Oyster Culture

Getting your Farm Started

Buying Oyster Seed

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Introduction

- Oyster seed is one of the largest cost for an oyster farm.
- A quality product starts with good seed and proper care.

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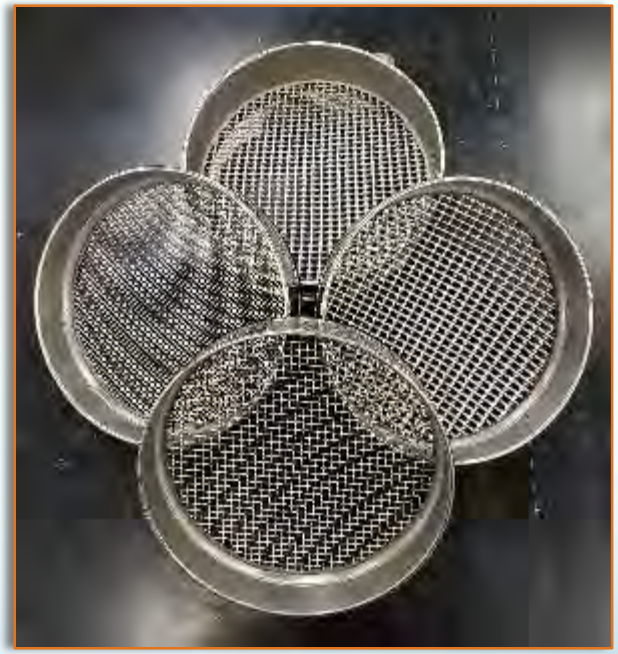
Oyster Seed Topics

- Seed Size
- Triploid vs Diploid
- Sources and sourcing strategy
- Genetics
- Seed Transport and Shipping
- Documentation
- Counting

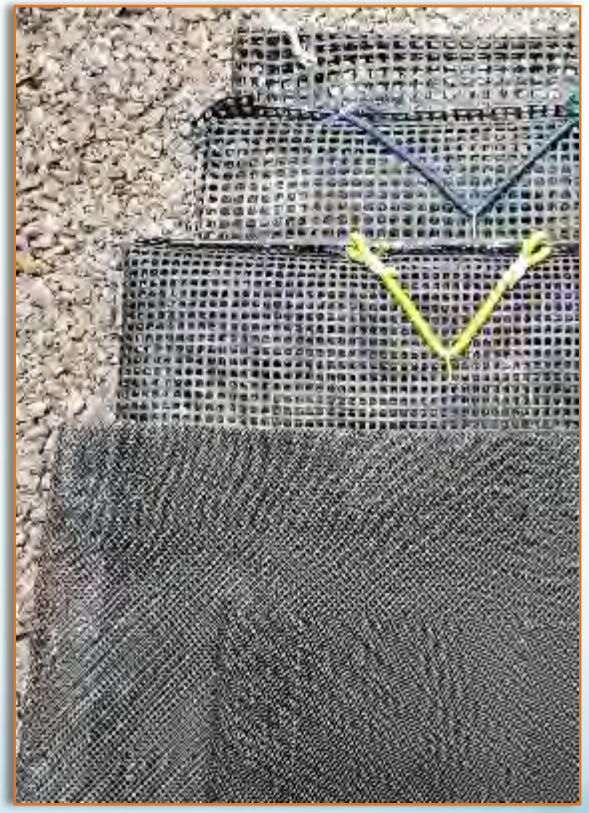
Seed Size

- Selling size determined by retention screen
  - R2 = Retained on a 2mm screen
  - R4 = Retained on a 4mm screen
  - R6 = Retained on a 6mm screen
  - R9 = Retained on a 9mm screen
  - R12 = Retained on a 12mm screen



Seed Size vs Bag Size

R2 Seed	→	1.5 mm Bag
R4 Seed	→	2 mm Bag
R6 Seed	→	4 mm Bag
R9 Seed	→	6 mm Bag
R12 Seed	→	9 mm Bag



