

Eastern Oyster Breeders Round Table
University of Rhode Island
October 4, 2018
Notes

Host

- USDA ARS Scientist Dina Proestou at the University of Rhode Island

26 attendees: producers, industry, academia, federal, and ARS scientists

Genetics, Breeding, Broodstock:

- Regional breeding program(s) are top priority.
- Develop a high-throughput, cost-effective, genotyping tool with broad applicability.
- Need high-throughput genotyping tool for the eastern oyster genome.
- Genotyping capability:
 - Characterize population structure
 - Parentage analysis to confirm pedigrees
 - Sex determination
 - Genomically informed breeding
 - Marker assisted selection
 - Genomic selection
- Develop a *Crassostrea virginica* array that will work for different lines/regions.
- Need to understand relationships between phenotype and (epi)genetic mechanisms within and across generations.
- Need better defined phenotypes.
- There are many oyster lines, but no standardized way to evaluate them: across generations; across sites/regions.
- Standardize spawning protocols.

Shellfish Health:

- Investigate differences in diploid and triploid physiology to better understand mechanisms underlying differential survival (triploid mortality).
- Triploid winter die-offs significant problem
 - Key lines of investigation to address this problem:
 - Triploid vs. diploid performance
 - Differences in physiology
 - Factors controlling gametogenesis
 - Carbohydrate levels
 - Feeding efficiency/conversion ratios
- Need more precise measures to understand mechanisms of survival and how they vary; particularly for Dermo.

Additional Priorities:

- Generate research products (by developing tools/investigating wide-spread, contemporary industry problems) that can be implemented when long-term funding becomes available.
- Looking to improve traits for survival, growth, meat quality, disease resistance.

LIST OF ATTENDEES

Name	Affiliation
Ami Wilbur	University of North Carolina
Andy Stevenson	Mook Seafarms
Bassem Allam	Stonybrook University
Bob Rheault	East Coast Shellfish Growers Association
Brian Callam	Louisiana State University
Brian Peterson	USDA ARS
Brittany Wolfe	University of North Carolina
Caird Rexroad III	USDA ARS
Dina Proestou	USDA ARS
Erin Roberts	University of Rhode Island
Gary Wickfors	NOAA
Hannah Pearson	Island Creek Oysters
Hollie Putnam	University of Rhode Island
Jessica Small	Virginia Institute of Marine Science
Jon Puritz	University of Rhode Island
Josè Eirin-Lopez	Florida International University
Josè Fernandez-Robledo	Bigelow Laboratory for Ocean Sciences
Kate Markey Lundgren	USDA ARS
Katie Lotterhos	Northeastern University
Kevin Johnson	Louisiana State University
Mark Rath	NOAA
Marta Gomez-Chiarri	University of Rhode Island
Mary Sullivan	USDA ARS
Matt Hare	Cornell University
Paul Rawson	University of Maine
Peter Kube	Commonwealth Scientific and Industrial Research Organisation
Robin Varney	University of North Carolina
Stan Allen	Virginia Institute of Marine Science
Steve Malinowski	Fishers Island Oyster Farm
Steven Roberts	University of Washington
Ziming Guo	Rutgers University