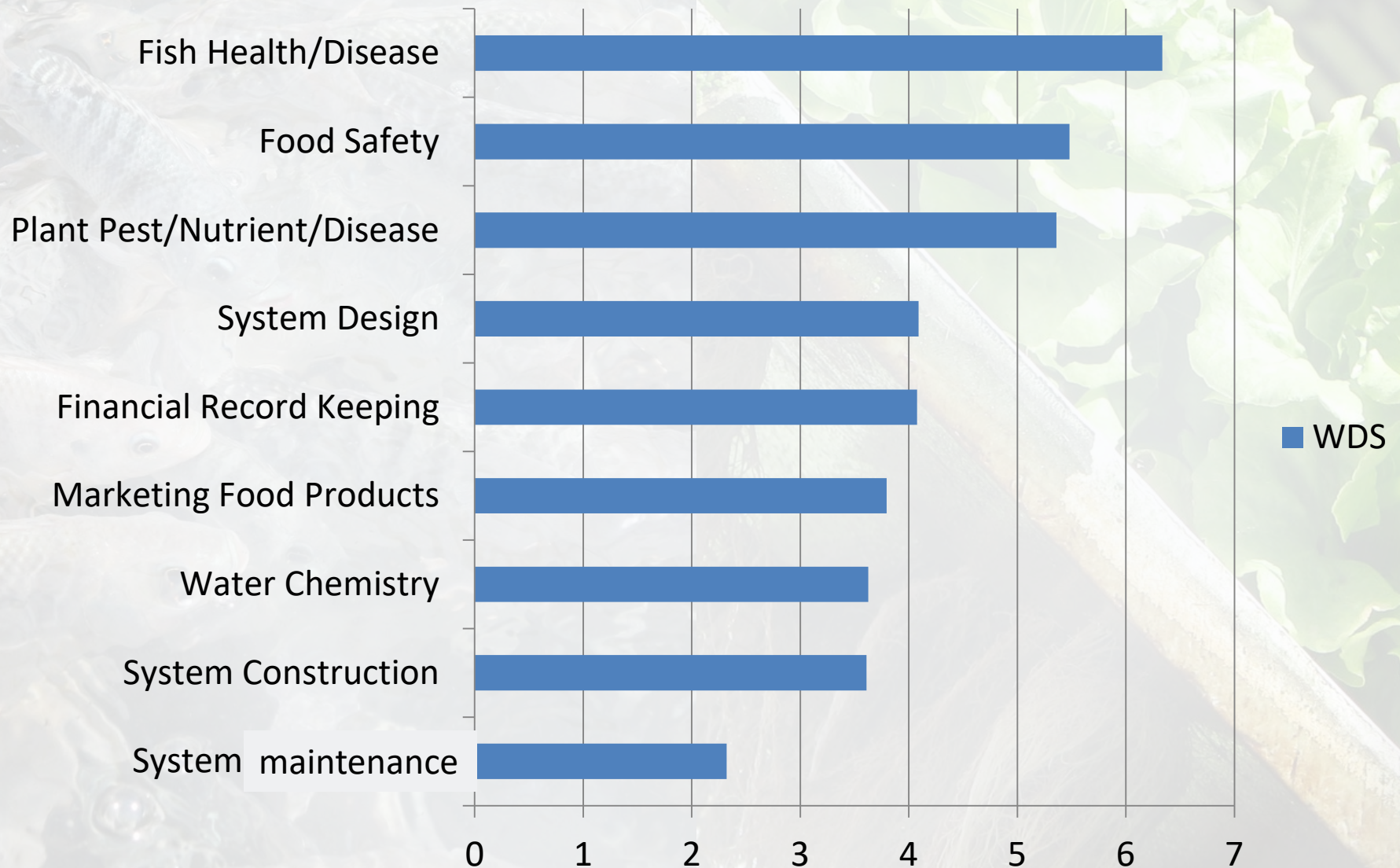
How useful is aquaponics for teaching:



