

# OYSTER LIFE CYCLE

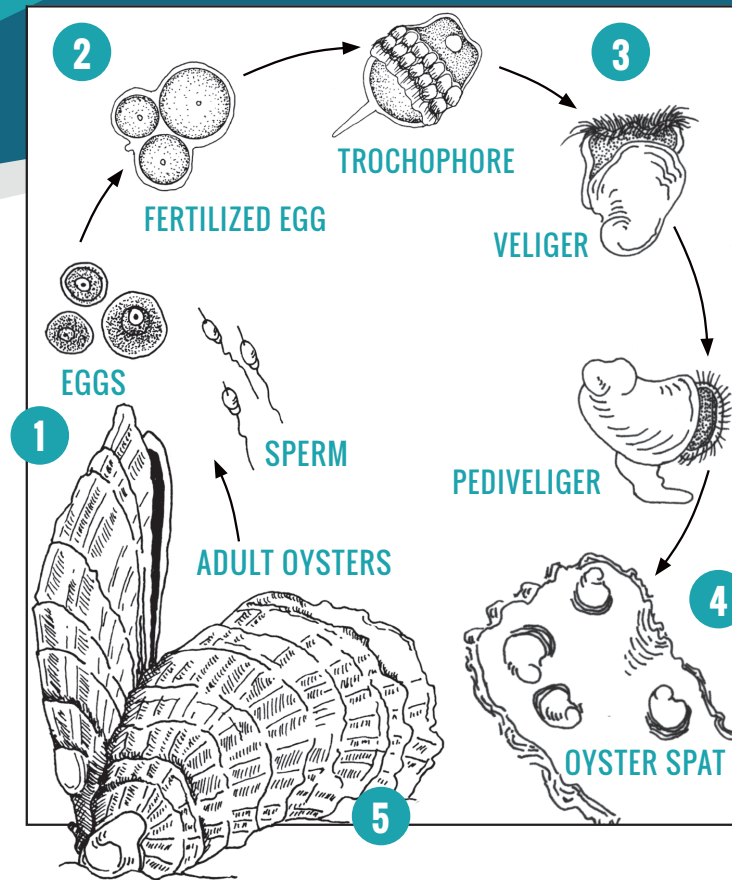
The entire cycle of an oyster—from fertilization to settlement—takes place within 14 to 21 days. Oysters grow about two inches per year. In the wild, oyster larvae attach to other adult oysters, creating the jagged, clustered oysters. In Georgia, oysters reach full maturity in as little as four months and can be commercially harvested when they are two inches long.

The UGA Oyster Hatchery spawn using wild oyster broodstock, mature animals used for breeding purposes. The spawning process begins in late March and continues through late September.

**1** Oysters are broadcast spawners, which means that **EGGS** and **SPERM** are released into water. Hatchery experts use a process called thermal cycling where broodstock are exposed to seawater at alternating temperatures multiple times to aid the spawning process.

**2** Once spawning occurs, the eggs are collected and stored in a container until an ideal fertilization rate of more than 90 percent is achieved. Fertilized eggs are then placed in larval tanks.

**3** A fertilized egg transforms through three free-swimming larval stages: the **TROCHOPHORE** (within 12–20 hours), the **VELIGER** (20–48 hours) and the **PEDIVELIGER** larva, which has a foot. The pediveliger larva uses its foot to crawl around in search of a hard substrate, or a base on which to live. When it finds one, it secretes a glue and permanently attaches.

