

Planning Out Your Aqua venture

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Smith's Record-buster Bait Farm

- What are my goals?
- How much do I really know about this type of agriculture?
- How will I pay for my venture?
- What species am I interested in growing?
- Where is my market?
- Where will my farm be located?
- Do I need any permits?
- Do I need a partner?
- How will I get my product to the market?
- Do I need a business plan?
- What's next?

Vat of goldfish



Plenty of Q's and few A's when starting out

- These initial questions are often overwhelming for those who have never owned a business before
- Necessary to improve the chance of success
- Answer the questions in the correct order



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Plenty of Q's and few A's when starting out

Unfortunately questions are often answered out of order

Money is often spent on physical items before answering the questions

Smith's Record-Buster Bait Farm

- 4 • What are my goals?
 - How much do I really know about the business of agriculture?
- 2 • How will I pay for my expenses?
- 1 • What species of baitfish will I raise?
- 5 • Where will I raise the baitfish?
- 3 • How will I get my product to the market?
 - Do I need a business plan?
 - What's next?

Warehouse building purchased first?!



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What are your goals?

- ✓ Feed the family?
- ✓ Hobby?
- ✓ Retirement money?
- ✓ Part-time?
- ✓ Full-time?
- ✓ Investor?
- ✓ Combination?
- ✓ Don't really know?



How much do you know about aquatic farming?

- Everyone is off to a great start by being part of ABC-2!
- Is aquatic farming really the best avenue?
 - ✓ Opportunity costs → What else could you do with that capital, natural resources, building, your time, etc.?
 - ✓ Agriculture is hard work → Few vacations, long hours, sore backs, and failure
 - ✓ Marketing and sales → Can you move your product or have someone who can?



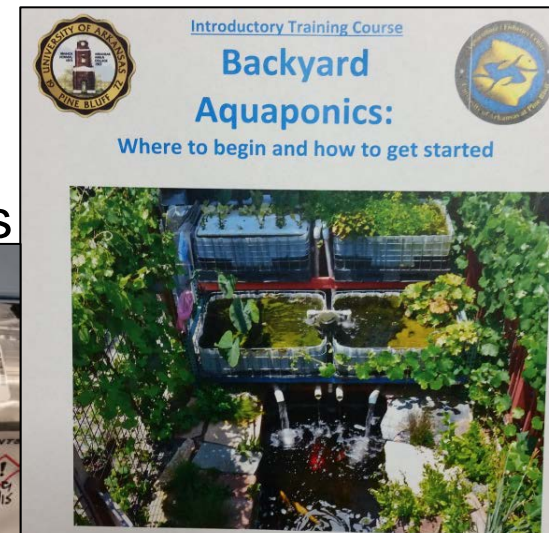
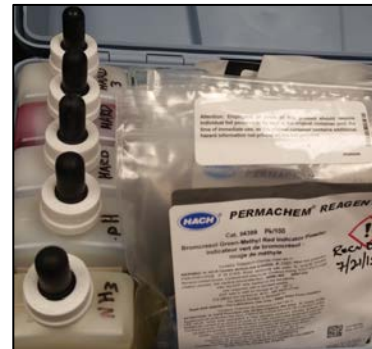
How much do you know about aquatic farming?

- Realizing your limitations is critical
 - Don't be afraid to admit what you don't know
- Attend classes, workshops, conferences
- Gain hands-on experience; visit farms and intern
- Large scale? Hire trusted aquaculture engineers for design
- Talk to extension and ag business counselors
- Learn from .edu resources whenever possible (limit biased information)
- Network with each other and seasoned farmers (learn from their mistakes)



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How much do you know about aquatic farming? – Resources

- [OSU South Centers](#)
- [Buckeye Aquafarming](#)
- Outside OSU information
 - [Ohio Aquaculture Association](#) – past meeting presentations; industry/uni
 - [TAMU Fisheries](#) – “one-stop” for all aquaculture info
 - [UW-Stevens Point](#) – partner; public education
 - [NCRAC](#) – pubs and videos
 - [SRAC](#) – pubs and videos
 - [ODA ADDL](#) – disease diagnostics
 - [IAA](#) – videos/newsletters