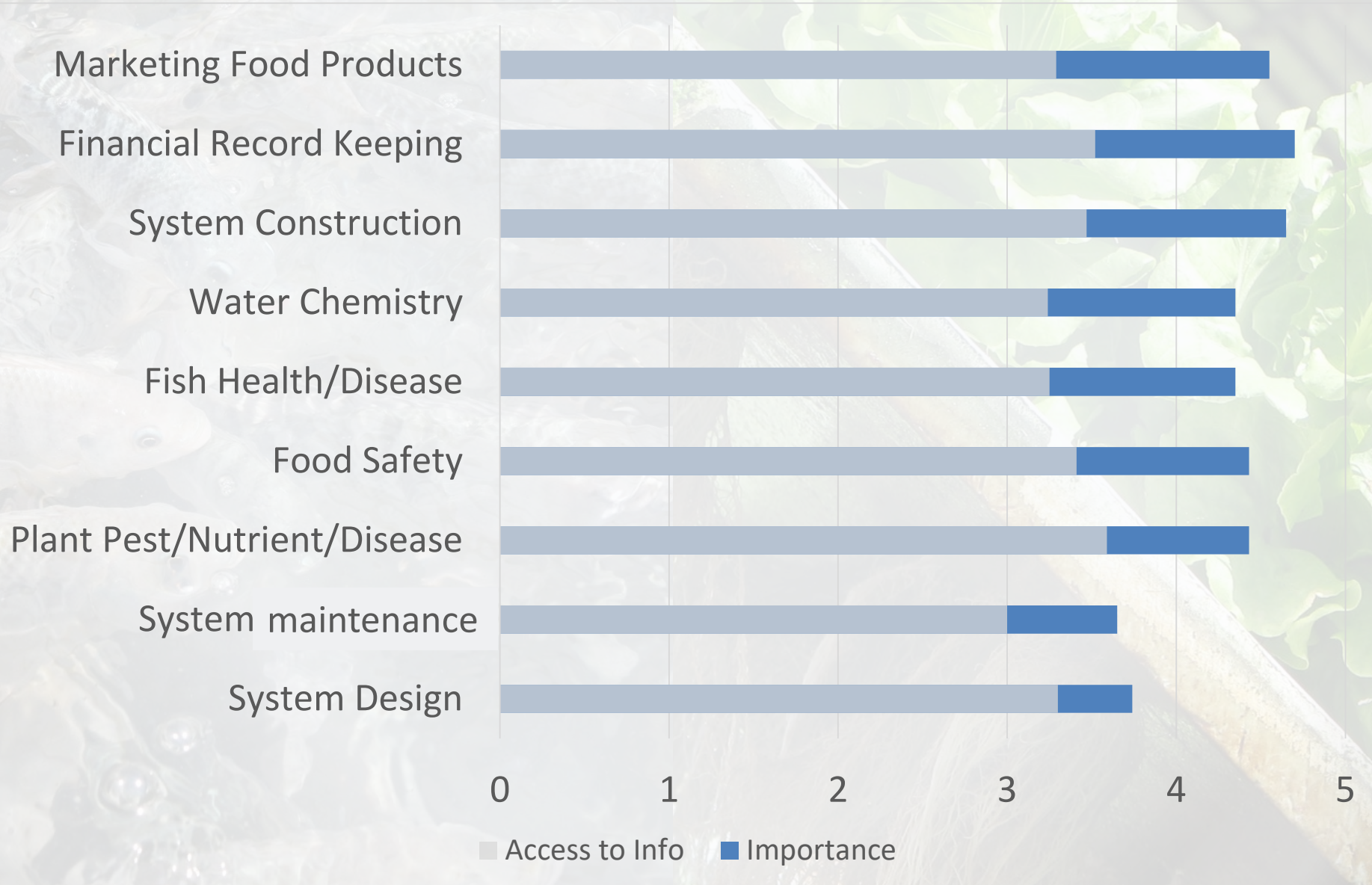
Knowledge vs. Importance (Discrepancy Score)



