

# Meeting Organic Standards for Produce in Aquaponic Systems

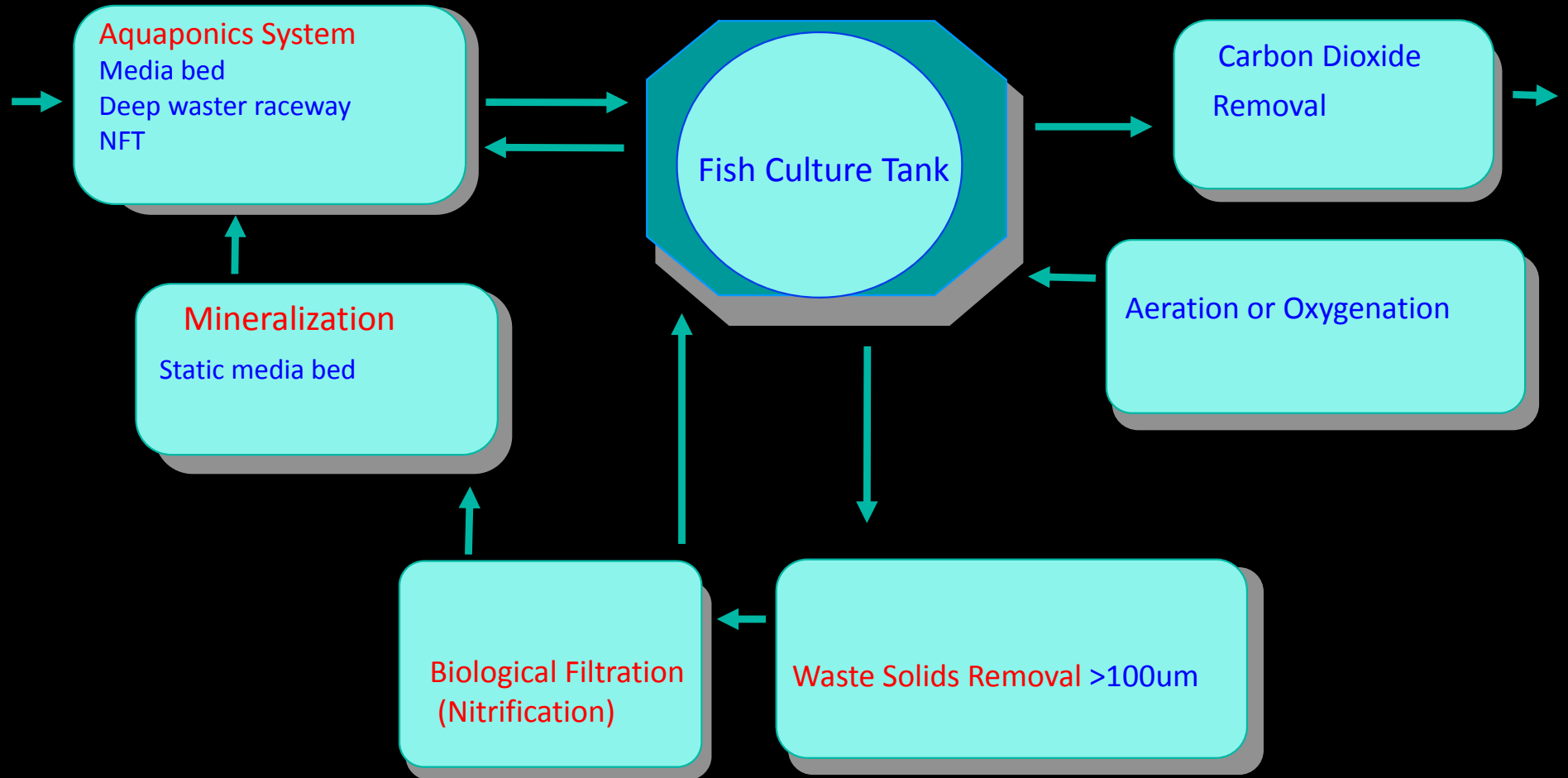
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# Why Aquaponics? 7 DAYS Crops



