

Off-bottom Oyster Culture in Florida



Application of Triploidy: Results of Growers' Trials

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Growers' Trials – FL West Coast

OBJECTIVES:

- 1) Document production, assess health, and evaluate quality of
 - Diploid (2N) oysters
 - Triploid (3N) oysters
- 2) Quantify effects of culture methods and seasonal harvests



Funded by:



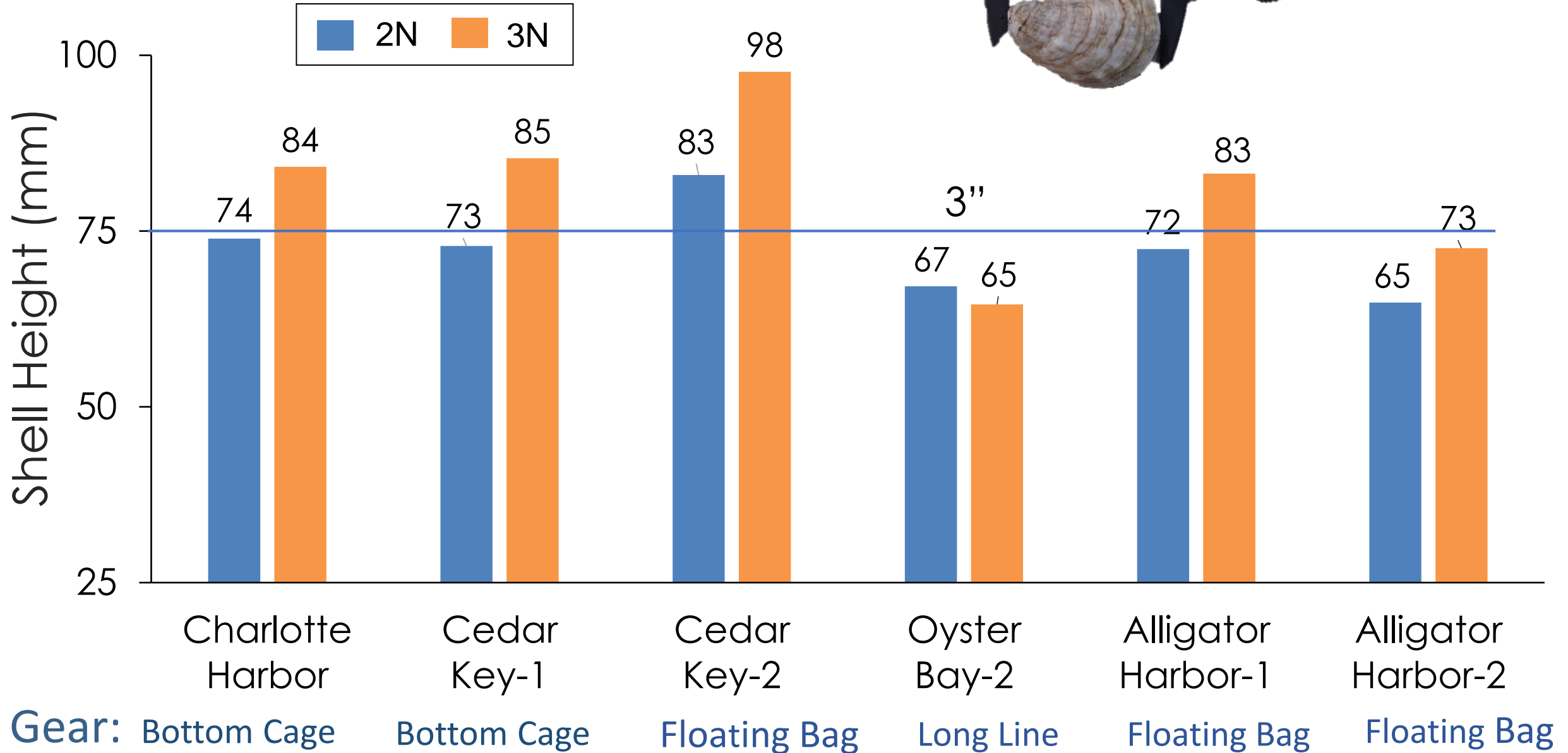
2015-17

Growers' Trials – Florida West Coast

Grower Trials	Diploid Seed		Triploid Seed		Plant Dates	Harvest Dates	# Months
	#	SH (mm)	#	SH (mm)			
1	2500	24	2500	24	Winter		8
2	2500	21	2500	26	Summer		7-8