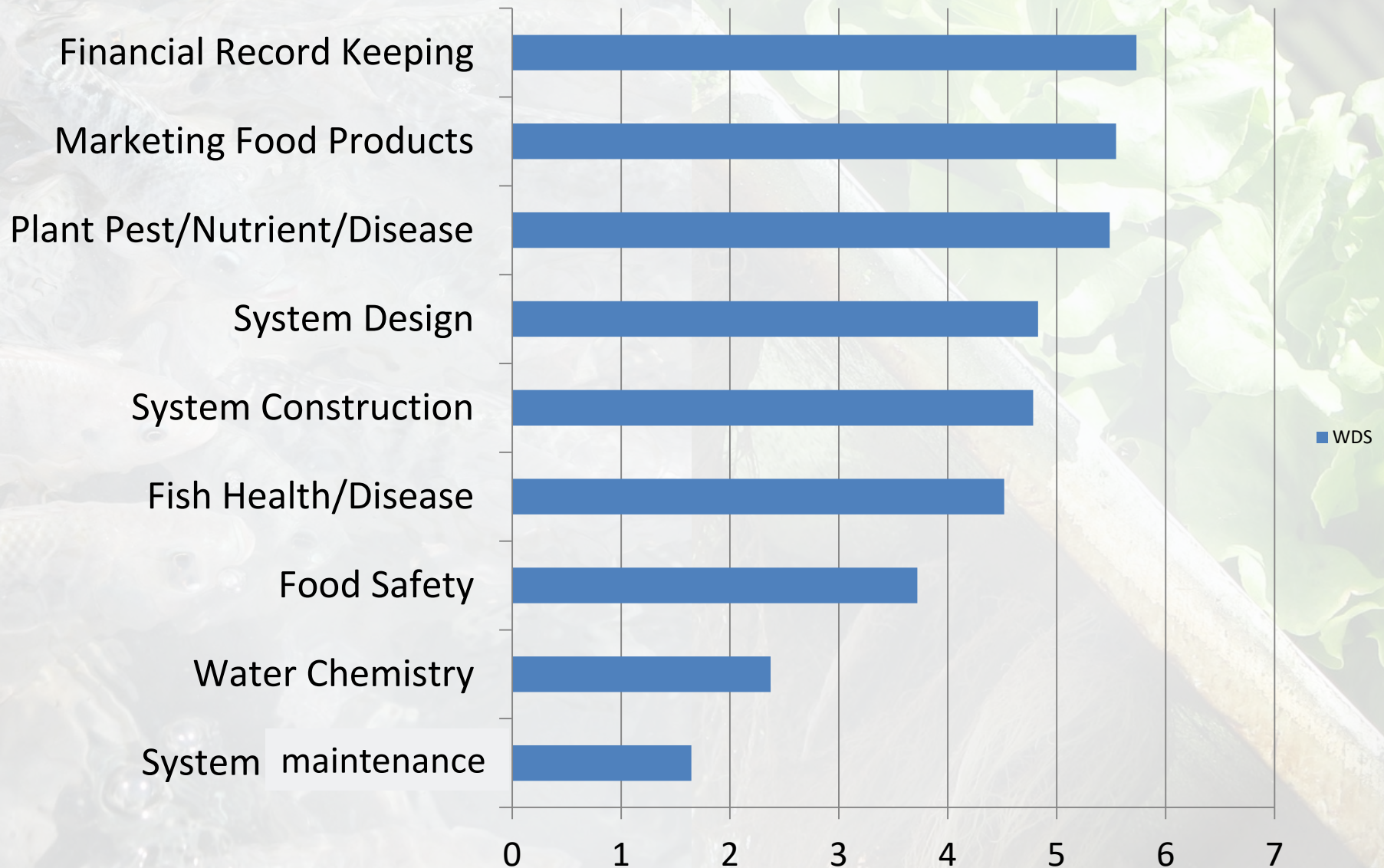
Knowledge vs. Importance (weighted discrepancy score)