Small vs Large Seed

- **Smaller seed cost less but…require more handling**
  - Lower survival…maybe
  - Cost of smaller mesh bags
  - More labor cost….maybe
    - Bag changes
    - Grading
    - Inventory management

Small vs Large Seed

- Large seed cost more but… require less care and handling
  - Better survival…probably
  - No small mesh bags
  - Labor focused on grow-out.
    - Fewer bag changes
    - Less grading
    - Simpler inventory management

Triploid vs Diploid Considerations

- Diploid Seed
  - Standard oyster with 2 sets of chromosomes.
  - Spawns later spring through early fall
  - Lower meat yield during spawning season

- Triploid seed
  - Three set of chromosomes.
  - Relatively sterile
  - Generally “fat” year-round

Triploid vs Diploid Considerations

- Diploids
  - Cost less
  - May grow slower
  - Better for late fall to early spring harvest
  - Can be hardier in some environments.

- Triploids
  - Cost more
  - Generally grow faster
  - Year round harvest
  - Can be more susceptible to stressful conditions

Consider a mix of diploid and triploid oysters

Seed Sources

- Florida Shellfish Seed Suppliers

https://shellfish.ifas.ufl.edu/wp-content/uploads/2021_FL-Shellfish-Seed-Suppliers.pdf

- Gulf of Mexico Seed Suppliers

https://shellfish.ifas.ufl.edu/wp-content/uploads/Seed-Suppiers_Gulf-of-Mexico_2019.pdf

Seed Sources

- Spread Risk

  Order from multiple sources

- Timing to harvest

  Take delivery at different times of the season to stagger harvest.

- Track seed performance

  Learn what seed works best for your location.

Influences on Seed Performance

- Ploidy
  - The effect of ploidy can vary by site.
- Genetics
  - Broodstock lines can influence performance
  - Genetic line development in early stages in GOM
- Quality of seed
  - Quality can differ between hatcheries or nurseries
- Farm Site Conditions
  - Environment works with ploidy, genetics and seed quality to influence performance

Influences on Seed Performance

- Proper Care
  - Do not desiccate small seed (<20mm)
  - Maintain proper density
    - Problems with overcrowding
      - Lowers survival
      - Highly variable size range
      - Poor condition
      - Poor growth characteristics

Seed Transport

- In-person Pickup
  - Dependent on distance and time to deployment
  - Keep cool and damp until deployment
  - Do not transport in water
- Shipping
  - Keep cool and damp
  - Ship priority overnight
  - Deploy ASAP

Seed Documentation

- Basis for order quantity calculation
  - Reconcile any discrepancies immediately
- Ploidy verification for triploid seed
- Keep invoice for records, inventory and seed tracking

Counting Seed

- Methods
  - Wet Pack
    - Least accurate
    - High variability

Example:

Wet pack volume = 2000ml

Sample = 100 oyster per ml

Total quantity is: 100 oyster/ml x 2000ml = **200,000**

Counting Seed

- Methods
  - Volumetric Displacement
    - More accurate
    - Variability from water content on oysters

Example

5000 ml initial volume of water

7000 ml of volume after adding seed

Displacement is : 7000 ml – 5000 ml = 2000 ml

Sample to displace 1ml = 52 oyster

Total quantity is: 52 oyster/ml displacement x 2000 ml displaced=**104,000**

Counting Seed

- Methods
  - Weight
    - Most accurate
    - Variability from water content on oysters

Example

Total Seed weight = 1000 g

Sample: 5g with a count of 100 oyster

Oyster/g: 100 oysters/5g = 20 oysters/g **OR**

g/oyster: 5g/100 oysters= 0.05g/oyster

Total quantity is: 1000g total weight x 20 oysters/g = **20,000** **OR**

Total quantity is: 1000g total weight / 0.05g per oyster = **20,000**

Resources for Counting Seed

- Seed counting video by Dr. Bill Walton

https://www.youtube.com/watch?v=AvPSsvZ5tRE

- Oyster Farming Toolkit

  Alabama Cooperative Extension System

  Download the app from:

https://play.google.com/store/apps/details?id=edu.aces.oyster