OHIO AQUACULTURE ASSOCIATION

OHIO STATE UNIVERSITY EXTENSION



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Buckeye Aquafarming

Ohio State University South Centers

How much do you know about aquatic farming? – Resources

- [OSU South Centers](#)
- Outside OSU information
 - [KSU Aquaculture Program](#) – research/extension
 - [Hocking College](#) – Tech college in OH
 - [BCC](#) – Wilmington, NC
 - [The Conservation Fund](#) – RAS research
 - [FDA FSMA](#) – Final rule on produce safety
 - [FAO](#) – Aquaculture
 - [FAO](#) – Aquaponics
 - [USDA APHIS](#) – CAHPS
 - [USDA NIFA](#) – Aquaculture research/education



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What is the source of funding?

- This will be talked about in much more detail later (both in and out of formal presentations)
- However, be realistic in your considerations
 - The “g” word isn’t a guarantee and is often elusive
 - Starting a small operation before scaling up – easier on the wallet and if done correctly can lead to economies of scale



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What species are you interested in growing?

- Having a good idea of species is a good start
- Necessary to be flexible – Don't force a product the market doesn't want – or doesn't want for your price!
- Being completely set on a species prior to learning about your seafood markets is not recommended! – there are many markets
- Market research on a product can be tedious and requires a very outgoing personality
- Each species is different



Where is your market?

- Hobby? money in and joy out
- Wholesale/retail?
- Live
- On ice
- Value-added
- Filleted
- Restaurants
- Schools
- Bait shops
- Farmers' markets
- Pick-up on farm/delivery
- Food/bait/sport/aesthetics



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Where is your market? – food, bait, sport, aesthetics

- Ohio is one of the strongest producing states in the region
- FW shrimp
- LMB
 - Food!
- Yellow perch
- Bluegill
- Tilapia
- Trout
- Koi/shubunkins
- Bream
- Crawfish
- Bait



Where will the farm be located?

Some questions to consider...

- Do you have land available now or do you need to purchase?
- Is the land zoned correctly?
- Is the land/water suitable for production?
- Do you need to run power and if not is it reliable power?
- How far is the land from where you live?
- How far are your suppliers/markets?

Many of these will be discussed
in more detail later today



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Do you need permits to grow your species?

- Bill Lynch gave a great presentation on this at the fall 2016 OAA workshop that was held here in Piketon!
- Visit the OAA website for his presentation! [Regulations You Need to Know](#)



Do you need permits to grow your species?

- Most likely the answer is yes
- ODW permit required if selling, bartering, or trading
- Available online
- Google “Ohio aquaculture permit”
- Class A and Class B species
 - \$50 or \$100
- Fish Transport/Bait Dealer Free
- Wholesale \$65



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Division of Wildlife
Ohio Department of Natural Resources
AQUACULTURE PERMIT APPLICATION

PRINT OR TYPE

Full Name of Applicant		Telephone (area code)		County
Street Address		City	State	Zip Code
Business Name				
Culture Facility Address		City	State	Zip Code
Email Address			Social Security Number	
Does Applicant Now Hold a Valid Ohio Lake Erie Commercial Fishing License? <input type="checkbox"/> Yes <input type="checkbox"/> No		Commercial License Number		Type of Commercial Fishing Gear Used

☐ I DO ☐ I DO NOT want my name listed as a propagator of fish for stocking. Your name will not be included on the propagators list if the application is not received before March 1 and only Division of Wildlife recommended species for pond stocking are included on this list.

☐ **CLASS A AQUACULTURE PERMIT (\$50)**
Includes the following permits at no charge, please check the permits you need.

☐ Bait Dealer Permit (see Publication 5330)
Type of bait to be collected and/or sold: ☐ Minnows ☐ Hellgrammites ☐ Crayfish

☐ Fish Transportation Permit (see Publication 5002)

Class A Permit Applicants - it is unlawful for any person possessing a Class A aquaculture permit to possess, buy, and sell any aquatic species for the purpose of aquaculture, except for "Class A Species" (see Publication 5061 for Class A Species list and permit conditions). Send completed form and payment to the appropriate district office (see map).

