

Oyster Seed Production Land-Based & Field Nurseries

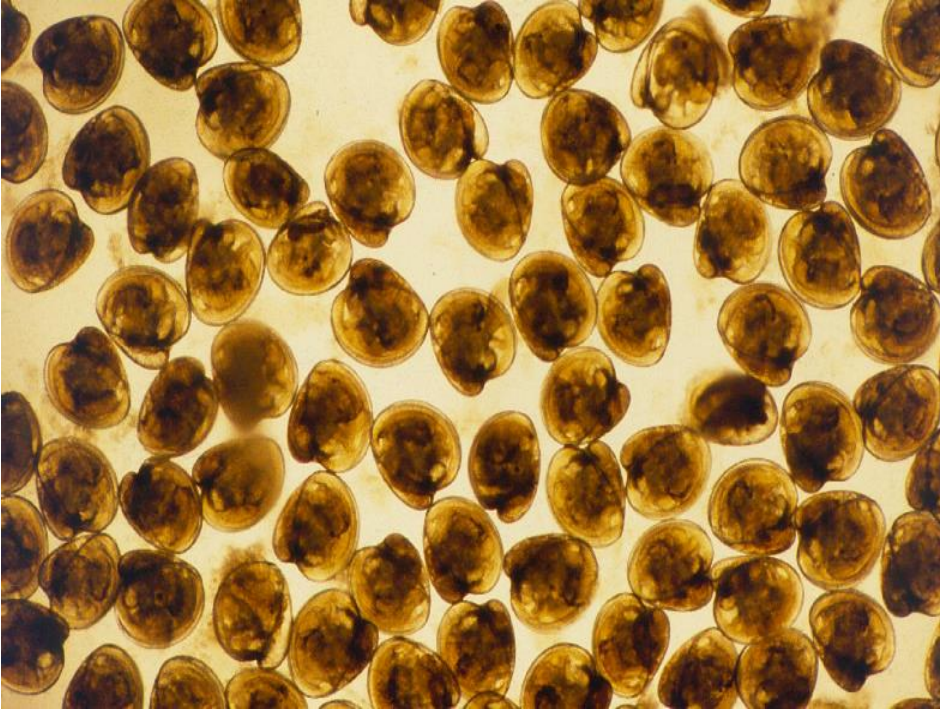
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Oyster Nurseries

Land-Based vs Field Nursery

- **Land-based nursery**
 - **Typically pump-supported flow-through operations**
 - Hatchery-located using algal support or wild food
 - Remotely located using wild food
 - Both to rear oysters to appropriate field stocking size
 - Site specific
 - Requires daily system check and seed bed flushing
 - Size depends on mesh size of first culture bag used
 - Convenient access ?
- **Field nursery**
 - **Using small-mesh “spat bags” for in-water farm deployment**
 - Eliminates daily system checks & silo cleanings
 - Requires cleaning bags, working on the water
 - Inconvenient access ?

