



**IMPROVED TECHNIQUES
FOR
DEPURATION AND DEGRITTING
OF ENSIS DIRECTUS**

34th Milford Aquaculture Seminar
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Special thanks to:
Diane T. Regan, MPH, CPH

And the Shellfish Sanitation and
Management Program at
Newburyport MA

For ongoing, invaluable and
productive brainstorming sessions.



In brushes



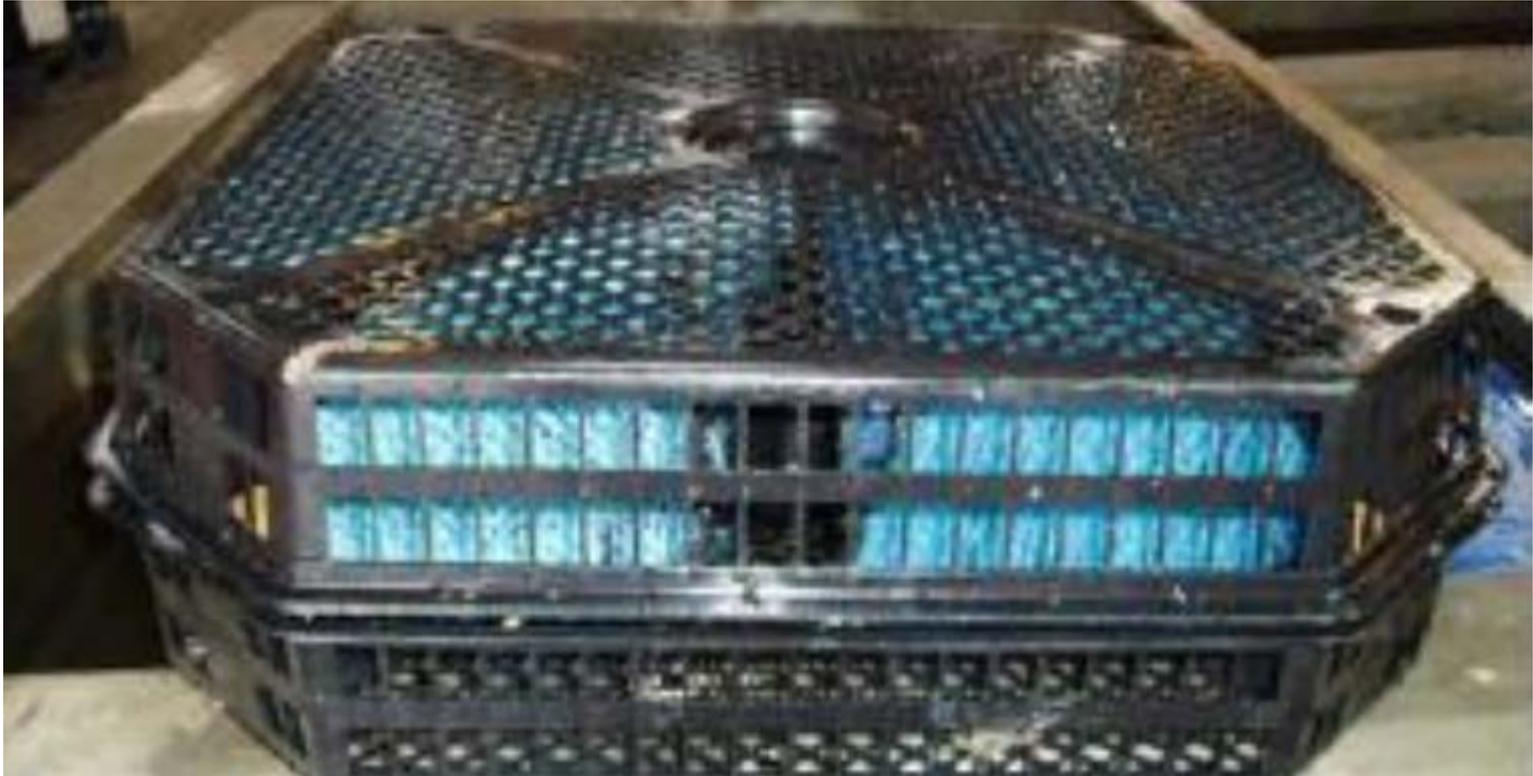
Longitudinally imbedded in sponges



Rolled into sponges



And in cages



CULTIVATION OF AMERICAN RAZOR CLAM
Screening of potential for commercial cultivation
Anna Sofie Lousdal Freudendahl & Mette Moller Nielsen
October 2005 Danish Seafood Center

Banded



Photo credit
Paul Somerville, Ralph Stevens, Diane Regan

But this technique poses some challenges,

- Labor intensive
- Broken shells
- and...