Select Class A species to be produced for sale, or attach an addendum if not listed below:

<input type="checkbox"/> Largemouth Bass (<i>Micropterus salmoides</i>)	<input type="checkbox"/> Bluegill Sunfish (<i>Lepomis macrochirus</i>)
<input type="checkbox"/> Redear Sunfish (<i>Lepomis microlophus</i>)	<input type="checkbox"/> Green Sunfish (<i>Lepomis cyanellus</i>)
<input type="checkbox"/> Hybrid Bluegill Sunfish (<i>Lepomis cyanellus</i> x <i>Lepomis macrochirus</i>)	<input type="checkbox"/> Black Crappie (<i>Pomoxis annularis</i>)
<input type="checkbox"/> White Crappie (<i>Pomoxis nigromaculatus</i>)	<input type="checkbox"/> Channel Catfish (<i>Ictalurus punctatus</i>)
<input type="checkbox"/> Yellow Perch (<i>Perca flavescens</i>)	<input type="checkbox"/> Common Carp (<i>Cyprinus carpio</i>)
<input type="checkbox"/> Rainbow Trout (<i>Oncorhynchus mykiss</i>)	<input type="checkbox"/> Tilapia (<i>Oreochromis</i> spp.) or (<i>Tilapia</i> spp.)
<input type="checkbox"/> Freshwater Shrimp (<i>Macrobrachium</i> spp.) or (<i>Palaemonetes</i> spp.)	<input type="checkbox"/> Goldfish (<i>Carassius auratus</i>)
<input type="checkbox"/> Hybrid Striped Bass (<i>Morone chrysops</i> x <i>Morone saxatilis</i>) (within the Ohio River drainage)	

☐ **CLASS B AQUACULTURE PERMIT (\$100)**
Includes the following permits at no charge, please check the permits you need.

☐ Bait Dealer Permit (see Publication 5330)
Type of bait to be collected and/or sold: ☐ Minnows ☐ Hellgrammites ☐ Crayfish

☐ Fish Transportation Permit (see Publication 5002)

Class B Permit Applicants - it is unlawful for any person to engage in the propagation, rearing, or sale of a "Class B Species" for the purpose of aquaculture without first obtaining a Class B aquaculture permit (see Publication 5061 for Class B Species list and permit conditions).

List common and scientific names of Class B species to be produced for sale or attach an addendum: _____

Do you need permits to grow your species?

- **Ohio Environmental Protection Agency**
 - National Pollutant and Discharge Elimination System
 - This permit may be necessary depending on your operation
- What does it depend on?
 - Species
 - Max amount of feed fed per month
 - Max amount of water discharged per year
 - Max amount of pounds harvested per year
- Title 40 CFR 130 – CWA/ TMDL & wetland protection
 - U.S. Army Corps of Engineers



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Land permits or at least hopefully agreements

- Popular acronym in the last 20 years – **NIMBY**
- While not an absolute necessity, it's smart to have the neighbors on your side when planning your business
- Arguments might be over: effluent, senses (sight, smell, and/or sound of the farm), disagreement in land usage, quantity of visitors to the farm, business signs, etc.



Do you need permits to grow your species?

- **FDA HACCP**

- Food and Drug Administration
- Hazard Analysis of Critical Control Points
- When does a fish/shrimp farmer need this?
 - **Anytime they alter a seafood product...
- If you come to the Friday winter OAA workshop you will learn first hand from an Ohio farmer!



**Caveat here



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Do you need permits to grow your species?

- **FDA**
 - Approved drugs (very few)
 - Medicated feeds
 - Not desired; sometimes necessary

V1719



North Dakota State University



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Aquaflor® Veterinary Feed Directive
(Florfenicol)

Client: _____ Veterinarian: _____
Home or Business Address: _____ Address: _____
Phone: _____ Phone: _____

Approximate Number of Animals: _____
Animal Location: _____

Indications: Circle the row with the treated species and indication, and initial the corresponding box.