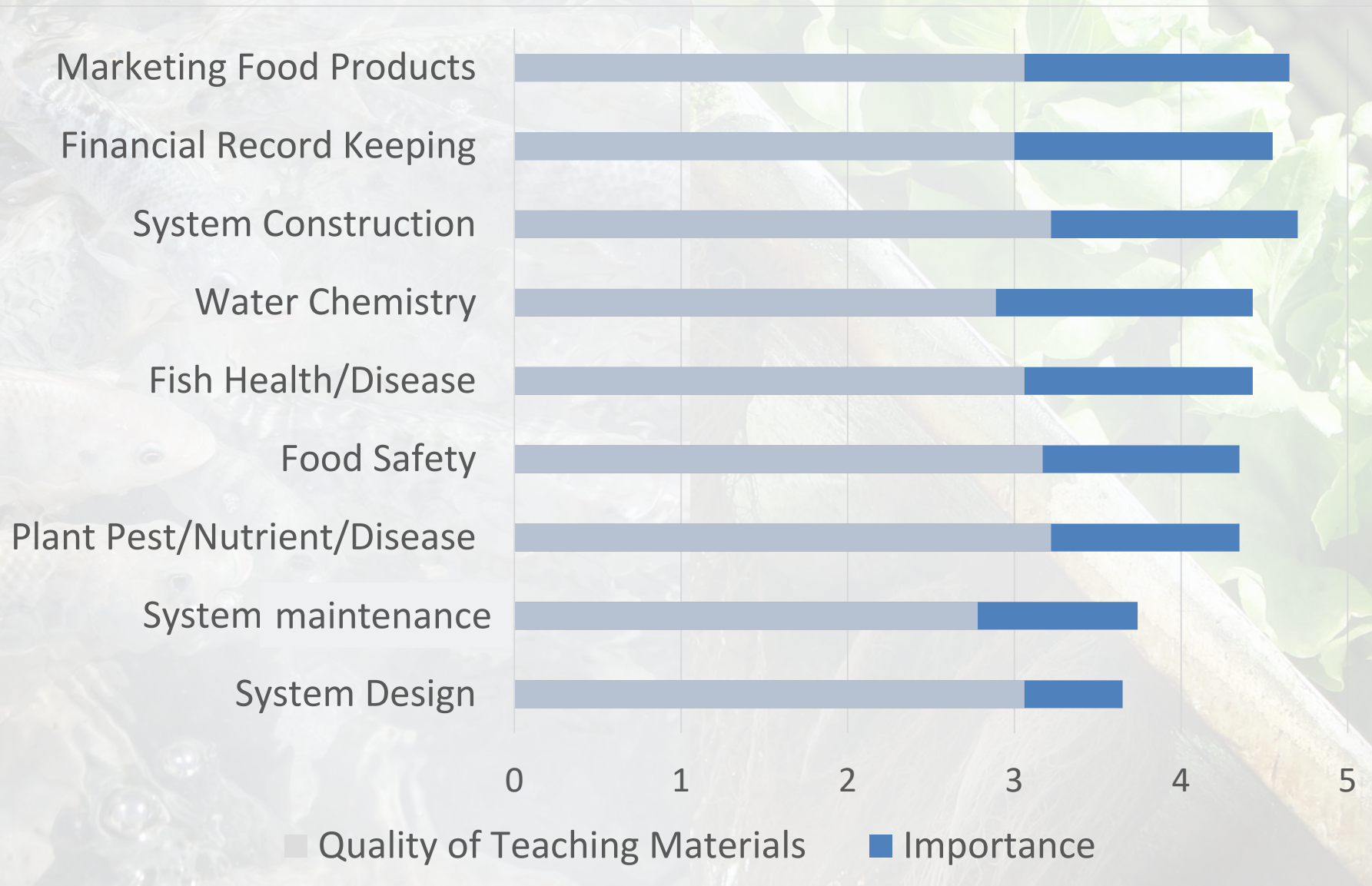
Access to information vs. Importance (Discrepancy Score)



