Prospects for Purple-Hinge Rock Scallop Cultivation on the West Coast: Studies on Aquaculture Potential

Joth Davis
2015 Pacific Coast Shellfish Growers Association
USDA - Western Regional Aquaculture Center

Paul G. Olin, California Sea Grant – Project Lead, polin@ucsd.edu
Brent Vadopalas, University of Washington, brentv@u.washington.edu
Carolynn Culver, California Sea Grant cculver@ucsd.edu
Joth Davis, Puget Sound Restoration Fund, jothpdavis@mail.com
Molly Jackson, Taylor Shellfish, mollyj@taylorshellfish.com
Jeff Hetrick, Alutiiq Pride Shellfish, Seward, AK, jjh@seward.net
Fred S. Conte, UC Davis – Project Monitor, fsconte@ucdavis.edu

Industry and Tribal Partners:
Taylor Shellfish Farms, Inc.
Baywater Shellfish Farm
Bellingham Technical College
Jamestown S’Klallam Tribe
Port Gamble S’Klallam Tribe
Suquamish Tribe
Monterey Abalone Company
Bodega Marine Laboratory
Crassadoma gigantea
Natural History

Crassadoma gigantea, (formerly Hinnites multirugosus)

Phylum: Mollusca
Class: Bivalvia
Order: Ostreida
Suborder: Pectinina
Superfamily: Pectinoidea
Family: Pectinidae

- Range: Southeast Alaska to Magdalena Bay, Mexico
- Depth: Intertidal to ~50 meters
- Salinity: >25 ppt
- Separate Sexes
- Cements to hard substrates
Need for the Project I

• Desire to diversify species in shellfish industry

• Benefits of expanding shellfish production
  – Employment, sustainable seafood, ecosystem services

• Growers need sources of native shellfish seed

• High industry interest and support
Need for the Project III

Flavor, aroma, after-taste and texture high or highest ranking
Year Two Progress

- Broodstock
- Production Spawns
- Setting and Metamorphosis
- Triploid Development
- Grow Out Trials
Rock Scallop Growth (Manchester)
<table>
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<tr>
<th>Location</th>
<th>Placement</th>
<th>Number</th>
<th>Partner</th>
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Cementation Study:

Juvenile scallops (30mm) glued to PVC panels

Panels placed into larger trays (Aquatrays (TTP Plastics, Australia))

Grow out to be monitored over next 24 months in suspended culture

Sites include Dabob Bay, Manchester and Totten Inlet
Year Three Focus

- Broodstock
- Production Spawns
- Setting and Metamorphosis
- Triploid Development
- Continue Grow Out Trials
Triploid Development

Percent polar body vs. Minutes post-fertilization
Optimizing Triploid (3N) Induction in Rock Scallops

_Crassadoma gigantea_, at eight concentrations of 6-dimethylaminopurine (6-DMAP) Survival (open circles) declined and the proportion of 3Ns (solid circles) increased with increased concentration relative to untreated controls. Optimal treatment of 425 μM 6-DMAP for 15 min, commencing at approximately 60 min post-fertilization at 17 °C
Thank You.... Questions ?