Fish Species	Indication	Florfenicol (mg/kg body weight/day)	Florfenicol (grams/ton)	Initials
Freshwater-reared salmonids	For the control of mortality due to furunculosis associated with <i>Aeromonas salmonicida</i> . For the control of mortality due to coldwater disease associated with <i>Flavobacterium psychrophilum</i> .	10 – 15	182 – 2,724	
Freshwater-reared finfish	For the control of mortality due to columnaris disease associated with <i>Flavobacterium columnare</i> .			
Catfish	For the control of mortality due to enteric septicemia of catfish associated with <i>Edwardsiella ictaluri</i> .			
Freshwater-reared warmwater finfish	For the control of mortality due to streptococcal septicemia associated with <i>Streptococcus iniae</i> .	15	273 – 2,724	

Mix into Type C Medicated Feed to Provide: _____ grams florfenicol/ton (See table below.)
Feeding Rate: _____ % Biomass
Feeding Duration: Feed as the sole ration for 10 consecutive days.

Feeding Rate % Biomass	Florfenicol Concentration in Feed Grams/Ton		Amount of Aquaflor® (Florfenicol) per Ton of Feed lbs		Biomass of Fish Medicated per Ton of Feed per 10-day Treatment Period lbs
	Dose 10 mg/kg	Dose 15 mg/kg	Dose 10 mg/kg	Dose 15 mg/kg	
0.5	1,816	2,724	8.00	12.00	40,000
1.0	908	1,362	4.00	6.00	20,000
2.0	454	681	2.00	3.00	10,000
3.0	300	450	1.32	1.98	6,666
5.0	182	273	0.80	1.20	4,000

Special Instructions: _____

Use of feed containing this veterinary feed directive (VFD) drug in a manner other than as directed on the labeling (extralabel use) is not permitted.

Do you need permits to grow your species?

- **USFWS – Interstate transportation**
 - Know all regs for every state you ship to
 - Know what species are permitted and where
 - Careful of the Lacey Act
 - Prohibits trade in wildlife, fish, and plants taken illegally
 - Know your species and know your buyers/sellers
 - See SRAC #5005 and Buckeye Aquafarming Vol 1 No. 21 (2016)



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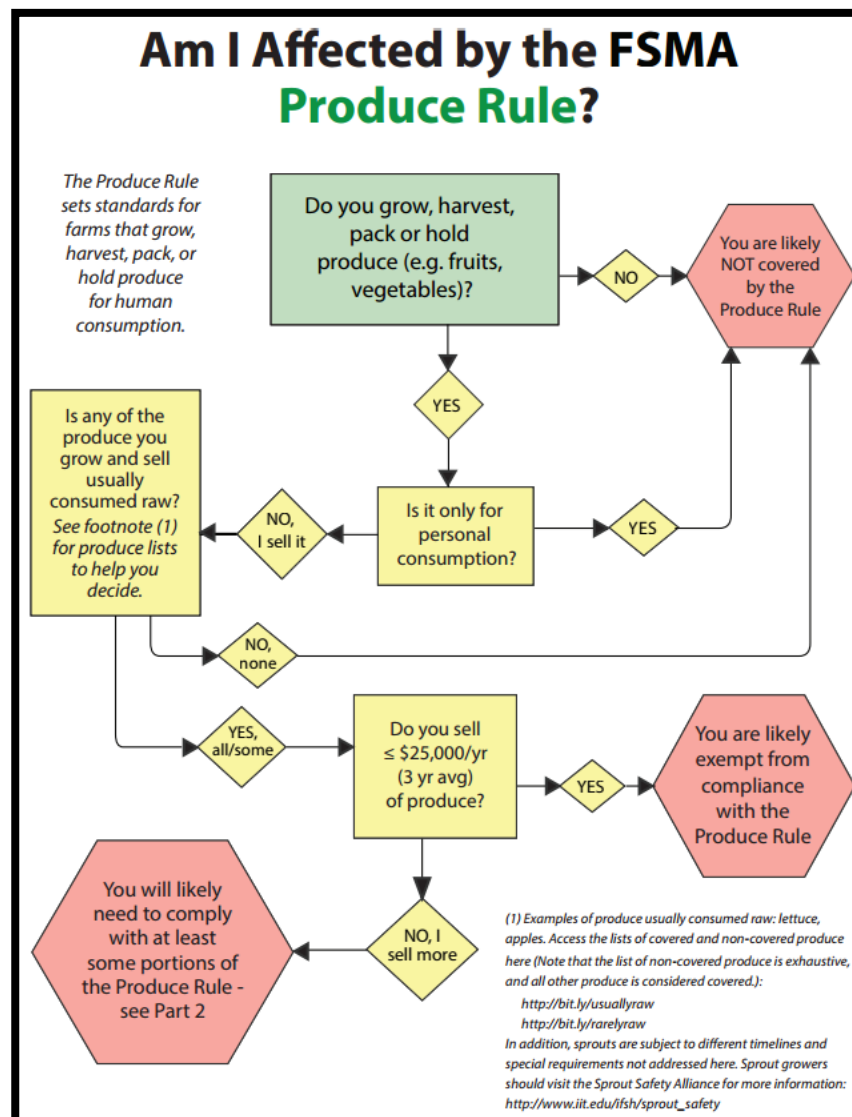
Do you need permits to grow your produce?

