

Field Testing a New Synthetic Sustainable Bait for Georgia's Blue Crab Fishery

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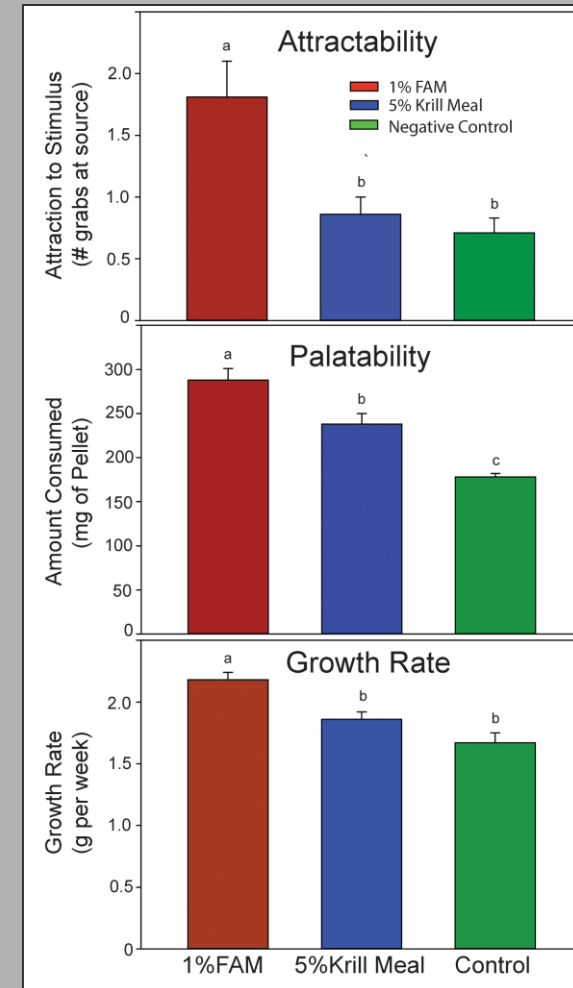
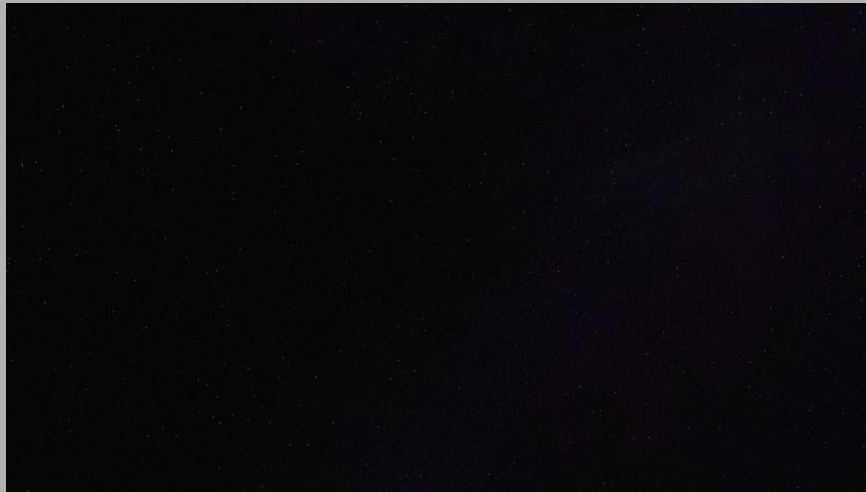
Research Problem

- Commercial crabbers use menhaden as bait, costing ca. \$2 per pot per week, representing 30-40% of crabbers' expenses.
- A decrease in availability or increase in price of bait (as currently in the New England lobster fishery) would significantly affect profitability and sustainability of a fishery.
- The development of an effective, sustainable, and relatively inexpensive “synthetic bait” as an alternative to fish baits would be advantageous.
- Two elements to developing synthetic baits: 1) Attractant, 2) Release Matrix



Attractant

- Develop for shrimp aquaculture, effective on blue crabs in the lab
- Composed of natural ingredients present in food of crabs, no animal material.