TRIAL 1: Growth



TRIAL 1: Survival

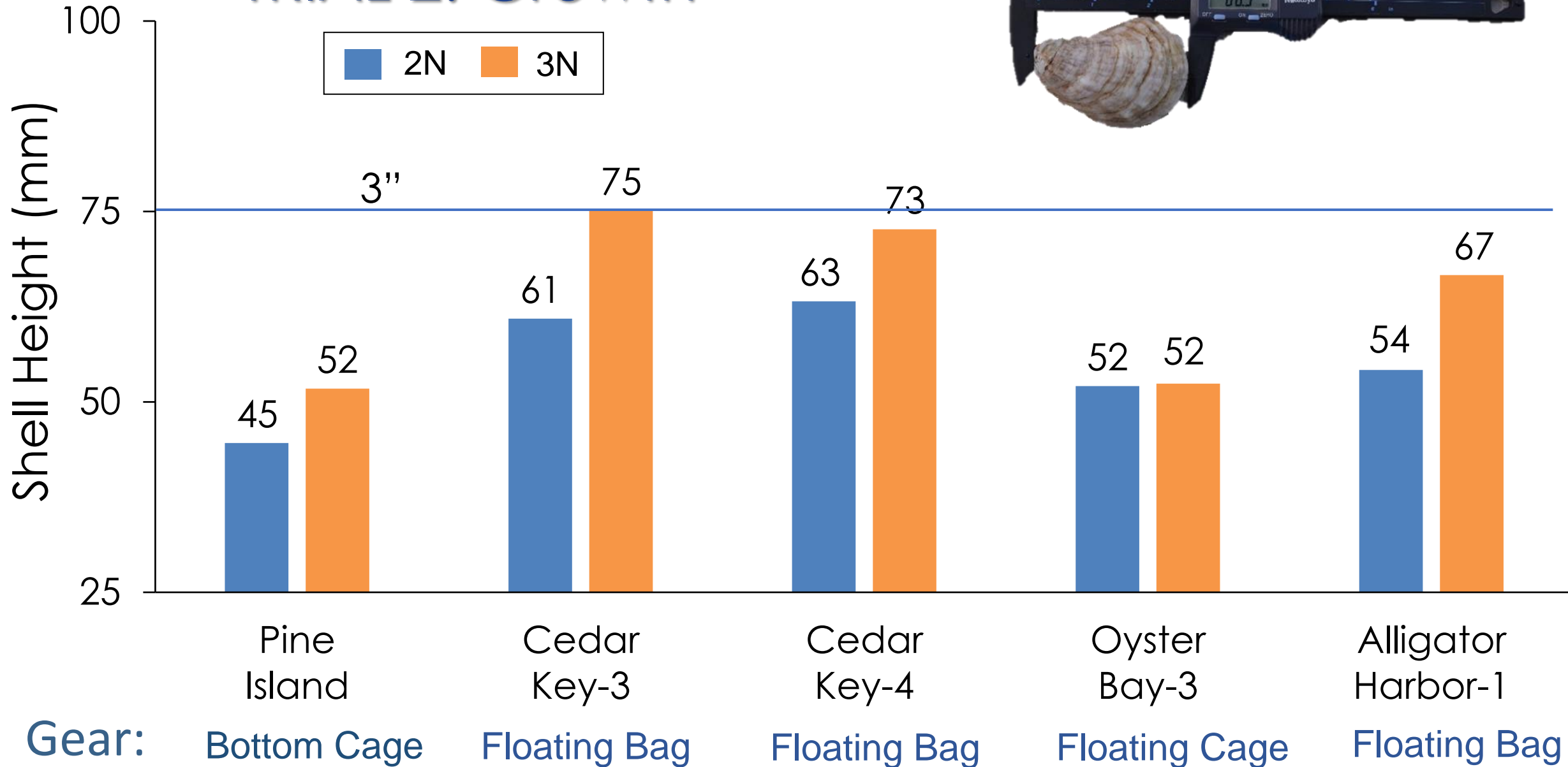
Winter: Jul/Aug 2016 – Mar/Apr 2017

Ave water temperatures:
71-81 °F

Location	Gear	Survival (%)	
		Diploid	Triploid
Cedar Key-1	Bottom Cages	91	89
Cedar Key-2	Floating Bags	99	98
Alligator Harbor-1	Floating Bags	99	99
Alligator Harbor-2	Floating Bags	97	98



