

Eliminating Barriers to Commercial Production of Sunray Venus Clams in Florida: Enhanced Hatchery Production Through Broodstock Development

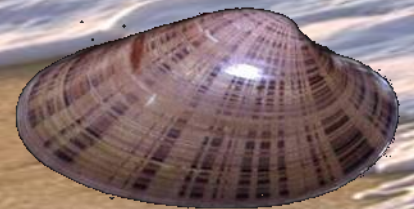
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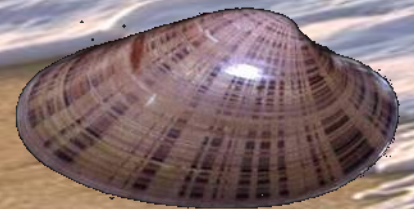
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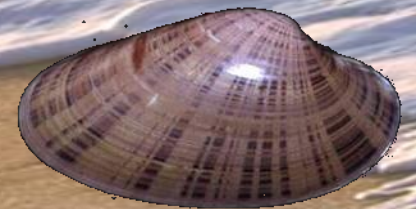


Rational and Objectives

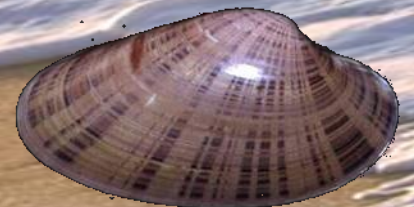
- Broodstock production and education will aid commercial hatchery operators in their initial production of sunray venus clam seed for the industry.
 - Create initial founder broodstock lines for Florida hatcheries.
 - Demonstrate to hatchery operators the proper development of broodstock for seed production.



Develop broodstock lines that provide greater genetic variation.



Why is this important to seed producers and clam farmers?



- Seed producers: By having large genetic variation you are able to select for more desirable traits (e.g., growth, heat tolerance, color).
- Farmers: Large genetic variation increases environmental adaptability in individuals and within populations (increasing survival).



Creating Initial Founder Broodstock Lines for Florida Hatcheries

Effective Parental Number



Demonstrated to Hatchery Operators The Proper Development of Broodstock for Seed Production



Industry Members – Doug Telgin, Anthony Hinkle, and Barry Hurt



FAU Graduate Student – Elyse Steiner

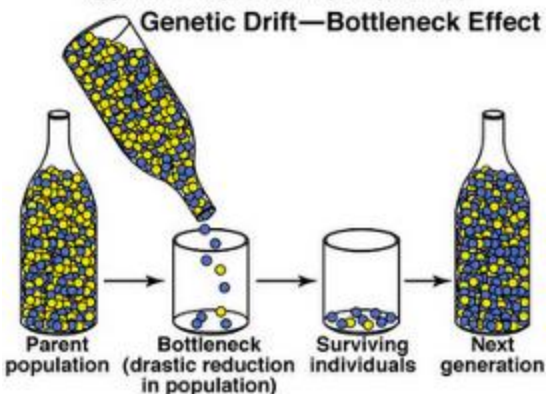


Industry Members - Terry Lange, Tom McCrudden, and Bruno Cristofori

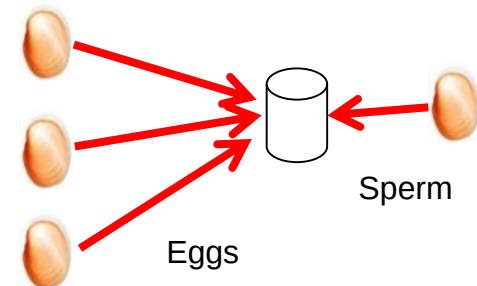
What is a genetic bottleneck?

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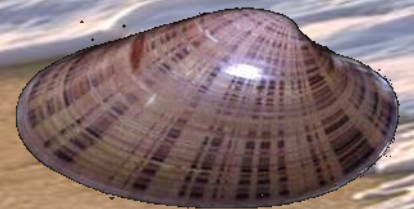
Genetic Drift—Bottleneck Effect



A Better Way?