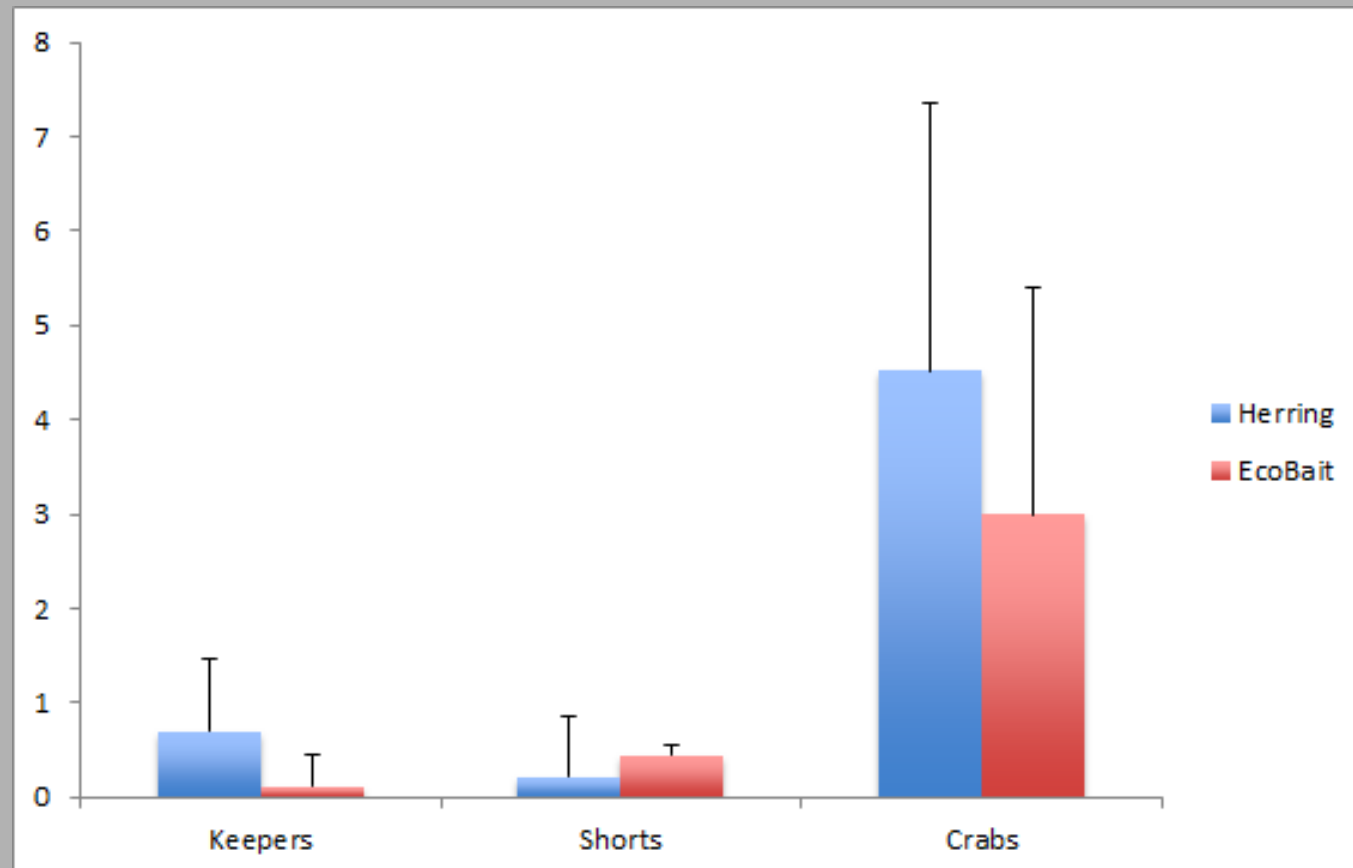
EcoBait tested in Maine lobster fishery collaboration with Steve Jury (St Joseph's College of Maine)

Lab Tests



Field Tests

Lobsters caught per trap
(n=10 EcoBait traps, 30 herring traps)



Overall Goal

- Test the efficacy of EcoBait in comparison to currently used baits

Specific Objective

- Georgia crabbers: Craig Meeks (Savannah), Marcus Stamey/ David Driggers (Darien)
- Marine Extension and Georgia Sea Grant: Bryan Fluech and Lisa Gentit
- Experimental Design: Deploy multiple sets of three pots
 - Menhaden as positive control
 - No bait as negative control
 - EcoBait with 10% attractant as experimental condition.



Results

- Data collected in different conditions
 - 2 locations (Ogeechee River and Altamaha River)
 - 2 seasons (March and June 2022)
 - 615 traps (total)

<u>Bait</u>	<u>Mean # crabs per trap</u>
Menhaden	8.16
EcoBait	2.15
No Bait	2.61

Back in the Lab: Attractability Assay with Blue Crabs

(Kevin Mesape)

**Palatability Assay
(Blue crab)**

Summary and Conclusions

- Attractant developed in formulating feed for aquaculture of shrimp
- Artificial bait “EcoBait” developed based on technology of Carr Specialty Baits / FishBites ®
- Field trials in Georgia show EcoBait did not catch blue crabs, though in Maine it caught green crabs and juvenile lobsters
- Poor catch with blue crabs might be due to the composition of attractant. Lab studies could be used to identify a better attractant

THANKS TO GEORGIA SEA GRANT FOR SUPPORTING OUR PROJECT