

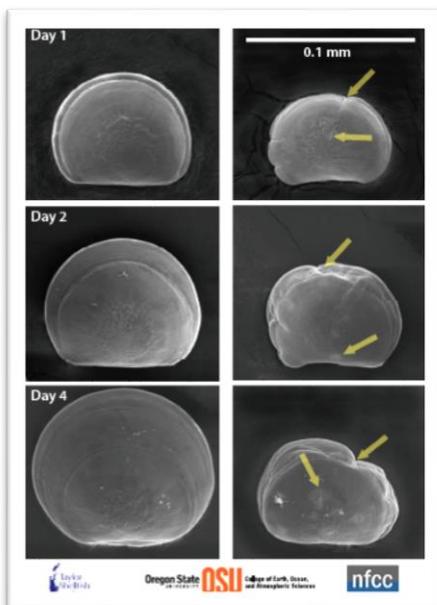
Oyster Seed in Short Supply: Research and Training for Shellfish Growers

Main Goals: This project will develop baseline information on environmental influences that affect oyster seed health and survival. Shellfish growers of small and mid-sized farms will be provided with technical training for remote larvae setting and early post-set seed rearing to offset deficiencies in seed supply.

Background: While demand for oysters is on the rise domestically and over-seas, West Coast shellfish growers are facing seed shortages due to poor growth and high mortality at supply hatcheries. Cumulative effects of changing seawater chemistry (e.g. reduced pH and elevated pCO₂), and the presence of other common stressors (e.g. *Vibrio* spp. toxins, an inadequate diet, etc.) may be reducing survivorship of Pacific oyster larvae following settlement and metamorphosis.



Pacific oyster seed – typically less than 6 months old. Photo: Hama Hama Oyster Co.



Damage to oyster larvae from ocean water acidity and low available carbonate (right) compared to healthy larvae (left). Micrograph by OSU.

At the PCSGA Emergency Seed Meeting in Portland, OR in 2013, shellfish growers emphasized the need for research to help understand underlying complexities associated with unpredictable die-offs and poor seed health occurring at hatcheries and during early grow-out stages.

Project Summary: This research will address seed shortage issues by: conducting a cooperative industry oyster seed survival and performance assessment; survey post-set oyster seed health and disease at nursery and remote setting facilities in WA, OR, CA, and AK; evaluate short-term effects of food limitations/stress on seed oysters and establish criteria for feeding and density production standards;

inventory and evaluate new and existing systems for remote setting and early post-set seed rearing; refine seed culture methods such as feeding tables by species and size progressions, environmental parameters and rapid on-site diagnosis. This project will conclude with a workshop for shellfish growers to communicate findings and provide technical training in seed rearing, micro-algae culturing and water quality monitoring.



Floating Upweller System (FLUPSY) will be used to test optimum oyster seed densities, flow rates, and site requirements.

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Fostering sustainable shellfish resources & a healthy marine environment through research & education.