SEA-FISHERIES PROTECTION AUTHORITY

SFPA GUIDE TO SHUCKING SCALLOPS

Introduction:
This guidance document aims to describe the shucking or gutting process of scallops in order to remove or mitigate the biotoxin risk.

Reference:

A. Regulation (EC) 853/2004 annex III section VII specific regulation applying to all food business operators handling shellfish.
B. SFPA Notice to trade on the harvesting of Scallops

Description of the Scallop:
The scallop (*Pecten maximus*) is an important commercially exploited species of bivalve in Northern Europe from Norway South to Spain. The upper valve of the shell is almost flat and reddish in colour, whereas the lower valve is convex and almost white. On the shell there are concentric rings, one of which is formed each year, the number of rings thus indicating the scallop's age. Scallops grow to about 150 mm in diameter and are considered to be of reasonable commercial size from about 100 mm upwards.

In Ireland, the main fishery for king scallops occurs offshore along the South East coast, the Irish Sea and off the South and West coast of England and Wales and off the North Coast of France.
A smaller inshore scallop fishery also occurs along the South and West coasts of Ireland.

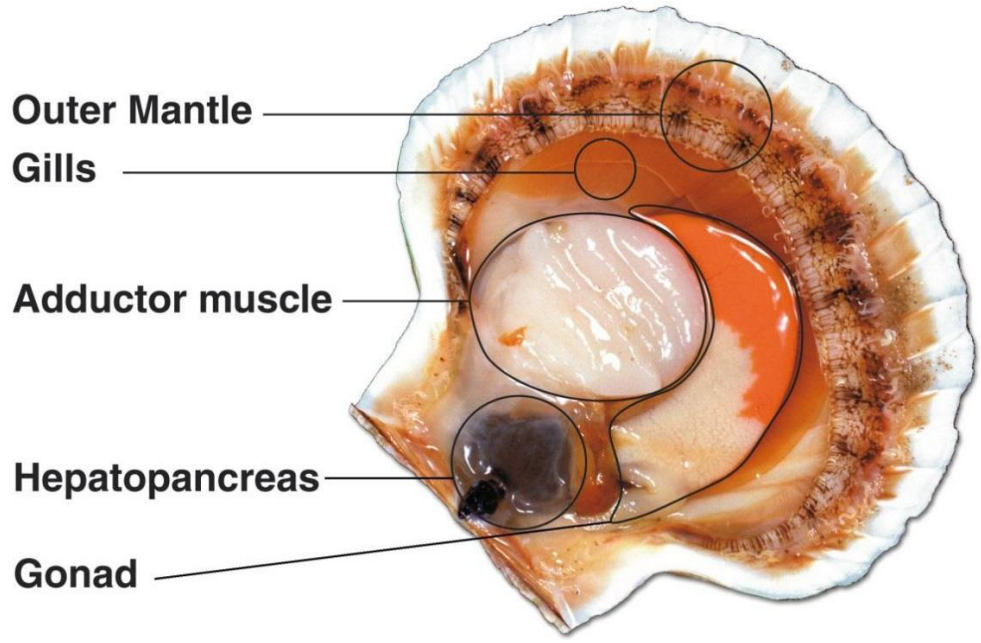


Figure 1. Whole scallop showing major internal organs

The Biotoxin Risk:

Scallops are a bivalve mollusc that filer feed on phytoplankton.

Phytoplankton upon which the shellfish feed are occasionally blighted by blooms of species that produce toxins known as marine biotoxins. Bivalve molluscs bio accumulate these marine biotoxins predominantly in their digestive tract.

These naturally occurring toxins do not harm the shellfish when the phytoplankton is consumed by the filter-feeding molluscs but they can cause human illness (and in some extreme cases fatalities) where intoxicated or contaminated shellfish are subsequently eaten. Cooking of shellfish does NOT remove the risk posed from Marine Biotoxins, in fact, cooking condenses the marine biotoxins into higher concentrations.

EU legislation (853/2004 Annex III Section VII Chapt V) specifies legislative limits for marine biotoxins in Live Bivalve Molluscs. Amnesic Shellfish Poison, (ASP) caused by the ingestion of pseudo nitzchia is the more common marine biotoxin that Scallops are infected with, but they also accumulate other marine biotoxins such as Diarrhetic Shellfish Poison.

Purification will NOT remove biotoxin (ASP) contamination from live scallops.

Ireland's Marine Institute's biotoxin department analyse biotoxin levels in three different sections of scallops;

a. In the adductor muscle

b. In the Gonad

c. In the remainder (digestive tracts)

Multiple analysis conducted by the biotoxins department in the Marine Institute show that scallops landed by Irish fishermen frequently contain multiples of the regulatory limit for levels of ASP, with 90+% of this toxicity to be shown in the remainder of the scallop.

Due to their physical size, Scallops can be eviscerated or shucked in order to remove the digestive tracts. Shucking scallops is a highly effective means of removing the majority of any biotoxin contamination that may be present. See fig 2 for biotoxin concentrations in scallops.

