Oysters Currently Featured At

Liliana's

Delaware – From Delaware Bay NJ, Mid Atlantic Oyster with Firm Texture and Heavy Shell, with a Briny Yet Mild Flavor

Virginicas – From Washington, These Oysters Possess a Sweetness and Complexity not Present in Younger Oysters.

Hyde Pointe – Washed by Brackish Current that Encourages Their Dual Nature – Salty and Sweet, Small to Medium Size with a Nice Deep Cup.

Courtin Island – Develop Unique Flavor from Nestling in Beds of Eelgrass, their Mild Flavor and Plump Meats Make them a Favorite.

Evening cove – From Vancouver Island B.C. Clean Smooth Flavor with Briny Finish, Fragile Fluted Shell

Orwell Bay – Loved for their Fruity Briny Flavor, and Plump Meats Nestled Deep in Large Rounded Cups.

Blackberry – Large Meaty Oysters with Delicate Finish and Fruity Undertones

Wianno – From Nantucket Sound, these Oysters are Plump Succulent Sweet and Briny

Oyster Info

The common name **oyster** is used for a number of different groups of bivalve mollusks, most of which live in marine habitats or brackish water. The shell consists of two usually highly calcified valves which surround a soft body. Gills filter plankton from the water, and strong adductor muscles are used to hold the shell closed.

Some of the groups known as oysters (true oysters) are highly prized as food, both raw and cooked, but some other groups which are also called oysters (such as for example the pearl oysters) are not widely eaten, at least not in recent times.

True (edible) oysters are incapable of making gem-quality pearls, although the opposite idea is a commonly-encountered misapprehension, often seen in illustrations or photographs where an edible oyster shell is mistakenly paired with a gem-quality pearl.

The oyster is used as a metaphor in an idiomatic saying, "The world is your oyster", which means that the whole world is laid out before you like a wonderful living buffet.[1]

The "true oysters" are members of the family Ostreidae. This family includes the edible oysters, which mainly belong to the genera *Ostrea*, *Crassostrea*, *Ostreola* or *Saccostrea*. Examples are the Edible Oyster, *Ostrea edulis*, Eastern oyster *Crassostrea virginica*, Olympia Oyster *Ostreola conchaphila*, Pacific Oyster *Crassostrea gigas*, Sydney rock oyster *Saccostrea glomerata*, and the Wellfleet oyster (a variety of *C. virginica*).

Physical characteristics

Oysters are filter-feeders: they draw water in over their gills through the beating of cilia. Suspended food plankton and particles are trapped in the mucus of a gill, and from there are transported to the mouth, where they are eaten, digested and expelled as feces or pseudofeces. Feeding activity is greatest in oysters when the water temperatures are above 50°F. Healthy oysters consume algae and other water-borne nutrients, each one filtering up to five litres of water per hour. Scientists believe that the Chesapeake Bay's once-flourishing oyster populations historically filtered the estuary's entire water volume of excess nutrients every three or four days. Today that process would take almost a year, and sediment, nutrients, and

algae can cause problems in local waters. Oysters filter these pollutants, and either eat them or shape them into small packets that are deposited on the bottom where they are harmless.

Oysters breathe much like fish, using both gills and mantle. The mantle is lined with many small, thin-walled blood vessels which extract oxygen from the water and expel carbon dioxide. A small, three-chambered heart, lying under the abductor muscle, pumps colorless blood, with its supply of oxygen, to all parts of the body. At the same time two kidneys located on the underside of the muscle purify the blood of any waste products they have collected.

There is no way of determining male oysters from females by examining their shells. While oysters have separate sexes, they may change sex one or more times during their life span. The gonads, organs responsible for producing both eggs and sperm, surround the digestive organs and are made up of sex cells, branching tubules and connective tissue.