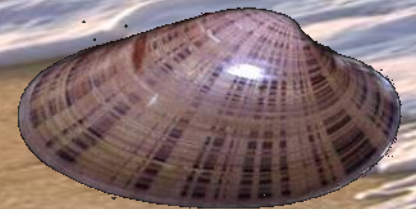
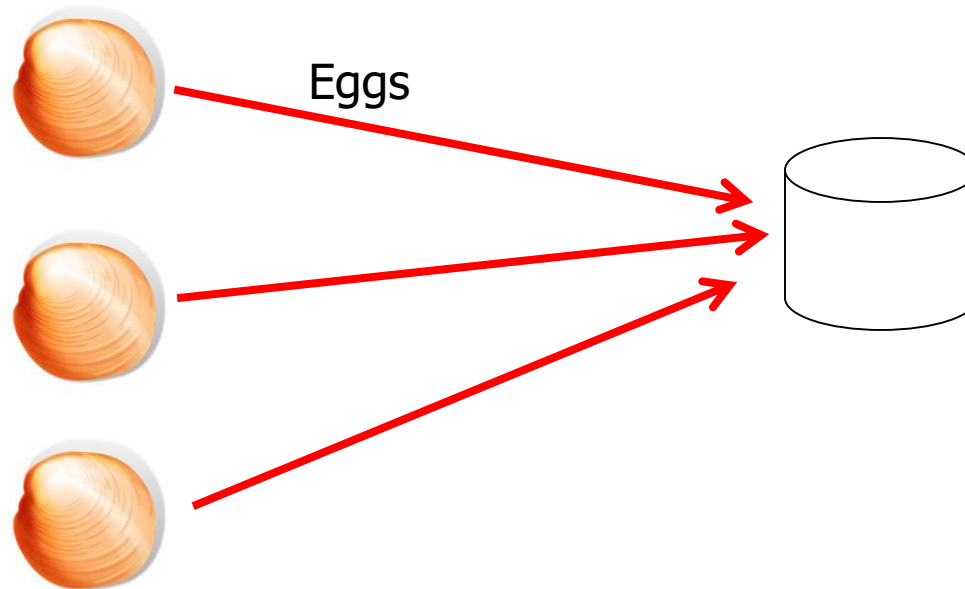


Recommendations



1. Let females spawn and place eggs together, then split into different containers for each male.

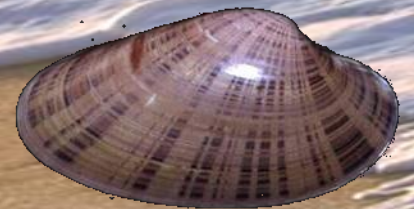
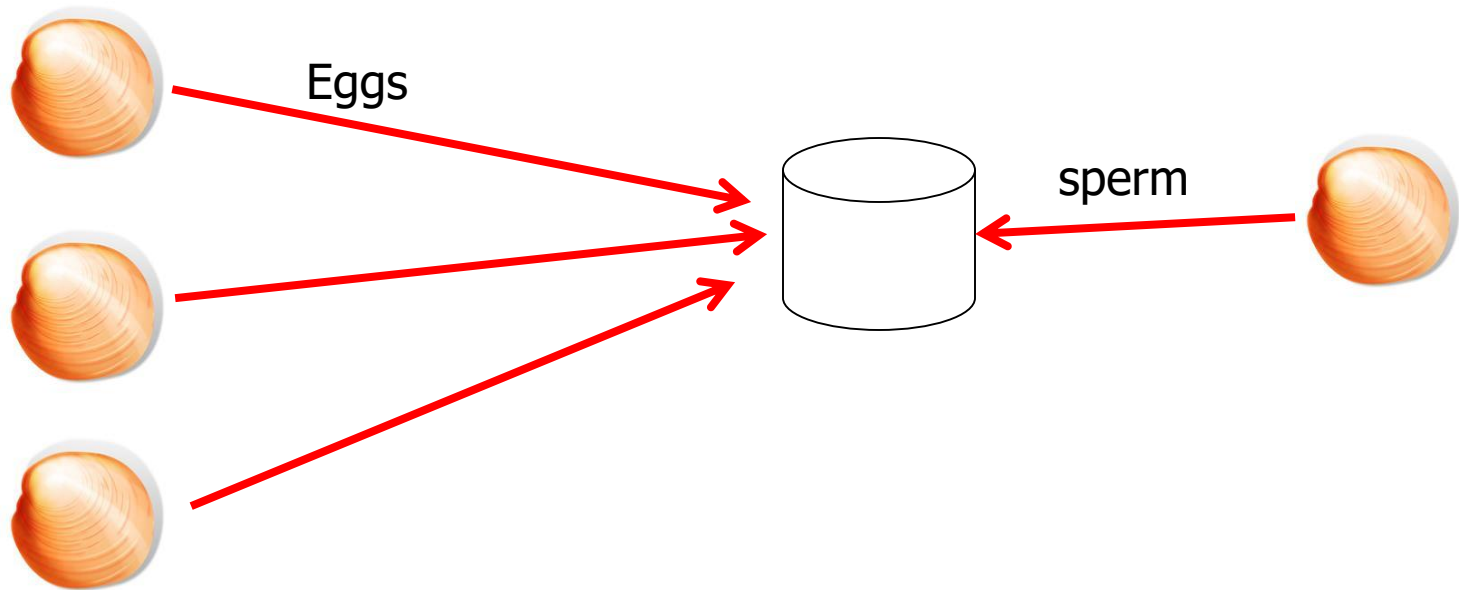
Females