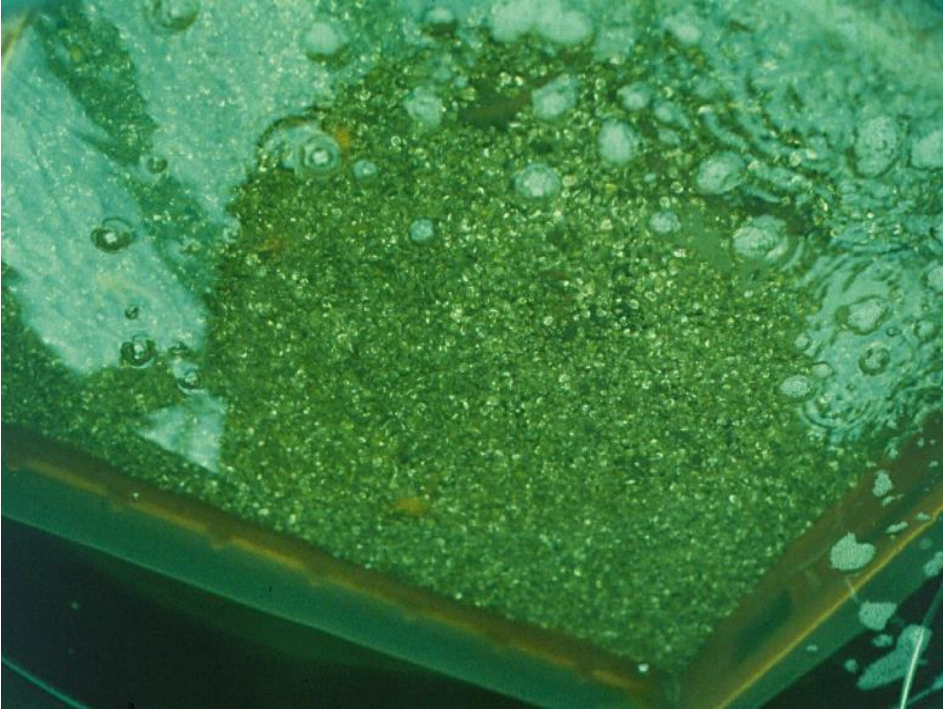




Remote Setting

- Regional hatchery
- Division of labor
- Cost efficient

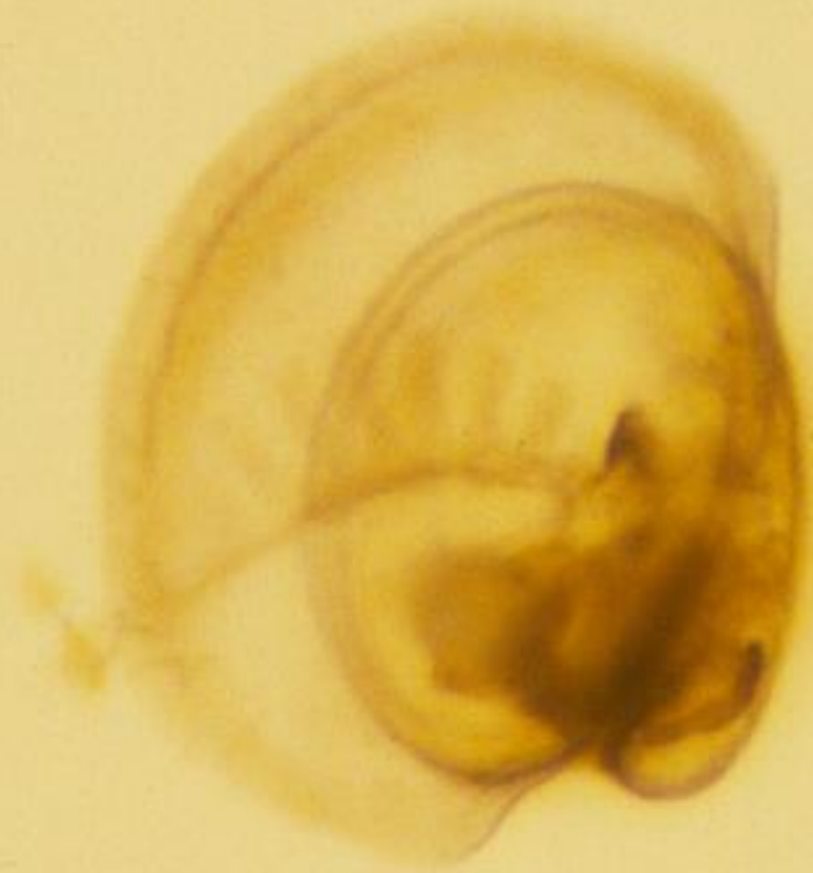




Single Seed

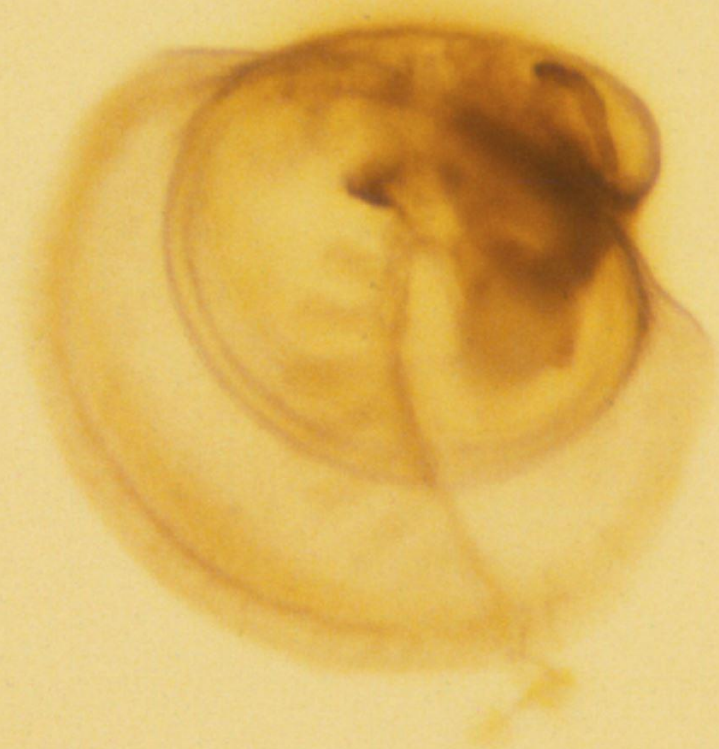
- Set on microcultch
- Reared in nursery





2 Day Old Oyster Spat (100 x)

USING REMOTE SETTING TO PRODUCE SEED OYSTERS IN LOUISIANA AND THE GULF COASTAL REGION



By Brian R. Callam and John Supan, Ph.D.





Bay Shellfish
Cape May Courthouse, NJ



Pensacola Bay Oyster Company
Pensacola, FL



LA Sea Grant Oyster Hatchery
Grand Isle, LA



Chadwick Creek Oysters
Bayboro, NC



Bottle Silo

Advantages over Downwellers

- Reduced maintenance/labor
 - Fine mesh downwellers clog frequently
 - No mesh size changing required
- Can use raw bay water without clogging
 - Useful for commercial nurseries
 - Reduce cultured algal demand at hatcheries
- Fluidization allows constant, equal food supply & waste removal
- Grow spat from the microcultch during use
- Can remove seed by syphoning using tubing

Bottle Silo Disadvantages

- Improper operation can crush small spat
 - Marble check valve spinning
- Acrylic versions prone to cracking



