

After arrival at Narita Airport, the live sea urchin is transported to Haneda Airport in Tokyo by truck and air-freighted to Sapporo Airport in Hokkaido. From there the shipment is trucked to various processing centres in Hokkaido. If the sea urchin is properly prepared for shipment, it can live for up to four days.

According to the JETRO report, some Japanese companies have established processing plants on the eastern seaboard. However, due to difficulties in transferring technology and securing an appropriate labour force, these operations have not been entirely successful as yet. The roe of green sea urchin is considerably smaller than that of west coast species and processing requires more highly skilled labour.

8 Processing Operation

The processing of fresh sea urchin roe normally consists of the following steps:

- breaking the shell;
- removing the roe;
- placing roe in salt water (salinity of which is almost identical to that of natural salt water);
- separating roe from other entrails;
- soaking roe in water with alum (density of alum, soaking time, and water temperature are important); and
- sorting and placing roe in trays or packages. While sorting and placing roe in trays can be done by hand, fork, or chop sticks, the most common method is by hand.

Trays for packaging fresh sea urchin roe come in three sizes — large, medium and mini — each of which holds 250 to 280 g, 130 to 160 g and 30 to 60 g respectively. It is important to note that the net weight of roe contained in each tray is not actually measured, but depends solely on the judgement of each worker and is based on his or her experience. Therefore, the net weight can differ slightly from package to package.

Roe is presented on the tray in a traditionally Japanese manner. A great deal of importance is attached to arranging the roe so that it looks fresh, appealing, and also appears abundant in quantity. One commonly used method is to place the roe on the tray in hill-like fashion, with the roe piled higher in the centre of the tray. Arranged this way, the tray looks rather like a small sea with golden waves.

9 Quality Considerations

There are four major factors which determine the quality of sea urchin roe. The first and most critical is freshness. Because fresh sea urchin roe is consumed in raw form as sashimi or used as an ingredient for sushi, freshness is a decisive factor in the assessment of quality.

The second factor is colour. Roe of species harvested in Japan is, basically, of three different colours — yellow, red and pink. While colour preference varies according to the geographic location of Japanese consumers, colour has no effect on pricing. What determines price, however, is the brightness of colour. The guide here is: the darker the colour, the poorer the quality.

The third factor pertains to the yield rate for imported live sea urchin. Although this is more a matter of economics than a factor of quality, it is extremely important. A yield rate of 12 per cent or higher is considered the unofficial standard.

The fourth factor is taste. Generally, Japanese consumers prefer red sea urchin roe harvested on the west coast. Roe from the American west coast is regarded to be of higher quality than that from British Columbia. British Columbia roe is considered to be too big for sushi, and darker in colour and plainer in taste than American sea urchin roe.

Sea urchin roe processed from imported live sea urchin, harvested mainly from the American eastern seaboard, falls into four grades: special high grade, 0.2 per cent; high grade, 25 per cent; middle grade, 50 per cent; and low grade, 25 per cent.