- **FDA – FSMA – Produce Safety**
- Food Safety Modernization Act
- Final rules released in 2015



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Do you need a partner?

- On your own means less hands in the cookie jar but less experience
- Matching can be beneficial – is your expertise finance or marketing and need an experienced aquaculturist?
- Need to be willing to lay down differences in order to develop for the good of the business
 - Find someone you don't clash with



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How will you get your product to market?

- Ohio has very few aquaculture brokers – especially who will pick-up
- Sportfish companies may come if you fit all of the qualities required
- No processing capabilities here
- Live haul trucks are expensive
- Can sell right from the farm or farmer's markets – insulated bins with O²



The Cary Company



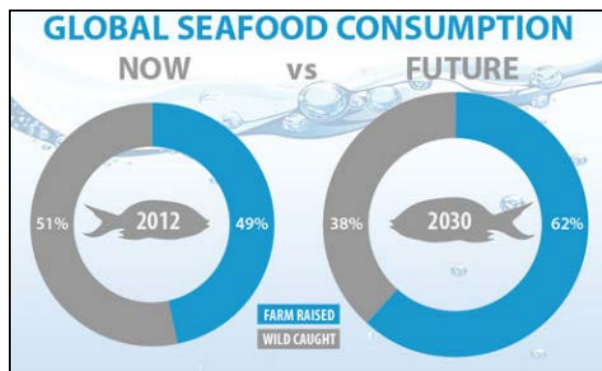
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Do you need a business plan?

- Improves chances of funding – many lenders do not understand aqua
- Even if self-funded, a business plan will help get all of your thoughts, ideas, goals, expectations, etc. down on paper
- Free agriculture business plan through the University of Minnesota
- Free aquaculture/aquaponic business plan through the South Centers



AquaBounty



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Launched in 2007, AgPlan has been used to create
45,000+ business plans!

AgPlan makes it easy for you.

- Develop your own Business Plan
- Learn what you need to include in your Plan with Tips & Resources
- View Sample Business Plans for Ideas
- Share your Plan — print, download and work with your own Reviewers

Aquaculture Economics and Financing

Management and Analysis

Carole R. Engle



WILEY-BLACKWELL

Do you need a business plan?

- **Can anyone tell me how healthy this crop is?**



Credit: United Soybean Board



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Do you need a business plan?

- Can anyone tell me how healthy this crop is?
- Approximately 20 acre pond of golden shiners
- Survival? Growth? Diseases?



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What's next?

- ✓ Now know your goals!
- ✓ Now know what you don't know! (sort of)
- ✓ Now have the \$\$\$ situation figured out!
- ✓ Now know what species the market wants!
- ✓ Now know where the market is located!
- ✓ Now know the location of your farm!
- ✓ Now have your permits!
- ✓ Now know if you needed a partner!
- ✓ Now know how you're getting your product to the market!
- ✓ Now have a completed business plan! (Dec. 2017)
- ✓ Time to hire and break ground?!



Smith's Record-Buster Bait Farm



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What's next?

- Never as easy as it is made out to be
- That's why you're here for ABC-2
 - Help shorten the learning curve



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What's next?

OSU Extension is here to help long after ABC-2



Questions?

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