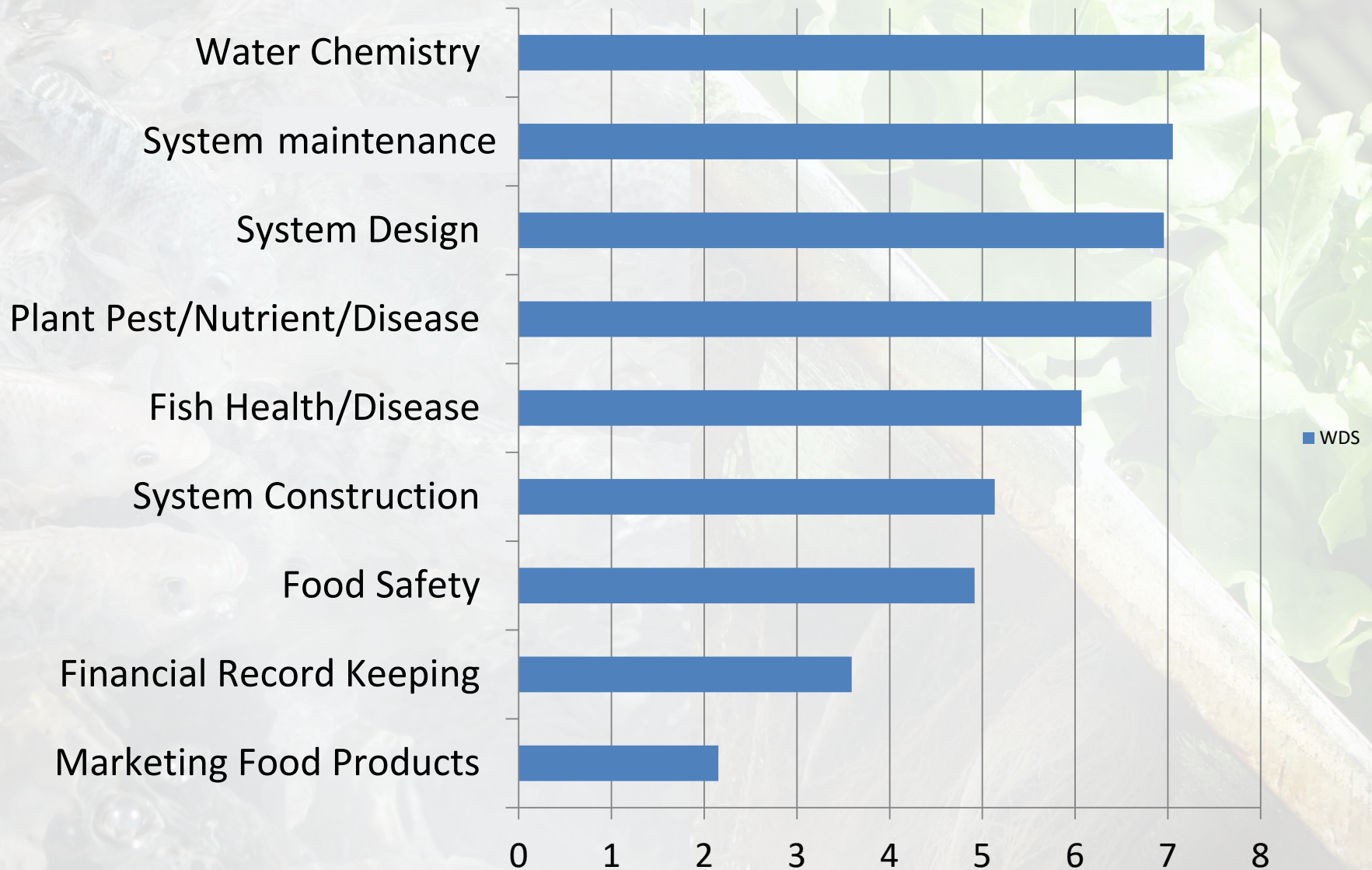
Access to information vs. Importance (Weighted DS)