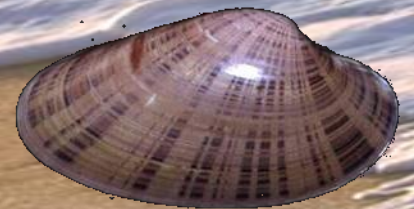
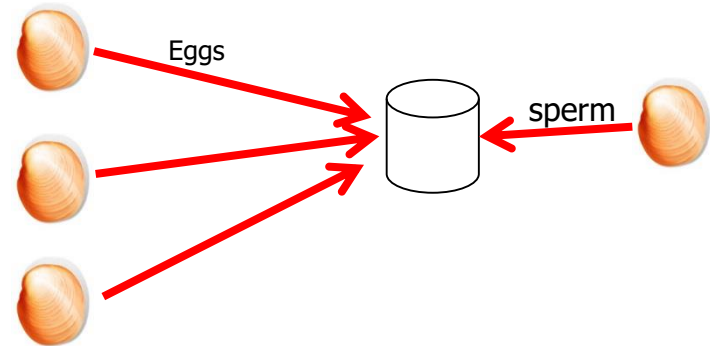
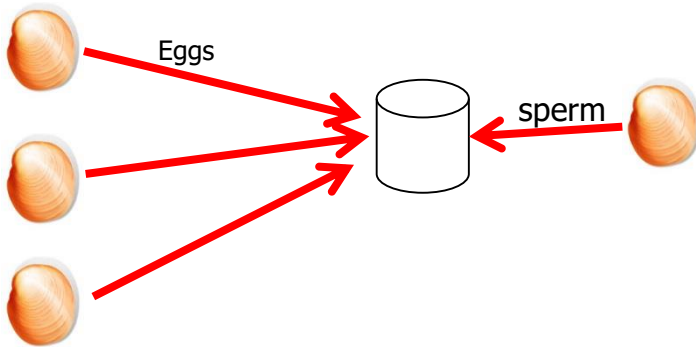
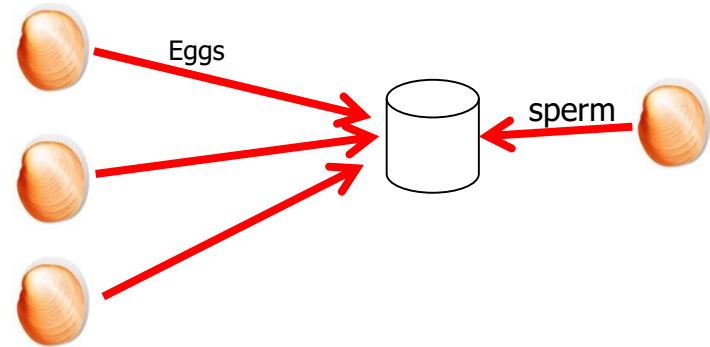
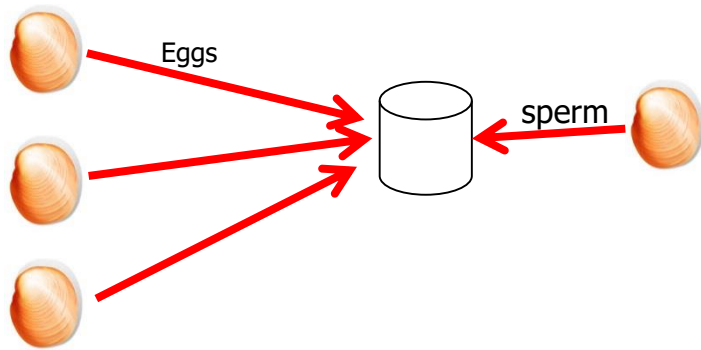
2. Inseminate each container with sperm from **one** male.

Females

Male



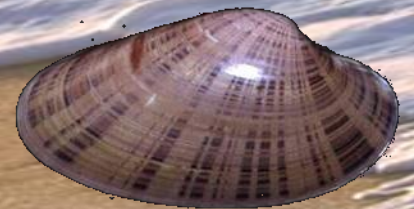
3. Repeat for **all** males!



By using:

- 1) factorial mating (along with the concept of effective parental number),
- 2) controlled spawning, and
- 3) good record keeping

you will have a better broodstock line that will ensure your clams have greater genetic variation for future selection and hardiness.



Questions?

