

MUSSEL CULTIVATION

The mussel *Mytilus edulis* is a mollusc found all around the coast. There is a long history of fishing this bivalve shellfish, not only for human consumption but also for bait. It has been cultivated here for almost 40 years, but on a much lesser scale than on the European mainland. More than 700 years ago, a shipwrecked Irishman, Patrick Walton, introduced mussel cultivation to the French. To ward-off hunger, he used upright wooden poles (bouchots) to grow mussels on the lower shore, - a method practised widely in France to this day.



Both large dredgers and small punts are used to harvest the mature mussels from the sea bed. The dredgers are used to search for and transplant seed mussel.

Two more recently developed methods are currently utilised in Ireland. These are, bottom culture pioneered by the Dutch and hanging culture, a method developed in Northern Spain. The greatest tonnage of mussels is produced by the bottom culture method. This is mainly practised in two areas of Ireland, Wexford Harbour and Castlemaine Harbour/Cromane, Co. Kerry.

Bottom culture is an extensive technique; the principle being to locate and fish beds of seed mussels and move these by dredger to sheltered inshore waters. Here the mussels are put on plots, where they are protected from winter storms and grow rapidly due to increased nutrients. After 18 months to three years the mussels are ready for harvesting. Ten mussel dredgers operate in Wexford at present (1990). These source seed from along the Wicklow and Dublin coasts each summer. They are mainly processed by the Lett Group in Wexford, giving rise to significant employment. One dredger currently operates at Cromane, where seed is located from within inner Dingle Bay. Numbers of smaller outboard operated vessels are involved at both locations.

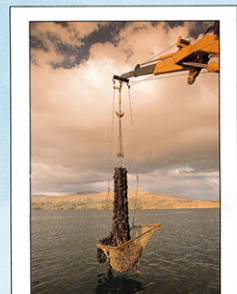
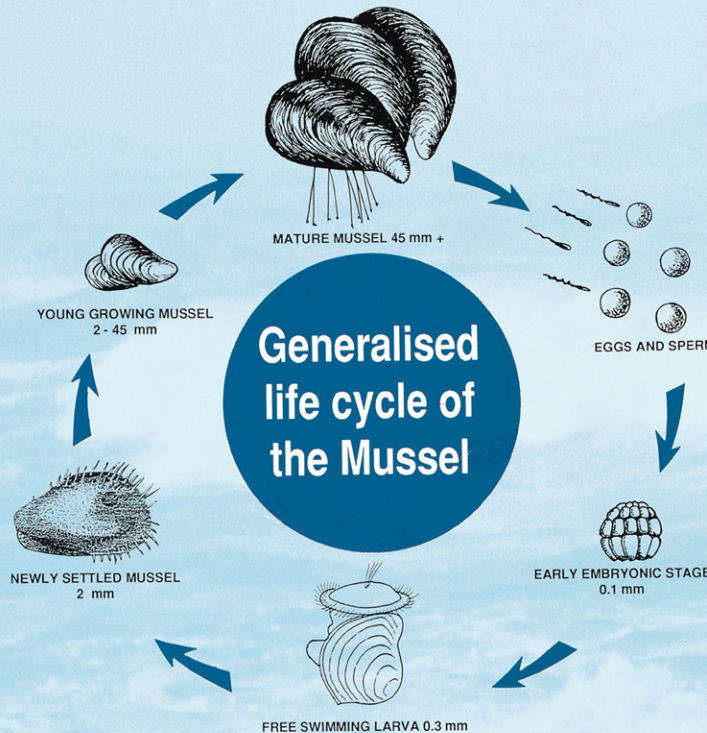
Hanging culture is a more intensive technique, the ropes or filaments, on which mussels grow, are suspended from floating structures such as rafts or longlines. Longlines are now preferred to rafts. Seed mussels are collected from rocks or are obtained by placing collectors in known spawning areas; the idea being that the mussel larvae settle onto the collectors and start to grow. These collectors - lengths of hairy rope or knitted mesh strips - are later hung on the longlines and rafts. The usual growing time to market size is about ten to 18 months, depending on location and the method of seed collection. These rope mussels are processed and sold in live/fresh form.



Floating structures such as mussel longlines, pictured above, and also rafts, are used to grow mussels by hanging them on ropes or mesh stockings. These mussels, because they never touch the sea bed, are free of sand and grit.



The mussels, which are spread over hectares of sea bed, are scraped off the ocean floor using dredges. They are then emptied into the hold where they are either bagged for the fresh market or offloaded in bulk for processing.



On the larger mussel farms some of the hard manual work has been replaced by machinery such as hydraulic cranes which are used to lift the mussel ropes aboard the harvesting vessels. The mussels are then stripped from ropes/mesh, washed, cleaned and sorted by automatic grading machines.



Fresh mussels can be used to make a wide range of delicious dishes, which are easy to prepare. (Recipes available from B.I.M.) Irish processors have also developed a range of prepared recipe dishes such as 'Moules Marinieres', which are extremely convenient for the consumer.

The sexes are separate in mussels, the female shellfish is reddish orange in colour and the male yellowish cream. Spawning takes place in the spring when eggs and sperm are shed into the sea where fertilization takes place. Within one to two days a free swimming planktonic larval stage (veliger) forms. This bobs about in the water column for three to five weeks, its movement influenced by currents. It then settles on a suitable surface on the bottom, attaching by means of the beard or byssus. At this stage it has taken on the appearance of a mussel as we know it, and grows to adult size. Mussel farming is considered to be one of the best ways of producing food as the mussel is a filter feeder that removes plankton and other nutrients from the sea and converts them into its flesh.



Quality Irish mussels are sold fresh to the continent but the majority of them are processed here in Ireland, giving employment and added value.



AQUACULTURE POSTER NO. 3.

BIM and Mussel Cultivation

B.I.M. is the development agency for the Irish seafood industry. The Aquaculture and Planning Division offers financial, technical and economic services to mussel farming such as; pilot and commercial scale grants, seed mussel surveys, technical information, new culture techniques and market research and industry studies.

The Market Development Division, including B.I.M.'s European Office, helps to develop markets for Irish mussels and other seafood at home and abroad. It also produces promotional brochures and recipe leaflets for both export and home markets, aimed at all levels of the distribution and marketing chain.

Aquaculture training courses are also provided by B.I.M.'s Marine Services Division.