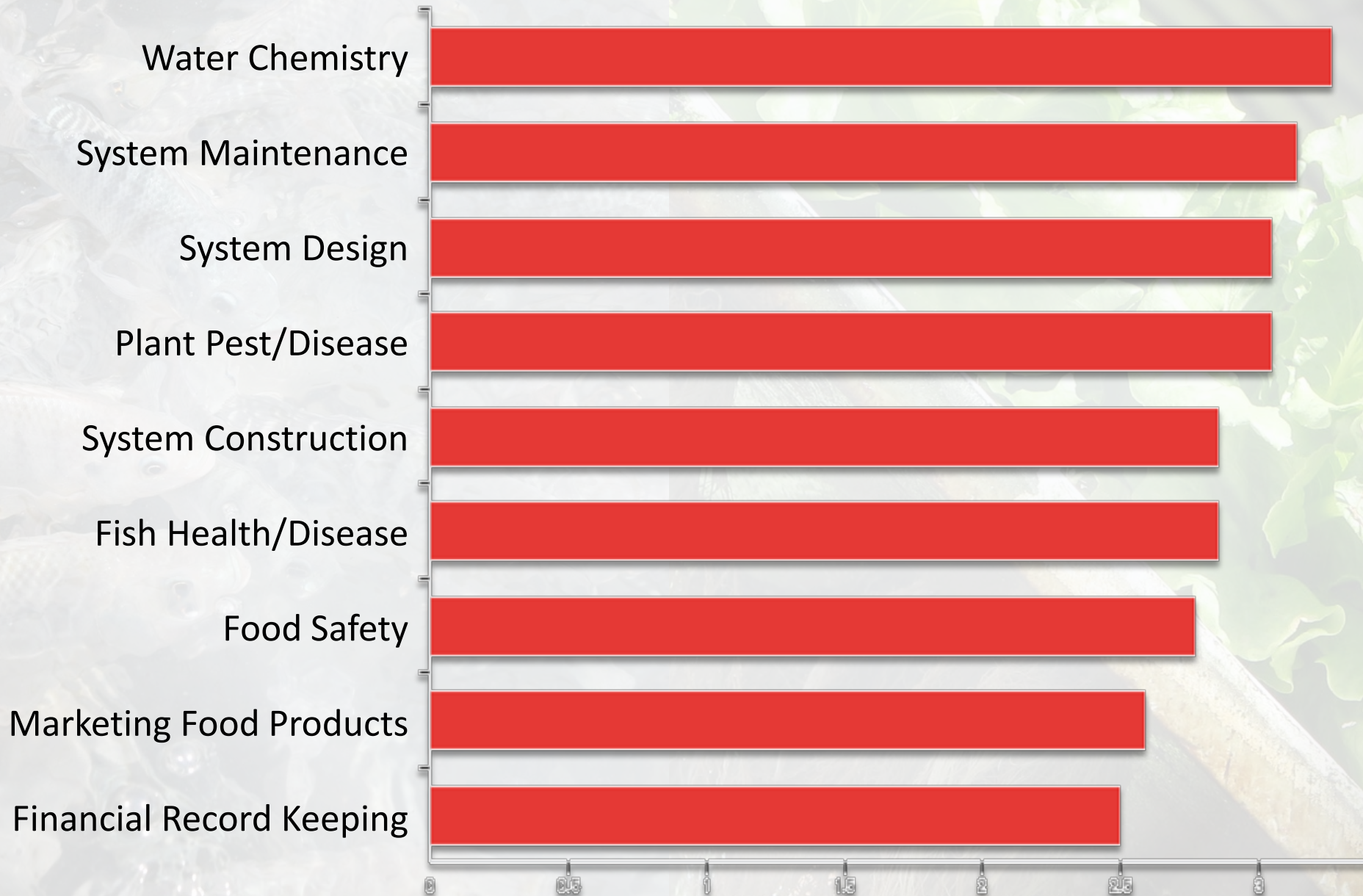
Quality of Teaching Materials vs. Importance (Discrepancy Score)