Oyster habitat and lifestyle

As a keystone species, oysters provide habitat for an extensive array of marine life. There are two main groups of oysters, the *Ostrea sp* and *Crassostrea sp*(now saccostrea). Crassostrea live mainly in the inter-tidal zone while Ostrea are subtidal. The hard surfaces of oyster shells and the nooks between the shells provide places where a host of small animals can live. Hundreds of animals such as anemones, barnacles, and hooked mussels use oyster reefs as habitat. Many of these animals serve as food for larger animals, including striped bass, black drum and croakers. An oyster reef can encompass 50 times the surface area of an equally extensive flat bottom. The oyster contributes to improved water quality through its filter feeding capacity. An oyster's mature shape often depends on the type of bottom to which it is originally attached. It orients itself with its outer, flared shell tilted upward. One valve is cupped and the other is flat. The submerged shell opens periodically to permit the oyster to feed.

Oysters usually mature by one year of age. They are protandric, which means that during their first year they spawn as males (releasing sperm into the water). As they grow larger over the next two or three years and develop greater energy reserves, they release eggs, as females. Bay oysters are usually prepared to spawn by the

end of June. An increase in water temperature prompts a few initial oysters to spawn. This triggers a spawning 'chain reaction', which clouds the water with millions of eggs and sperm. A single female oyster can produce up to 100 million eggs annually. The eggs become fertilized in the water and develop into larvae, which eventually find suitable sites on which to settle, such as another oyster's shell. Attached oyster larvae are called 'spat'. Spat are oysters 25 mm or less in length. Many species of bivalve, oysters included, seem to be stimulated to settle by the proximity of adults of their species.

Some tropical oysters in a different family, the family Isognomonidae, grow best on mangrove roots, and are exposed at low tide, making them easy to collect. In Trinidad in the West Indies tourists are often astounded when they are told that in the Caribbean, "oysters grow on trees."

The oyster's greatest predators include crabs, sea birds, sea stars, and humans. Some oysters contain live crabs, known as an Oyster crab.

Oysters as food

Although Jonathan Swift is often quoted as having said, "He was a bold man that first ate an oyster", evidence of oyster consumption goes back into prehistory, as evidenced by oyster middens found worldwide. Oysters were an important food source in all coastal areas where they could be found, and oyster fisheries were an important industry where they were plentiful. Overfishing and pressure from diseases and pollution have sharply reduced supplies, but they remain a popular treat, celebrated in oyster festivals in many cities and towns.

Oysters are a favorite among exotic foods and research now shows this shellfish to be a rich source of zinc, one of the minerals required for the production of testosterone.

Oyster fishing and oyster cultivation

Oysters are fished by simply gathering them from their beds. A variety of means is used. In very shallow waters they can be gathered by hand or with small rakes. In somewhat deeper water, long-handled rakes or oyster tongs are used to reach the beds. Patent tongs can be lowered on a line to reach beds which are too deep to reach directly. In all cases the manner of operation is the same: the waterman scrapes together a small pile of oysters, and then collects these by scooping them up with the rake or tongs.

In some areas a dredge is used. This is a toothed bar attached to a chain bag. The dredge is towed through an oyster bed by a boat, picking up those oysters in its path. While dredges collect oysters more quickly, they can be very damaging to the oyster beds, and their use is in general strictly limited. In the state of Maryland, dredging was until 1965 limited to sailboats, and even since that date motor power can only be used on certain days of the week. These regulations prompted the development of specialized sailboats (the bugeye and later the skipjack) for dredging.

Oysters can also be collected by divers.

In any case, when the oysters are collected, they are sorted to eliminate dead shells, unwanted catch, and other debris. Then they are taken to market where they are either canned or sold live.

Oysters have been cultured for well over a century. Two methods are commonly used. In both cases oysters are cultivated to the size of "spat", the point at which they attach themselves to a substrate. They may be allowed to mature further to form "seed" oysters. In either case they are then set out to mature. They may be distributed over existing oyster beds and left to mature naturally, to be collected using the methods for fishing wild oysters. Or they may be put in racks or bags and

held above the bottom. The oysters are harvested by lifting the bags or rack to the surface and removing mature oysters. The latter method avoids losses to some predators, but is more expensive.

The Pacific (Japanese) oyster, *Crassostrea gigas* has also been grown in the outflow of mariculture ponds. When fish or prawns are grown in ponds, it takes, typically 10kg of feed to produce 1kg of product (dry-dry basis). The other 9kg goes into the pond and after mineralization, provides the food for phytoplankton. This phytoplankton is the food for the oyster.

