

Joint Innovation Project - 2024/25

Please provide your project title here.

Lead Entity: Pacific Hybreed, Inc.

Category: Boosting oyster growth at nurseries or farms

Project Location: Juneau, Ketchikan

Project Start Date: 09/01/2024

Expected End Date: 1/31/2026

Award Amount: \$100,000

PROJECT OVERVIEW

Please provide an updated description of your project here using the following guidelines:

- **Problem:** Oyster farming in Alaska relies on seeds produced using broodstock that have not been optimized for farm yield in Alaska. This practice can result in inconsistent yield performances of farmed oysters that hinder growth of the industry.
- **Proposed solution:** Pacific Hybreed researchers are conducting genetic crosses and field trials to select families with improved yields in Alaska waters. Specific hybrid lines will be produced using genotyped adult oysters from a long-term broodstock program consisting of multi-generation genetic lines of oysters that have been evaluated at farm sites along the U.S. Pacific Coast.
- **Progress:** A set of full diallel crosses were successfully conducted that produced 25 hybrid lines and 5 purebred lines, using genotyped broodstock from six different purebred lines. These new genetic families were reared to the juvenile stage, each subdivided into multiple replicates with initial size and weight measured, and outplanted at NOAA Little Port Walter (LPW) Biological Research Station and Seagrove Oysters for evaluation. In parallel with the production and deployment of these new genetic lines, we collected field performance data on the oyster families that were outplanted at LPW during the previous, 2023-2024 JIP. This multifaceted approach facilitates a multi-year evaluation of oyster performance, providing insights into their growth to market size in cold-water environments.
- **Next steps:** Data on summer growth and survival for the genetic families will be collected in the fall. Analysis of the performance data will allow selection of top families for propagation and commercial production of oyster seed for the industry.

ADDITIONAL INFORMATION

- We do not anticipate major challenges in completing the current scope of work.
- We anticipate spending all the funds awarded.

PHOTOS



Photos above: Outplanting hybrid seeds at Seagrove Oysters. Oyster seeds of a few millimeters in shell height were counted, weighed, and outplanted in replicated pouches. Pouches were loaded into a rack system used for commercial production.



Photos above: Outplanting at NOAA Little Port Walter Biological Research Station. Hybrid oyster seeds were counted, weighed, and outplanted in experimental seed cylinders. These cylinders were added to the existing structures that were used to hold the previous cohort of research oysters during the 2023-2024 JIP.