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Poultry, Fisheries & Wildlife Sciences

Commentary

Importance of Oyster Farming in Aquaculture

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ABOUT THE STUDY

Oyster farming is an aquaculture method (also known as Mari culture) where oysters are raised and grown primarily for their edible visceral tissue, pearls, and shells. The first century BC saw the beginning of oyster cultivation by the ancient Romans on the Italian peninsula, which eventually spread to England for sale to Rome. Since the late 18th century, farmed oysters have been a staple of the French oyster industry.

History

The ancient Romans of the Italian peninsula had already begun growing oysters in the first century BC. With the arrival of the barbarians, oyster aquaculture in the Mediterranean and Atlantic Oceans came to an end. In actuality, oysters were originally cultivated by the Romans. Sergius Orata, a Roman engineer, is renowned for his creative approaches to oyster production and marketing. He achieved this by raising mollusks in an environment where the water level could be controlled.

Varieties

The eastern oyster *Crassostrea virginica*, the Pacific oyster *Crassostrea gigas*, the Belon oyster *Ostrea edulis*, the Sydney rock oyster *Saccostrea glomerata*, and the southern mud oyster *Ostrea angasi* are all commonly grown edible oysters.

Cultivation

At the mouth of brackish waterways, oysters naturally develop. In order to start spawning and fertilization, as well as to quicken the rate of development, reproduction entails adjusting (or at least monitoring) the temperature and salt concentration of the water. This may need several years. The conditioning of bloodstock is the initial stage in oyster farming. "Parent" oysters that provide gametes to larvae are breeding resources. Only during the brief gamete window are wild oysters considered "ripe". There is a greater chance that gametes may collide and create viable larvae when oysters in a region all spawn at the same time. A farmer will place a batch of oysters in a dish, fast heat and chill the water to begin egg laying, and then the oysters will begin to lay.

Many oysters should be kept since it might be challenging to determine whether they are male or female based just on appearance.

The oysters can be taken up and put in a different container until all gametes have been discharged after they have started to produce eggs. Once combined, the egg and sperm can be fertilized.

Aquaculture for larvae should be cleansed and sanitized before introducing water. Although the species needs to be taken into account, most larvae normally develop more quickly in warm water. Once the fertilized eggs and young larvae have been placed in the aquarium, the water should be changed every other day, and they should be fed with filtered or cultured algae every day. As a result, the system is kept free of viruses and foreign organisms that may otherwise compete with or devour the larvae, preserving the water's quality to support development. The period of an oyster's life where it is most vulnerable is right now. In each case, oysters are grown to the size of the "spat," the point at which they adhere themselves to a substrate, using one of three typical techniques of culture. The structure is referred to as a "cultch" (also spelled "cutch" or "culch"). It is possible to let the free spat develop further to produce "seed" oysters with tiny shells. They are then let out to develop in either scenario (spat or seed stage). The ageing methodology selects a cultivation strategy. Spreading the spat or seeded oysters on an existing oyster bed and allowing them to grow naturally is one way. The same techniques used to fish for wild oysters are employed to harvest these oysters. With the second technique, you may put the spit or seed in a cage, bag, rack, or container that is raised off the ground (or you can attach it to a vertical rope with three pieces of tape). By simply lifting shelves or bags to the surface to retrieve mature oysters, or by removing giant oysters when the enclosure is exposed at low tide, oysters that are grown in this manner can be harvested. The latter approach is more costly but prevents the loss of some predators. The third technique involves placing the spit or seeds in a cult in a synthetic maturation tank. Water that has been carefully treated to speed up oyster development can be added to the mature tank. Because of the adjacent seas, the temperature and salt content of the water might differ slightly.

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