Summary

• Types of oysters and their fisheries
• History of oyster farming (Romans & RI)
• Oyster life cycle & Spat collection
• Various farming techniques
  – Nursery systems
  – Growout systems
• Site selection and water quality concerns
• Hatcheries for seed (for established farming areas)
• Marketing, processing, public health & HACCP
Mangrove oysters
Reef-building Oysters
Oyster Fishery
New Jersey Oyster Boats
Oyster History 100AD
RI Oyster History
Providence Shucking Houses 1910
Oyster Life Cycle

Diagram from Maryland Sea Grant
Oyster Life Cycle
Sampling for veligers
Test collectors

- Set in water for defined period of time
- Monitor appearance of spat and fouling
- Note peak period of spatfall
- Used to inform best time to put production collectors into water
English roof tile spat collectors
Chinese hat spat collectors
Philippine spat collection
Phlippine spat collectors
Banjul Area Wetlands
Dagupan City Estuary, Philippines
Estuary w/ Polyculture
Philippine spat set
Spat collectors & growout
Culling for nursery culture
Nursery systems
Pearl Nets -- nursery
Nursery to growout
Growout Site Selection
Commercial Fishing areas of RI
GIS mapping of oyster lease sites in Virginia
Water quality monitoring

- Compliance with EU Standards (http://ec.europa.eu/food/international/trade/im_cond_fish_en.pdf)
- Compliance with US Standards (http://www.issc.org/)
- Water quality generally based on total coliform or fecal coliform standard (USA TC standard is 70 MPN/100mL; FC = 14MPN/100mL). Multiple tube fermentation technique standard in US; Filtration method okay for EU)
- Coliform data difficult to interpret in tropics (exhibit caution when using)
- Water quality standards part of comprehensive chain from the estuary to consumer’s plate
- Water quality bounds in cooperation with enforcement authorities
Shellfishing closures

http://www.dem.ri.gov/maps/mapfile/shellfsh.pdf
Growout systems – bottom cages
Growout Systems – bottom bags
Growout systems – transient gear
Fouling of bags with colonial ascidians
Bottom gear tending
Work boats
Longlines
Longlines
Lantern nets
Filling Lantern net
Hatchery – phytoplankton tanks
Broodstock conditioning
Spawning induction
Larval rearing
Managing larvae
Disease monitoring
Hygiene of oyster meats

• Protocols established by EU & ISSC in US
• Minimization of bacterial propagation from farm to plate
• Temperature control is critical!
• HACCP concept = producers & marketers in develop a plan based upon controlling contamination at critical control points; gov’t then approves, implements according to EU or ISSC standards & enforces
Marketing
Marketing

http://www.rhodyoysters.com/

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