



The Prince Edward island cultured oyster industry with its famous Malpeque oysters, have earned a world renowned reputation for their supreme quality, great taste and can be found in fine dining establishment oyster bars and kitchens across the world.

Production of PEI Oysters



Figure 1: PEI Oyster, often referred to as Malpeques

Historically oysters have grown in their natural environment on the bottom of most PEI estuaries and been collected by provincially licensed fishers. However, since the early 1990's various off bottom production methods have been utilized to improve growth and survival rates as well as oyster shape. The off bottom methods allow the oysters to better access phytoplankton (food) in the water column resulting in increased growth rates. These methods also allow for the grower to clean the oysters and gear of fouling flora on a regular basis.

The quality of PEI oysters is assured by the aquaculture industry's continuing efforts to advance the technology used and through the joint shellfish monitoring programs conducted by the provincial and federal government departments.

Growing conditions

Water temperatures in PEI's bays and estuaries range from -2°C in winter to 24°C or higher in the summer, while salinities range between 23 to 29 parts per thousand. Because of the cold winter temperatures PEI is considered to be the northern tip of areas suitable for oyster production.

The local environment and the resulting variations in growing conditions can affect the overall quality of oysters. Oysters can feed on plankton from the water column almost continuously when the conditions are right. The warm water conditions found in PEI bays and estuaries allow the oysters to feed almost continuously until the water temperature drops below 4° Celsius.

The shape and outer appearance of the oyster are also impacted by local growing conditions. Shells of oysters that are overcrowded or located on muddy bottoms will grow long and narrow, while the shells of oysters grown on hard, sandy bottoms where there is no overcrowding will grow round and be deep cupped.

The Island's warm, shallow, food rich waters provide excellent growing conditions for the American or Eastern oyster (*Crassostrea virginica*). This has resulted in PEI's attaining an international reputation for producing quality oysters.

Seed Collection

The PEI aquaculture industry relies heavily on oyster seeds collected from naturally occurring spawning events. Each summer oysters reproduce, releasing billions of tiny oyster larvae into the water. In late June - early July, oyster growers hang seed collectors from lines in selected bays and rivers on PEI. Three to four weeks later numerous oyster seeds will have cemented themselves onto these collectors.

By fall, the oyster seeds will have grown large enough to be removed from the collectors. The collectors are brought to shore, thrashed to remove the oyster seed, and the seed is then placed into mesh bags for over-wintering on the bottom of the lease.



Figure 2: "Chinese Hat" oyster seed collectors

Caring for the Oysters

The following spring the intermediate stage begins when the bags are lifted off the bottom and placed in racks/cages or suspended from longlines. By June the one year-old oyster seed should be 15-20mm long.

Many oyster growers use rebar racks which are placed on the bottom to support their mesh bags. This raises the bags up into the water column where the food is more plentiful resulting in faster growth. Other growers simply insert floatation into the bags and attach them directly to buoyed longlines. Still other growers may place the mesh bags into shelved cages with one mesh bag being inserted per shelf. These cages can be hung from buoyed longlines or left on the bottom.

Throughout the next year the oysters are graded and the densities in the bags are reduced to prevent overcrowding and to allow the oysters to begin to form the nice deep cup that is prized in the marketplace. By the time they reach two years old, the oysters should be 35-50mm long.

It generally takes oysters five to seven years to reach the minimum market length of 76 mm. However, off bottom and water column growing techniques have allowed oyster farmers to produce the same product in four years. Many oyster growers spread their oysters on the bottom for the last one to two years of the grow-out cycle.



Figure 3: Traditional oyster harvesting using tongs

Harvesting

Hand picking of oysters is not permitted in PEI. Oysters grown on the bottom are harvested by tongs. These long rakes are operated in a scissor-like fashion by hand from a dory. Off bottom and water column oyster growers can also harvest oysters with larger boats and hydraulic booms.

After harvesting, oysters are culled, cleaned and graded. Undersized oysters are placed back in the water column or on the bottom to continue to grow. Oysters of marketable size are then sold according to specific sizes: Fancy, Choice, and Cocktail.

Processing

Currently there are a small number of provincially licensed processors that purchase oysters for in-province and domestic trade. There are also 13 provincially licensed and federally registered processors which purchase oysters for export markets.