

Kingdom of Morocco



Ministry of Agriculture  
and Maritime Fisheries

# The Moroccan Shellfish

Consumer Brochure



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**MOROCCAN SEAFOOD**  
Naturally

# THE MOROCCAN SHELLFISH

A simply exquisite  
taste!









## Discover the Moroccan Shellfish!

Regarding fishery resources, Morocco enjoys a privileged position, bordered by the Mediterranean sea and the Atlantic ocean. Yet it is, wrongly, less known for its rich shellfish resources which flavour is worthy of the most discerning palate. With its coastal water rich in plankton and brewed by the highest tides, its unusual landscape, its climate and geographical features and vast sandy bottom, Morocco is an area particularly conducive to the development and growth of character shellfish.

By being an outcome of a historical patrimony, Moroccan shellfish benefit of water of exceptional quality, particularly favourable for their breeding. This is an asset that enhances their savour, in addition to a unique way of cultivation and treatment, and traditional and authentic collection practices have made them so successful. As a result, Moroccan shellfish have something for the sweet tooth.

### What is a shellfish?

They are molluscs whose body is covered by a shell that can have two different forms:

- A hinged shell of two valves: the case of bivalve shellfish or bivalves.
- A single shell: can be coiled, flat or conical, as gastropods.

The gastropods are characterized by a foot on which the rest of the body stand, a well developed head and a protective univalve shell, the most species present in Morocco are periwinkles, abalone, ... etc.

Mussels, oysters, shell, clam ... belong to the group of bivalves and feed on phytoplankton or organic matter.



## Special production techniques

The production of shellfish comes from the collection activity, dredging or fish farming.

The fishing techniques used targeting species are:



**Shellfish collection** : done manually in natural fields where shellfish is abundant.



**Fish farming** : breeding mussels (mussel farming) and oysters (oyster) in Morocco is based on the collection of wild hatchery, which feed on natural nutrients found in the environment (filter feeders). It is practiced via various techniques including sub-surface for the mussels and raised on metallic iron cage for oysters.



**Dredges** : machinery / reinforcement nets towed to retain the shells by flowing water, mud, and sand. Two shapes :

- Dredges towed by boat (mechanical) (in the Mediterranean).
- Dredgers hand operated (manual) (in lagoons).

## A refined production

The shell production in Morocco is around 1 400 tons, worth over 13 million Dirhams. It comes from the activity of collecting and aquaculture. The latter represents 22% of this production in volume and 59% in value, based mainly on the production of oysters which represents 85% of aquaculture production of shellfish.

## A meticulous valuing of shellfish

14 units installed in Morocco are specialized in shells packaging.

Approved by the Department of Marine Fisheries, they have implemented the HACCP (Hazard Analysis and Critical Control Point) to assess and control hazards that threaten food safety.



## Moroccan shellfish, keep you healthy !

With their delicate flavour and subtle woody scents, Moroccan shells, with their firm and crisp flesh, have a perfectly balanced taste that you shouldn't miss.

Be the judge! Consumption of Moroccan shellfish contributes to a healthy and balanced diet. They are low in calories and saturated fat, while being an excellent source of protein and omega-3 fatty acids.

Like the fish, Moroccan shellfish are good for health and provide the body with essential vitamins and minerals like iron, zinc, copper and vitamin B12.



## Morocco is a fishpond of shellfish

The Moroccan sea that is endowed with a particular landscape for growth, breeding and refining of branded shellfish, offers a wide diversity of species.

 Pacific cupped oyster : <i>Crassostrea gigas</i>	 European flat oyster : <i>Ostrea edulis</i>	 Mediterranean mussel : <i>Mytilus galloprovincialis</i>	 Common periwinkle : <i>Littorina littorea</i>
 Common edible cockle : <i>Cerastoderma edule</i>	 Warty venus : <i>Venus verrucosa</i>	 Tuberculate abalone : <i>Haliotis tuberculata</i>	 Grooved carpet shell : <i>Ruditapes decussatus</i>
 European razor clam : <i>Solen marginatus</i>	 Great Atlantic scallop : <i>Pecten maximus</i>	 Truncate donax : <i>Donax trunculus</i>	