Shucked scallops are a low risk species, as it is very rare that the adductor muscle tests above the regulatory limit, while occasionally, the gonad exceeds the limit.

There are (rare) occasions that the entire animal tests below regulatory limits for marine biotoxins.

It is to this end, that the majority of scallops placed on the market in Ireland are as a shucked product where only the meat (adductor muscle) or gonad are placed on the market for human consumption.

The Sea Fishery Protection Authority's 'Notice to Trade on the harvesting of Scallops' describes Ireland's scallop testing programme in order to ensure compliance with Food Safety standards. All commercially harvested scallops must comply with these protocols in order that they can be placed on the market for human consumption. SFPA Notice to trade on the harvesting of Scallops

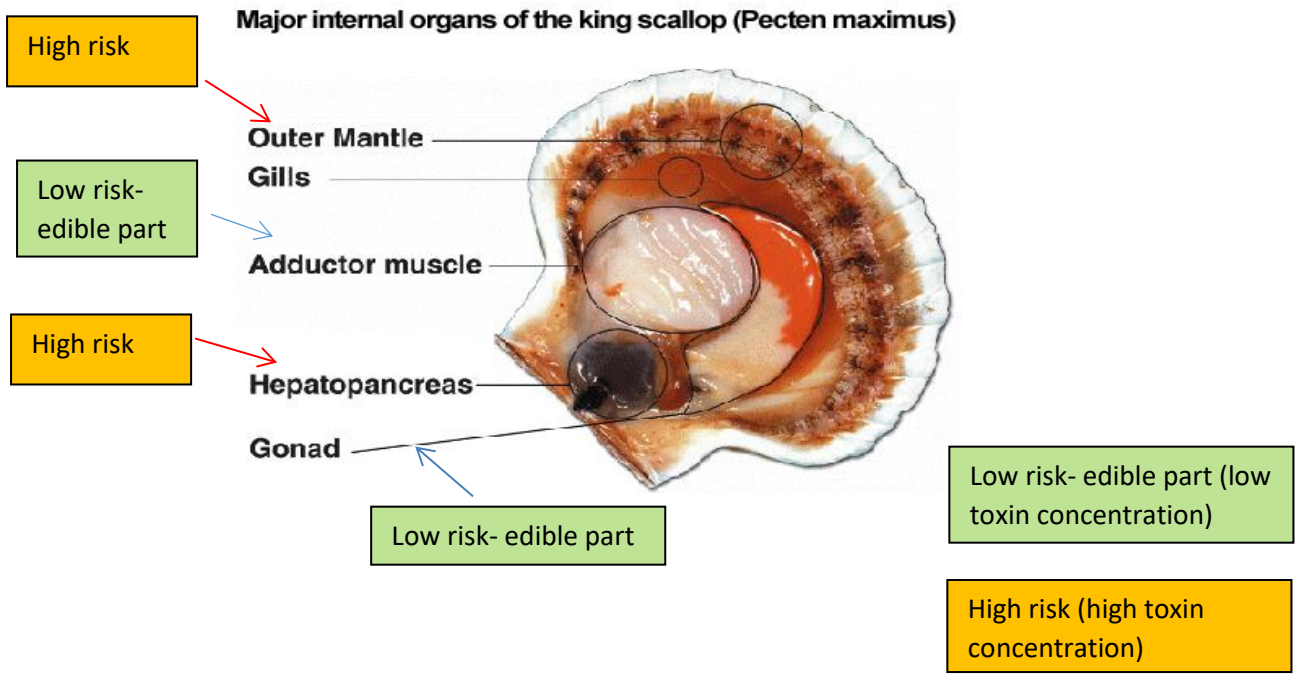


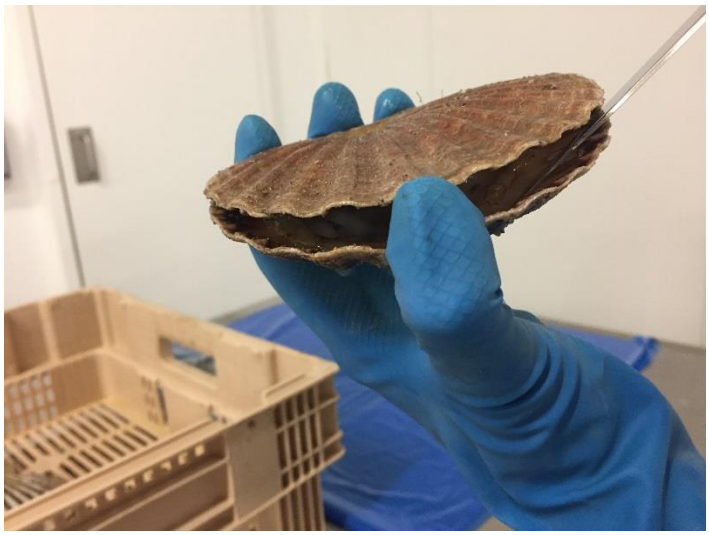
Figure 2- Whole scallop showing biotoxin concentrations