In many areas non-native oysters have been introduced in attempts to prop up failing harvests of native varieties. For example, the eastern oyster was introduced to California waters in 1875, while the Pacific oyster was introduced there in 1929. Proposals for further such introductions remain controversial. The pacific oyster prospered in Pendrell Sound where the surface water is typically warm enough for spawning in the summer. Over the following years, spat spread out sporadically and populated adjacent areas. Eventually, possibly following adaptation to the local conditions, the Pacific oyster spread up and down the coast and now is the basis of the west coast oyster industry. Pendrell sound is now a reserve for the catching of spat for cultivation To avoid spawning, sterile oysters are now cultured by crossbreeding tetraploid and diploid oysters. Because the resulting triploid oyster cannot propagate, the oyster spawning season does not occur.

History

The Whaleback Shell Midden in Maine was used for oyster harvesting from 2,200 to 1,000 years ago.

Middens testify to the prehistoric importance of oysters as a foodstuff. Within the United Kingdom, the town of Whitstable in the county of Kent is particularly noted for oyster farming from beds on the Kentish Flats that have been used since Roman times. The borough of Colchester (which was briefly the capital of Roman Britain -

during the Roman invasion) holds an annual Oyster Feast in October of each year, at which the "Colchester Natives" (the native oyster, Ostrea Edulis) are consumed. There are several oyster festivals held annually in the UK, e.g. Woburn Oyster Festival which is held in September.

Similarly the seaside resort of Cancale in France is noted for its oysters, which also date from Roman times. In fact, Sergius Orata of the Roman Republic is considered to have been the first major merchant and cultivator of oysters. Using his very considerable hydraulic knowledge, he built a complex cultivation system including channels and locks to control the sea tides. He was famous because for this, and Roman people used to say he was so good that he could breed oysters on the roof of his house.

The world-famous Clarenbridge and Galway Oyster Festivals are held in Galway, Ireland each September. Ireland enjoys a long-standing tradition with regard to oysters where, typically, the shellfish is eaten live in conjunction with the national beverage, Guinness.

In the early nineteenth century, oysters were very cheap and were mainly eaten by the working classes. (Oysters were quite popular in New York City during the middle and late 19th century. However, increasing demands from the rapidly-growing cities led to many of the beds running short. To increase production, foreign varieties were introduced and this soon brought disease which, combined with pollution, and increasing sedimentation resulted in oysters becoming rare. This has been exacerbated worldwide by ever-increasing demands on wild oyster stocks. This scarcity increased prices leading to their current status as a delicacy.

In the United Kingdom, the native variety is still held to be the finest, taking five years to mature and protected by an Act of Parliament during the May-August spawning season. The current market is dominated by the larger Pacific oyster and rock oyster varieties which are farmed all year round.

All types of oysters (and, indeed, almost all other shelled mollusks) can secrete concretions that are known by biologists as pearls, but those which sometimes form in edible oysters are unattractive and have no market value at all.

Pearl oysters however are not closely related to true oysters. They are in a totally different family, the Pteriidae (Feathered Oysters). Both cultured pearls and natural

pearls can be obtained from these oysters, though other mollusks, such as the freshwater mussels, also yield pearls of commercial value.

The largest pearl-bearing oyster type is the saltwater Pinctada maxima, which is roughly the size of a dinner plate. Not all individual oysters produce pearls naturally. In fact, in a haul of three tons of oysters, only around three or four oysters produce perfect pearls.

In nature, pearl oysters produce natural pearls by covering a minute invading parasite with nacre. Over the years, the irritating object is covered with enough layers of nacre to form what we know as a pearl. There are many different types and colors and shapes of pearl; these qualities depend on the natural pigment tone of the nacre, and the shape of the original irritant which was being covered over.

Pearls can also be cultivated by pearl farmers placing a nucleus, usually a piece of polished mussel shell, inside the oyster. In three to six years, the oyster will produce a perfect pearl. These pearls are not as valuable as natural pearls, but look exactly the same. In fact since the beginning of the 20th century when several researchers discovered how to produce artificial pearls, the cultured pearl market has far outgrown the natural pearl market. Natural pearls have become scarcer and scarcer and a necklace with only natural pearls can easily cost several hundred thousand (US) dollars.