## Zoom on remarkable shellfish

Fleshy and melting in the mouth, popular with those who like to eat well, thanks to their breeding in Moroccan waters rich in plankton, Moroccan shellfish, oyster, mussel, ..., have a delicate taste and flavours reminiscent of iodine flavours of the ocean



### Pacific cupped oyster : *Crassostrea gigas*

*Crassostrea Gigas* also called Japanese oyster, are originally from the Pacific Northwest and have been introduced into Morocco for the purpose of breeding for commercial purposes. *Crassostrea gigas* is a bivalve mollusc of brownish-gray colour with some purplish marks. Inside the shell is gray-white. It measures up to 15cm long.

### European flat oyster : *Ostrea edulis*

*Ostrea edulis* is a bivalve mollusc which measures up to 10cm in diameter. The shell of the oyster is irregular rather round, thick, with a hollow lower valve and an upper valve plate, a laminated structure and chalky. Its colour is gray to yellowish, often with dark spots or stripes. They live attached to rocks or on soft bottoms from surface to 80m deep.

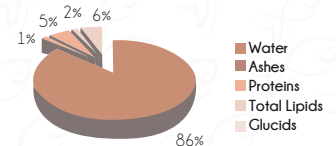


**The health side :** Moroccan oysters have restorative and therapeutic qualities indisputable. A 100g serving provides nearly eight times the recommended daily nutritional intake for an adult vitamin B12; and nearly 20% of the recommended intake of vitamin B3. It also provides vitamin A and pro-vitamin A, and vitamin E.

### **The nutritional side :**

For 100g of Oyster

Energy intake : 59Kcal





### Mediterranean Mussel : *Mytilus galloprovincialis*

*Mytilus galloprovincialis* is an own species in the Mediterranean with a blue-black shell. It is sedentary, she lives on a variety of funds (rock, gravel) or furniture (sandy, muddy). It largely enters brackish waters of coastal lagoons.

This bivalve growth rapidly as the environmental conditions up to a maximum size of 15cm, its common size is 5 to 8cm. The mussel can filter through its gills to 10 litres of water per day.

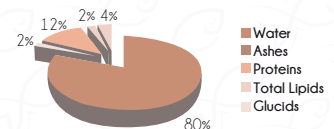
**The health side :** Moroccan mussels are rich in essential amino acids we need to make the hair proteins, skin, muscles, bones, blood and other tissues and organs.

Similarly, the mussels contain significant quantities of a sulfur amino acid, cysteine, and a product of its degradation, taurine. Both substances are major antioxidants, which help to protect against toxic and free radicals.

### **The nutrition side :**

For 100g of Mussels

Energy intake : 86Kcal



## .... Shellfish *aquaculture*

With its natural aspects (environment, climate, water quality ...), the Kingdom of Morocco has unique and specific potential of aquaculture production. With its lagoons, bays, sea or low areas in the sea, Morocco has a variety of positive and healthy areas housing several shellfish farming techniques. The main species are oysters and mussels.



Product Type : Mussels ( *Mytilus galloprovincialis* ) and ( *Perna perna* )  
Breeding techniques : Sub-surface.

Type de produit : Hollow oyster ( *Crassostrea gigas* )  
Breeding techniques : Raised on metal tables of round iron.





## How to detect the freshness of *a Moroccan shellfish?*

	Really fresh is ...	Not fresh is ...
ALIVE	<ul style="list-style-type: none"> <li>- Closed shell - Full of clear liquid</li> <li>- Heavy Seashell - Scented</li> <li>- After opening the muscle retracts.</li> </ul>	<ul style="list-style-type: none"> <li>- Open shell - Liquid Devoid and lower weight</li> <li>- After opening the muscle does not retract</li> <li>- An unpleasant smell (oil, mud, ...).</li> </ul>

## Minimal commercial **size**

Mussel	6cm	Grooved carpet shell	From 3 to 3,5cm
Great Atlantic scallop	10cm	Cockle	From 3 to 4cm
Razor clam	10cm	Smooth clam	From 4 to 5cm
Sea bean	3cm	Warty venus	From 3 to 3,5cm
Abalone	6cm	Striped warty venus	2,5cm
Periwinkle	2cm		