Shucking Scallops Standard Proceedure:

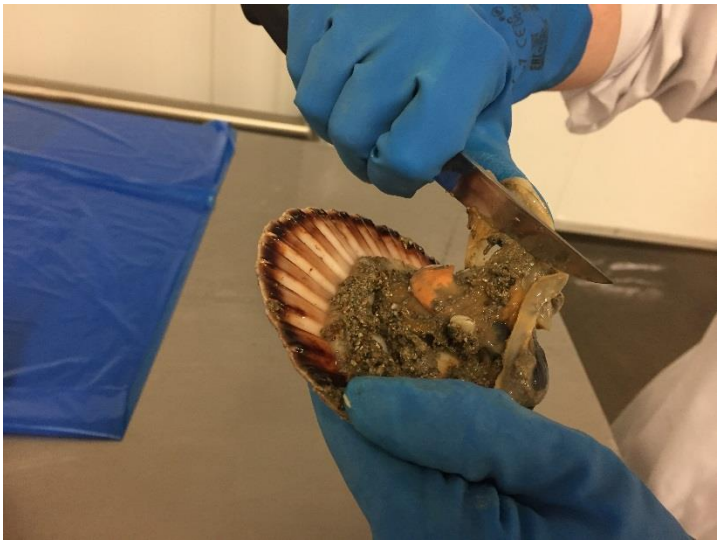
Removal of scallop meat, (Adductor muscle and Gonad combined).

1. Ensure personnel have washed their hands and are wearing gloves and protective clothing correctly
2. Ensure shucking knives are clean
3. Wash down shucking table.
4. Hold scallop with cup shell down in the non-dominat hand.

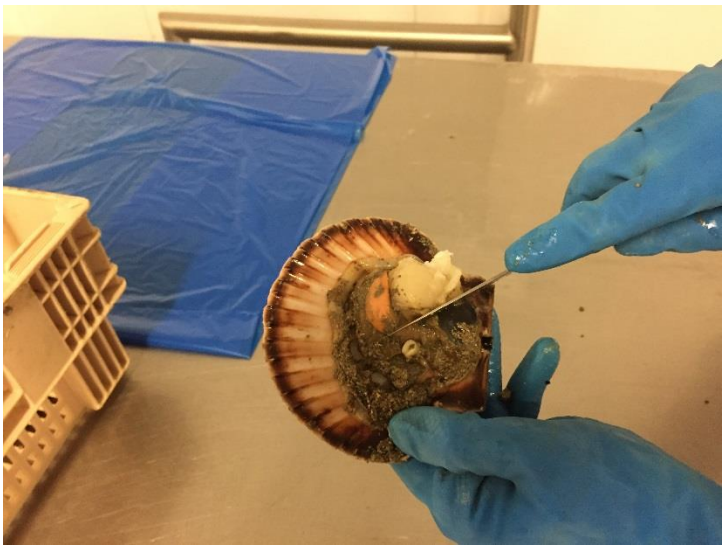
5. Holding the knife in the dominant hand, partially insert knife between the two shells and gently twist the knife to open the shells gradually increasing the twisting action to open the shells enough to permit the knife to access the base of the cup shell.



6. Slide the knife along the inside surface of the cupshell in order to separate the meat from the surface of the cupshell.
7. Once the meat has been separated from the surface of the cupshell, the cupshell will drop away easily.
8. Place the flat shell now in the non-dominat hand, and using the knife and thumb remove the excess gut at the top of the meat by hand.



9. Carefully cut away the Hepatopancreas from the meat.



10. Slide the knife along the surface of the flat shell to remove the scallop meat from the surface of the flat shell.
11. Remove excess gut and vein from the meat.
12. Ensure all gut, hepatopancreas and vein are carefully disposed of as Category 1 Animal By-product, ‘for disposal only’.
13. Inspect scallop meat for organolyptic qualities
14. Place scallop meat in a clean container for washing purposes.

15. After shucking scallops, it is essential to wash the muscle and gonad thoroughly in cool running water, in order to remove all traces of sand and mud.

16. Through out production, clean as you go and wash the knife periodically.

Video on shucking scallops

Video of rinsing shucked scallops

Important Regulatory Requirements:

The process of shucking scallops requires approval by SFPA. Further details available at: https://www.sfpa.ie/What-We-Do/Seafood-Safety/Registration-Approval-of-Businesses/Approval-of-Food-Businesses-Factory-and-Freezer-Vessels

Live Scallops can only be placed on the market for retail sale via an approved dispatch centre, and only when harvested from Classified Shellfish Production Areas on an 'open' biotoxin status for scallops.

Processed or shucked scallops may only be placed on the market for retail sale via an approved premises

For further information contact any SFPA office or contact the SFPA Food Safety Unit at 023 8859300