# Coupled Aquaponic Systems



# Applications for Coupled System

- Water quality in coupled aquaponics has to compromise between fish and plants, the plants will consume the nitrates (at a higher rate than denitrification filtration)
- Better usage of water than standard RAS aquaculture
- Off-season production of produce (local markets)
- Secondary crop with one system

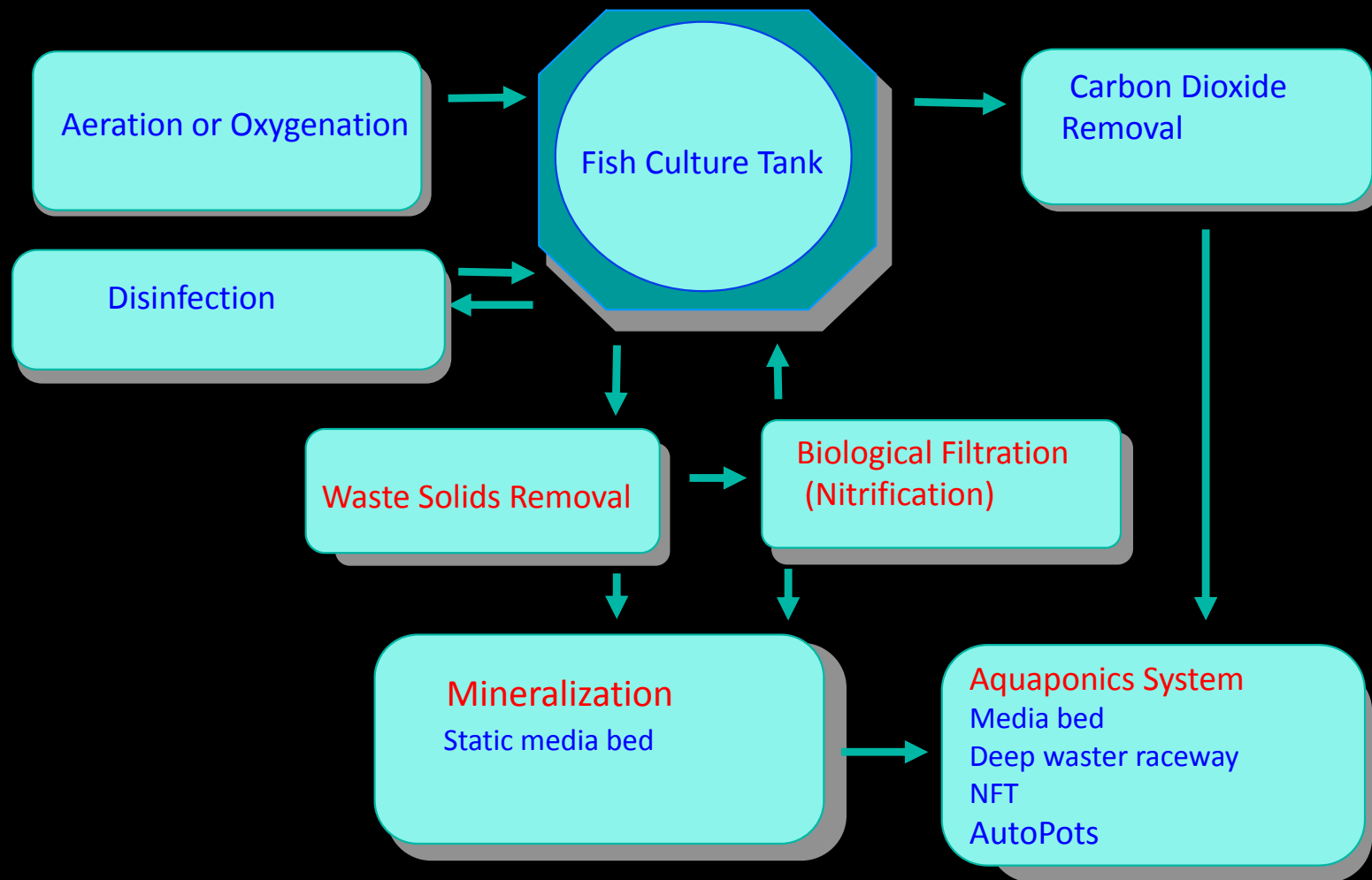




# GyoGreens (Coupled Aquaponics)



# Decoupled Aquaponic System



# Applications for Decoupled System

- **Fish waste:** From system or from backwash feed to plants system
- Water Quality can be optimized for plants and fish (coupled aquaponics has to compromise between fish and plants)
- **Nutrients:** can flow one way if need, better usage of aquaculture discharges (cut PVC cost, no return lines)
- RAS discharges can be used to grow crops or at very least PR
- Treatment of Systems can be Independent









LUCKY CLAYS  
**FRESH**

New Facilities will be both Coupled and  
Decoupled Aquaponic System



# What is Organic Certification?



# What is Organic Certification?

- USDA's standards require that farms produce organic foods using methods that conserve water, reduce air pollution, and maximize soil health.
- Organic certified farms cannot use synthetic fertilizers, hormones, or pesticides.

# USDA, Organic

- Started in 1990 with Congress passing the **Organic Foods Protection Act (OFPA)** in order to establish a national standard for the production and marketing of organic product.
- 1992 the **National Organic Standards Board (NOSB)** was set up with a 15-members, appointed by US Secretary of Agriculture.
- The NOSB is an advisory board that make recommendations on policies regulating the production of organic products.
- 2002 the **National Organic Program (NOP)** was formed.
- NOP regulated Agency Accreditation, certification, labeling, production/handling standards, and rules on imports of all organic product.



# ORGANIC?

- In 2010 the NOSB formally recommended that hydroponic/aquaponic be prohibited from organic certification \*