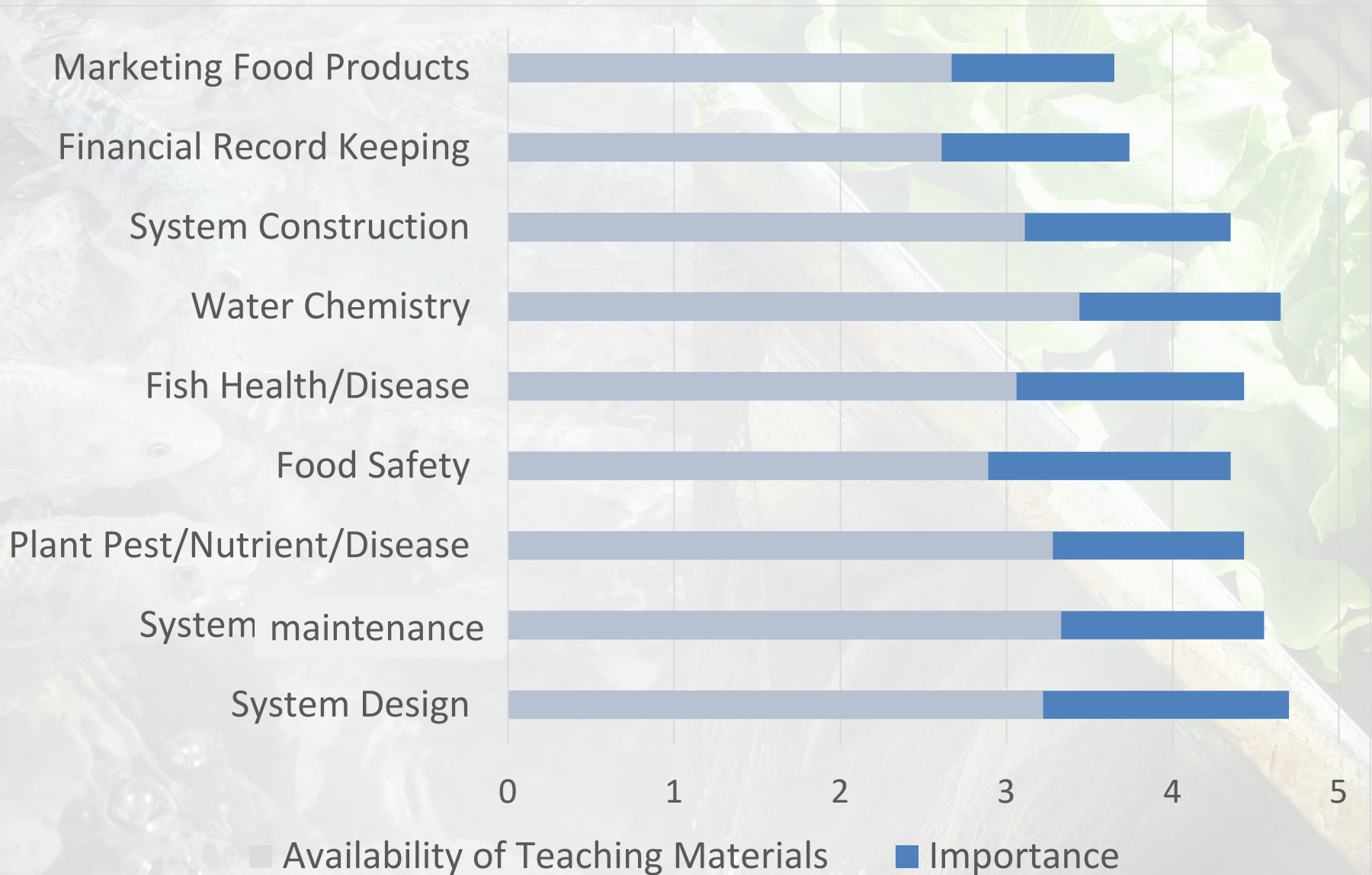
Quality of Teaching Materials vs. Importance (Weighted DS)