TRIAL 2: Growth



TRIAL 2: Survival

SUMMER: Mar/Apr 2017 – Oct/Nov 2017

Ave water temperatures:
80-82 °F



		Survival (%)	
Grower	Gear	Diploid	Triploid
Cedar Key-3	Floating Bags	68	68
Cedar Key-4	Floating Bags	70	57
Oyster Bay-3	Floating Cages	82	85
Alligator Harbor-1	Floating Bags	67	92
Alligator Harbor-2	Floating Bags	0	~20



Mortality Events

- Alligator Harbor Lease Area, Florida Panhandle
- Spring-Summer 2017, Spring 2019, Spring 2020
 - Both diploids and triploids
- Pathology reports – Ryan Carnegie, VIMS and Susan Laramore, HBOI-FAU
 - No MSX, Dermo or pathogens of concern
 - Gill and digestive epithelial tissue erosion
 - Increased hemocytes (defense cells)
 - Edema (excessive fluid) of connective tissue
 - Gonadal development, ripe males



Mortality Events

- Other observations
 - Mantle/gill abnormalities associated with colonization of shell in which oyster is trying to ward off
 - Discoloration of shell caused by extensive deposits of conchiolin (organic protein matrix)
- Coincides with large blooms of amphipods and high siltation
- Fits model for “spring/summer” mortality
 - Environmental stressors intersecting with metabolic or physiological problems linked to oyster genetics or ploidy



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Welcome to the new and improved Online Resource Guide for Florida Shellfish Aquaculture. This site provides, through the University of Florida IFAS Shellfish Aquaculture Extension Program, information about shell farming and related activities for the general public, growers, and others involved in the shellfish industry. A "news blog" featured which provides current information on a timely basis and replaces The Bivalve Bulletin newsletter. This site also includes updates on research and extension projects, presentations from industry workshops, suppliers' lists, and pertinent publications. [Read More](#)

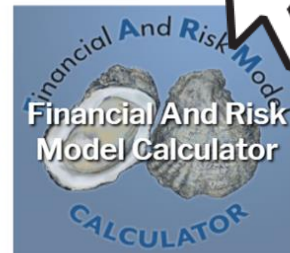
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Oyster Culture

Oyster Culture



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Oyster Farming Demonstration Project
Application of Triploidy to the Emergent Florida West Coast Industry

This project allowed for large-scale demonstration and evaluation of an oyster breeding process to local conditions on Florida's west coast by oyster growers. The objectives were two-fold:

FOLLOW THIS PROJECT BY VIEWING THE NEWS & ARTICLES BELOW:

Seed Provided to Growers in July
July 27, 2016
Single-set triploid oyster seed were produced by crossing Cedar Key stocks with sperm from tetraploid stocks maintained at Louisiana Sea Grant's oyster hatchery. [Read more](#)

UF Plants Seed In August
September 14, 2016
Triploid and diploid oyster stocks were also planted by UF at their experimental lease located within the Dog Island Lease Area off Cedar Key on August 4. [Read more](#)

Hurricanes Impact Oyster Trials
October 7, 2016
After meandering around the Gulf of Mexico as a tropical depression, Hurricane Hermine gathered steam and headed straight for the Big Bend coast on September 2. [Read more](#)

UF Oyster Growout Study Initiated
November 1, 2016
This article summarizes the growth of diploid (2N) and triploid (3N) oysters cultured at the UF experimental lease within the Dog Island Lease Area near Cedar Key. [Read more](#)

Financial Characteristics and Risks
January 2017
Another component of the Oyster Culture Demonstration Project is to document economic costs and benefits associated with diploid versus triploid oyster production along the west coast of Florida. [Read more](#)

Sampling UF Field Trials
February 2017
A similar number of oysters provided to project participants were also cultured at the UF experimental lease off Cedar Key so that growth and survival could be documented bimonthly during growout. [Read more](#)

Harvesting Growers' Field Trials
March 2017
Ten growers in four west coast counties participating in this project received oyster seed (2500 of each ploidy type, 20-22 mm in shell height) during July 2016 to grow on their leases. [Read more](#)

Harvesting UF Field Trials
April 2017
Six months after seed oysters (average 25 mm in shell height) were stocked into 14 mm mesh Vexar bags (October 2016), they were harvested in April 2017 (12 months from spawn). [Read more](#)

Next Crop of Seed Distributed
April 2017
To quantify the effects of seasonal harvests on ploidy type, several spawns using tetraploid oysters held from the spring 2016 spawn were attempted in the fall. [Read more](#)

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