- The NOSB regulations state, in part: “growing media shall contain sufficient organic matter capable of supporting natural and diverse soil ecology.”
- In 2014 the NOP stated: “Organic hydroponic production is allowed.”
- As of Sept. 2015 the USDA’s NOP has not issued a proposed rules, regulation, or guidance to certifiers.
- Currently certifiers, Accredited Certifying Agent (ACA), must interpret the regulations on their own.

\*came from a USDA Organic Certified farm in Hawaii

# What to Do?

- Make things easy for the ACA, use Organic Materials Review Institute(OMRI) listed product. In aquaponics, we are looking at only 3 Macronutrients (calcium, magnesium, and potassium) and 1 Micronutrients (chelated iron).
- Use ACA that has certified hydroponic/aquaponic systems.
- Before you purchase any materials for your project because the agency will have a list of approved materials and other materials that you cannot use. It will save you time and money to get the list first, then design from there.
- Keep good records

# Words of Advice

- One of the biggest and most important selling points you can make is explaining the process of how the produce is grown. Don't make the mistake of thinking this is "produce grown in fish poop."
- This is produce that grows in a rich stream of filtered nutrients provided by beneficial bacteria that consume fish waste and in turn purify the water for the fish. It is a complete, natural cycle that is being engineered and perfected to grow the biggest and best in the smallest footprint possible while dramatically reducing water and energy consumption.
- Have pictures and know what you are talking about. This will often take you a very long way in selling your product.



















- [www.takepart.com/article/2015/08/21/organic-food-recalls](http://www.takepart.com/article/2015/08/21/organic-food-recalls)

## **Your Organic Spinach Could Be More Dangerous Than Meat**

Food safety recalls for fruits and vegetables grown without pesticides are on the rise.



# Special Thanks

- Sam Chen
- All the farms that had given information in regards to their organic certification.

# Thank you

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