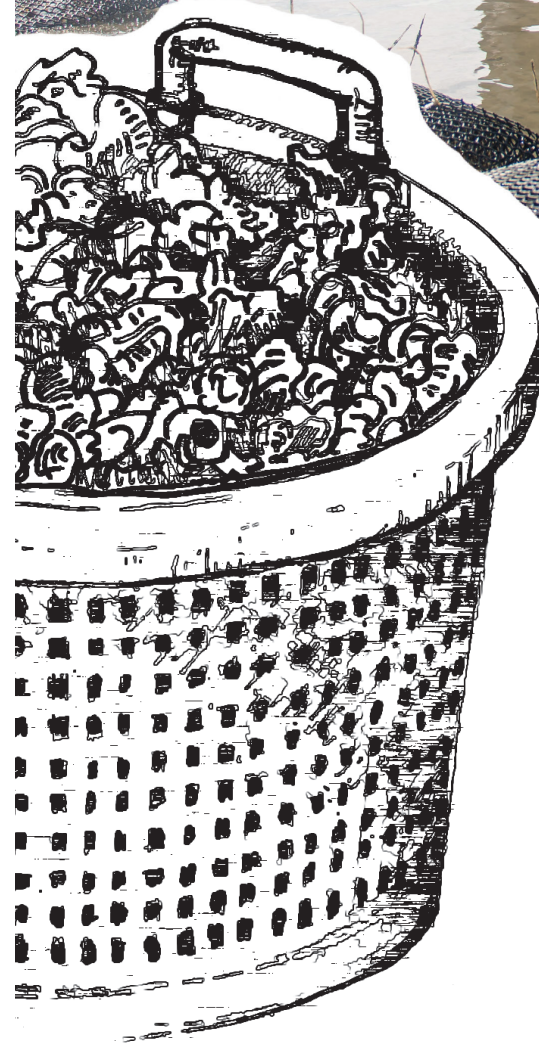


**4** As it grows, the larva undergoes a metamorphosis and sets, becoming **OYSTER SPAT**. It will continue to secrete calcium carbonate to develop its shell. If it attaches to another oyster, the result is a clump or clustered oysters. In the UGA Hatchery, oyster larvae are provided with small pieces of oyster shells or other material called cultch. Attaching to these tiny materials helps to create single oysters.

**5** Once oyster spat reach a certain size, they are distributed to growers that then transport them to their shellfish leases for cultivation. Shellfish leases are located in coastal waters that are approved for shellfish harvest and monitored by the Georgia Department of Natural Resources Coastal Resources Division.

GEORGIA'S FIRST

# OYSTER HATCHERY



At full capacity, the hatchery will produce

**15**  
MILLION  
OYSTER SPAT, with a  
HARVEST VALUE OF  
**\$3**  
MILLION

**MARINE EXTENSION AND GEORGIA SEA GRANT** launched the state's first oyster hatchery in 2015 to revive the once-thriving oyster industry in Georgia.

The UGA Oyster Hatchery, located at the Shellfish Research Lab on Skidaway Island, is growing the oyster aquaculture industry in Georgia by allowing harvesters to farm single oysters that can be sold on the half-shell, a lucrative market fueled by restaurant and consumer demand.

Funded by the Georgia Department of Natural Resources (DNR) Coastal Management Program, the hatchery emerged from a collaborative effort between Marine Extension and Georgia Sea Grant, resource managers with the DNR, the Georgia Department of Agriculture and the Georgia Shellfish Growers Association.



## Georgia's Oyster Industry

Oyster growers are an important part of Georgia's history. In the early 1900s, the state led the nation in oyster production, annually harvesting 8 million pounds of oyster meat, primarily for the canning industry. By the 1940s, the industry was in decline due to over-harvesting and decreasing demand for canned oysters. The last shucking houses in coastal Georgia closed in the 1960s. Harvested oysters now are primarily sold in clumps for private roasts.

With the launch of the hatchery, farmers can produce oysters in a faster, more cost-effective way.

Researchers at the lab are using established hatchery techniques to produce spat. When spat reach a certain size, they are delivered to the 10 growers on the coast who take the seed to their shellfish leases for cultivation. Each grower has received 900,000 spat since the start of the hatchery.

In addition to providing spat, researchers at the hatchery share guidance with participating growers, who are trained in handling and transplanting spat and learn new methods for cultivating oysters. Additionally, extension specialists are connecting growers with seafood distribution companies to increase awareness of the Georgia single oyster. In return, growers are sharing their experiences and data with scientists.



The hatchery has distributed

# 900,000 OYSTER SPAT

to harvesters since its  
launch in 2015



In 2016, the UGA Oyster Hatchery produced

## 500,000-750,000

spat, or baby oysters, with an estimated value of

## \$100,000-\$280,000



## CLUSTERED OYSTERS

- Are not preferred for raw oyster bars but are perfect for backyard roasts
- Grow in clumps
- Have brittle, sharp edges and are difficult to open
- Cost \$35-\$60 for a bushel weighing about 50 pounds (with no reliable way to estimate the number of oysters in the bushel)



## SINGLE OYSTERS

- Are attractive for both fine dining and backyard roasts
- Grow as individuals and can be easily cleaned
- Have smoother edges and are easier to open
- Cost \$90-\$100 (retail) for a 100-count bag (approximately a half-bushel), making a half-bushel of singles worth four times more than a whole bushel of clusters