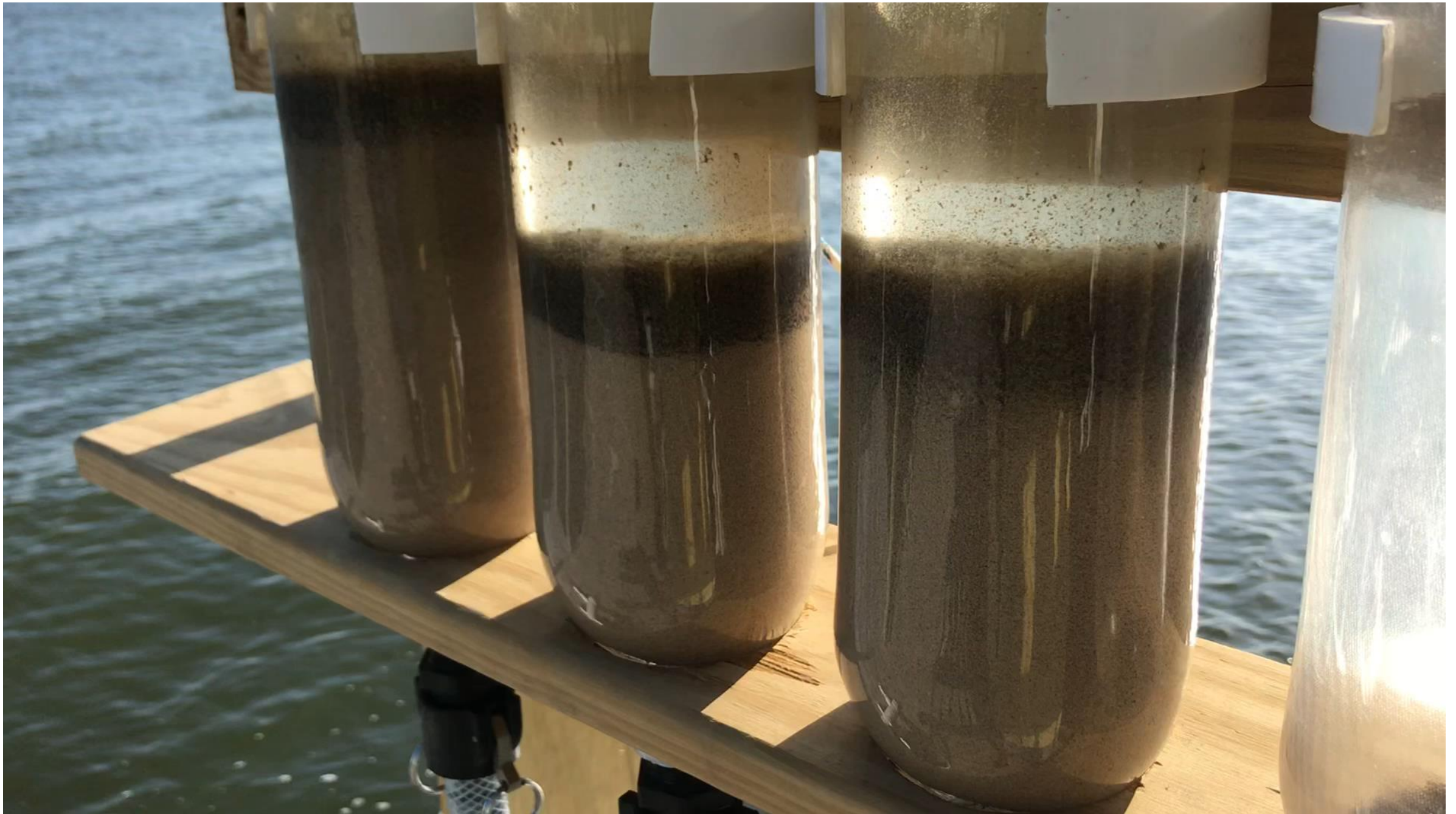
Downweller Silo



VS

<https://extension.umd.edu>





Sea Farms Consulting LLC

Bottle Silos



- Seamless construction using PEGT modified acrylic resin
 - ~ near clarity of pure acrylic
 - ~ more resistant to cracking

- 4" diameter; 21 1/2" tall
- 3/4" FNPT water connection
- Neoprene O-ring marble seat reduces leakage during handling



- Deep discharge spout eliminates gasket/pipe/tubing
 - ~ allows higher flow rates and easier cleaning
- Includes a 1 3/8" marble
 - ~ eliminates spinning that can crush spat

- Custom built nursery systems available



Price: \$180 (US) each + shipping
Includes marble
VISA/MasterCard accepted

For additional information or
to place an order, contact:
John Supan Ph.D.
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Drum Silo Nursery



Instructional videos on silo construction & operation

[Oyster Nursery Silo – YouTube](https://www.youtube.com/watch?v=wcd6m6c51Gg&t=385s)

<https://www.youtube.com/watch?v=wcd6m6c51Gg&t=385s>

[Operating an Oyster Nursery – YouTube](https://www.youtube.com/watch?v=xUm3KakDk_E&t=10s)

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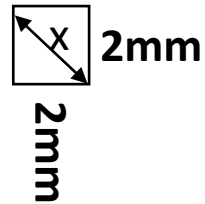






Field Nursery

- 2mm spat bags are commonly used as first mesh size in production
 - Focus on diagonal opening



$$X = \sqrt{a^2 + b^2}$$

$$X = \sqrt{2^2 + 2^2} = \sqrt{8}$$

$$X = 2.8\text{mm}$$

- $\geq R3$ grade seed recommended
- Stocking density management dependent



Field Nursery Management

(Auburn University Shellfish Laboratory)

- **1.5mm bag – stock 10,000/bag with R2 grade seed**
- **After 2 weeks move to a 2mm bag @ 5,000/bag**
- **After another 2 weeks, move to a 4.5mm bag @ 2,500/bag (can go straight to 1250/bag but be sure to remove any blue crabs within 3 to 4 weeks)**
- **Begin air drying for fouling control, begin late afternoon until the next morning, avoid heat of the day.**
- **After 3 to 4 weeks, split into another 4.5 mm bag @ 1250/bag (remove any blue crabs at this point)**
- **Should be able to go to full day desiccations at this point (winter preferred).**
- **After another 4 weeks, move to next growout bag size (e.g., 9mm)**

Acknowledgements

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