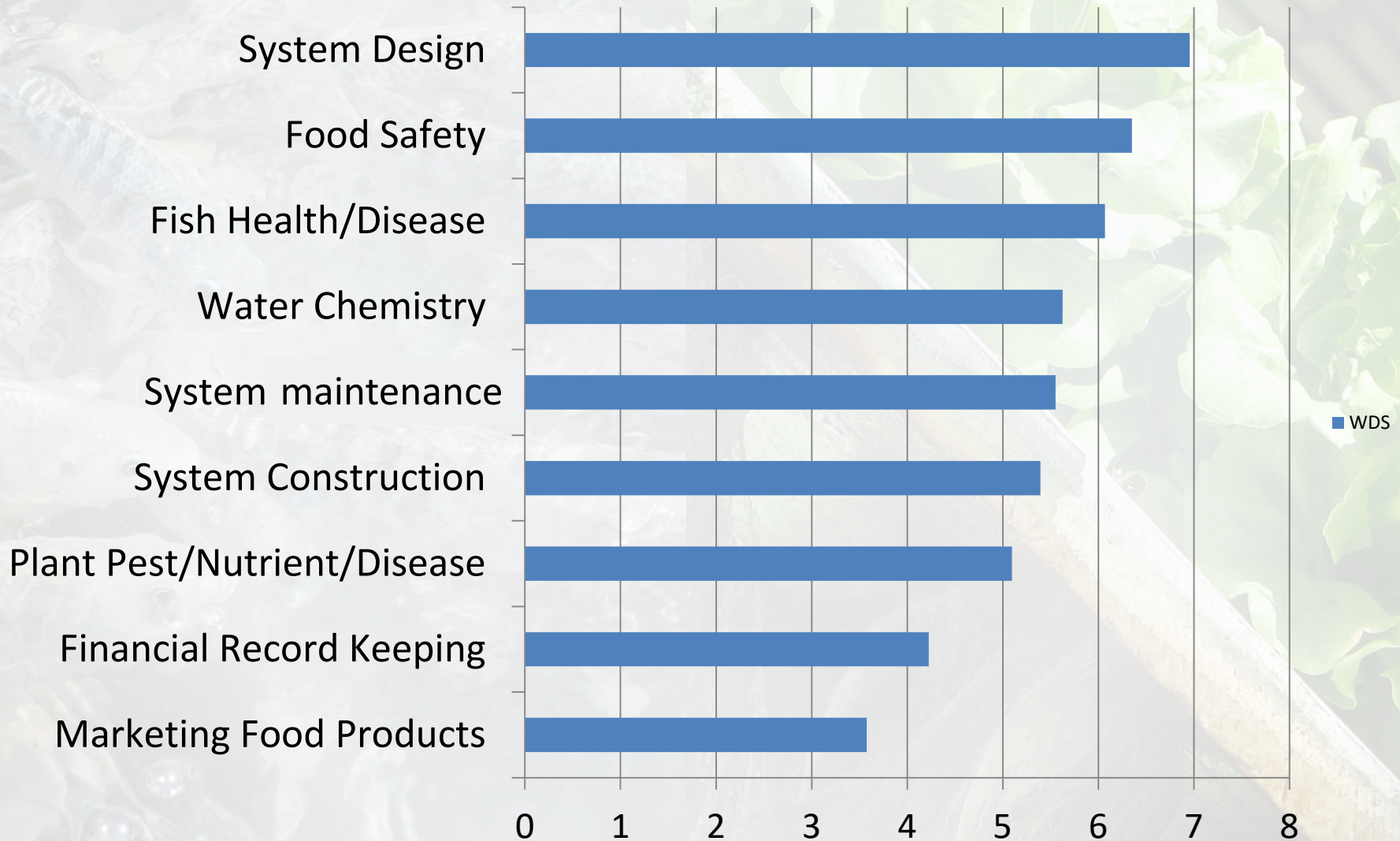
Please rate the availability of teaching materials related to:




Availability of Teaching Materials vs. Importance (Discrepancy Score)



Availability of Teaching Materials vs. Importance (Weighted DS)



Take-Away Points

- ❑ Relatively new practices (76% < 5 yrs)
- ❑ There are opportunities to improve quality and accessibility of educational materials
 - ❑ Quality control (videos and workshops) 
- ❑ Marketing and Record Keeping are undervalued
- ❑ Professional Associations and Extension Agents are valued and need to be promoted in aquaponics

**Take home message*

Thank You!

Questions?

Allen Pattillo

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Water tests contact Janelle!

Janelle.Hager@kysu.edu



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