Evaluating the Abiotic and Biotic Factors Influencing Hard Clam Seed Production in Florida

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Project Team

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- **Participating Florida seed producers**

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Objectives

- **To better address seed production challenges:**
  - Monitor water quality indicators in hatcheries/nurseries
  - Investigate presence of bacterial pathogens in hatcheries
  - Survey plankton species and abundance in nurseries
  - Examine seed health

Scope of Work

- Hatchery/nursery facility selection
- Facility monitoring and assessment
- Training and educational materials

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Facility Selection

10 certified clam seed producers

Location – Big Bend, SW FL, IRL	Source water – well vs surface, Atlantic vs Gulf	Scale of operation

Codes assigned to maintain anonymity

Tailored sampling schedule

Facility Monitoring & Assessment

- Water quality indicators
- Carbonate chemistry
- Bacterial pathogens
- Seed health
- Phytoplankton quality and quantity

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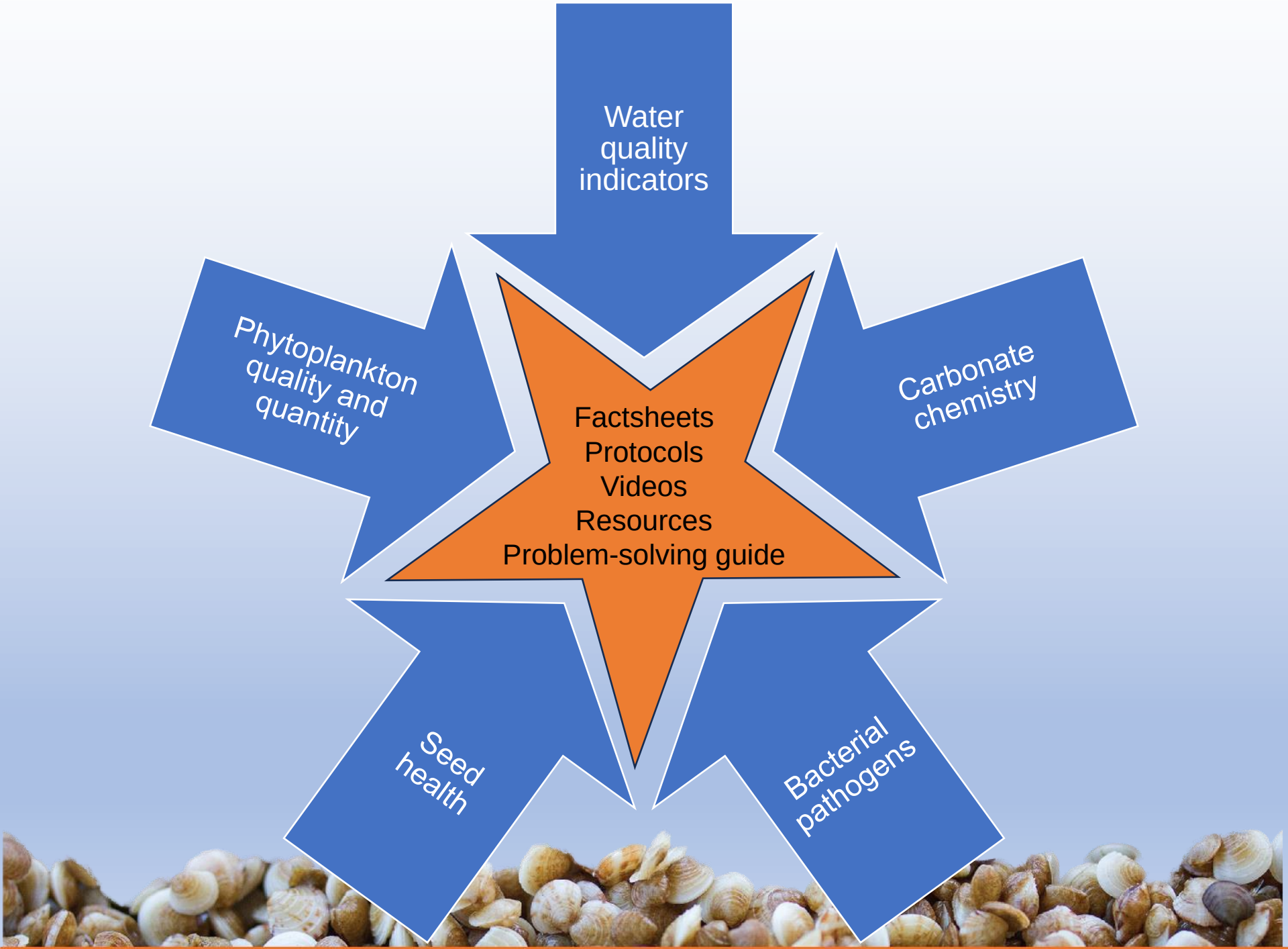
Water Quality Indicators

Continuous logging	• One in each region • T, pH, DO, Conductivity/S
Weekly	• All facilities • Refractometers, T/DO/pH meters, Alkalinity kits
Biweekly	• All facilities • Water samples – Ammonia, Nitrite, Nitrate, Calcium
Annual	• Water samples – Ions, Metals, Regulated inorganic chemicals, Volatile organics, Pesticides, Herbicides, Insecticides

Parameters	Hatcheries	Nurseries	Sample analysis
Water quality			
Temperature (T), Salinity (S), Dissolved Oxygen (DO), pH.	Continuous+	Continuous+	UF, FAU-HBOI
T, S, DO, pH, alkalinity	Weekly*	Weekly*	UF, FAU-HBOI
Ammonia, nitrite, nitrate, calcium	Biweekly*	-	FAU-HBOI
Full analysis	Annually**	Annually**	Midwest Laboratory
Herbicides/Insecticides	-	Annually*****	Water Ag Labs
Bacteriology	Three times***	-	FAU-HBOI
Seed health			
Histology	Three times***	Three times***	FAU-HBOI
Health feedback	Weekly*	Weekly*	-
Phytoplankton	-	Monthly****	UF


Water quality indicators
Phytoplankton quality and quantity
Carbonate chemistry
Factsheets
Protocols
Videos
Resources
Problem-solving guide
Seed health
Bacterial pathogens