Objectives

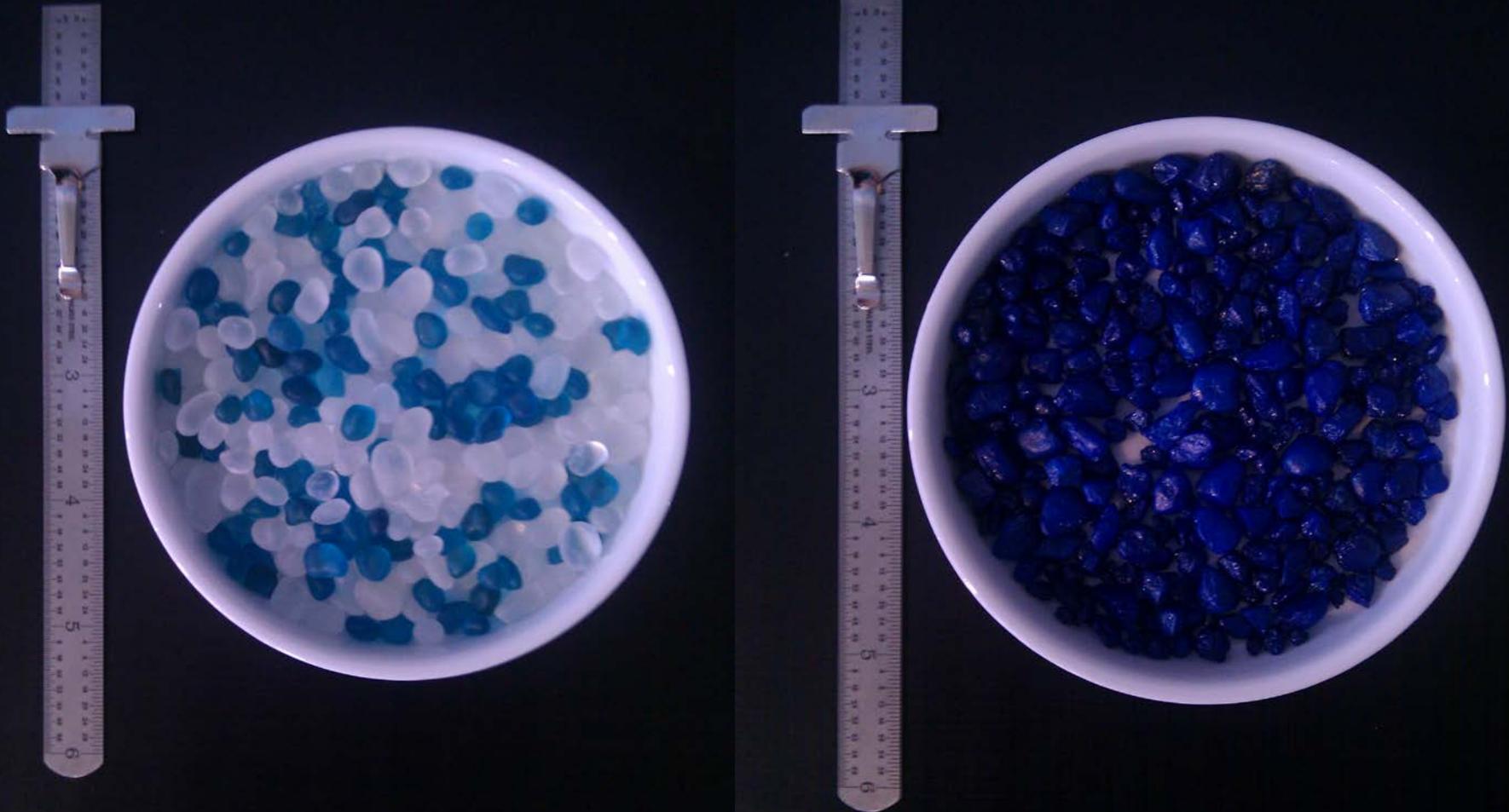
- Reduce mortality
- Increase degritting and depuration
- Reduce labor
- Capable of handling multiple sizes of Ensis
- Sterilizable
- Design so that it can go to scale (industrializable)



Tube length was determined to optimal at 1.5 L of average ensis



Grit size, density and surface roughness proved to be critical



Smooth edges and a grain size between 4 and 6mm worked best

significantly more spouting observed
from ensis placed in gravel filled tubes

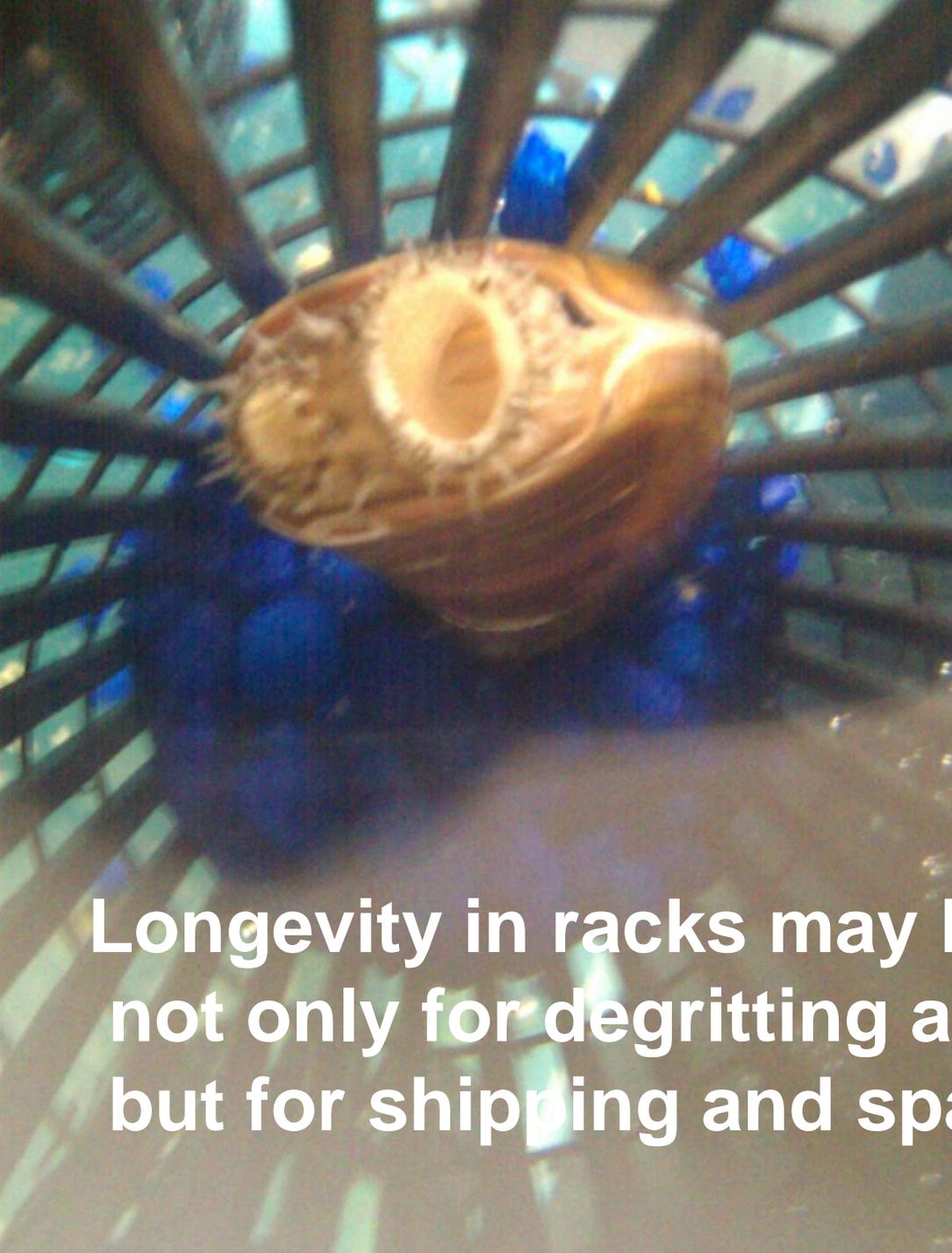
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Latest Test Conducted using 180 Razor Clams Harvested in Gloucester MA

- 60 in racks with gravel
- 60 in racks without gravel
- 60 laying in trays without banding



- **0% mortality specimens placed in racks with gravel, active siphoning, repositioning and adjusting of depth in gravel observed**
- **0% mortality for specimens placed in racks without gravel, little to no siphoning, initial active foot movement gave way to immobile foot laying 90deg to shell**
- **20% mortality in loose specimens**



Longevity in racks may have implications not only for degritting and depuration but for shipping and spawning as well

Next steps

- Quantify effectiveness of degritting and depuration
- Generate equations to show critical dominant forces of this process
- Determine costs if implemented on a commercial scale.

Potential...for starters

