

Protected food, drink or agricultural product name

# Single document for 'Pembrokeshire Rock Oysters'

GB number: F0107

A protected geographical indication (PGI)

## 1. Product name(s)

'Pembrokeshire Rock Oysters'

## 2. Country

Great Britain

## 3. Description of the agricultural product or foodstuff

### 3.1. Type of product [as in Annex XI implementing regulation 668/2014]

1.7: Fresh fish, molluscs and crustaceans and products derived there from

### 3.2. Description of the product

"Pembrokeshire Rock Oysters" *Crassostrea gigas* are farmed oysters grown and harvested in the Daugleddau estuary in Pembrokeshire from seed and part grown oysters supplied by bio-secure commercial hatcheries and producers. The specific marine environment of the Daugleddau estuary has nutrient rich Atlantic waters mixing with freshwater flowing down from the Preseli Mountains through salt marshes and seagrass beds. This imparts a distinct set of organoleptic characteristics or "merroir" to the oysters.

*Crassostrea gigas* are the main commercial species of oysters found in Europe and are a faster growing oyster compared to native oysters, reaching a minimum marketable size of 75g in 2-3 years. 'Pembrokeshire Rock Oysters' demonstrate a variation in shell morphology but typically have a characteristic teardrop or pear shape with a deeply cupped cross section with approximately a 3:2:1 length: width: depth ratio. The shell is crenulated and fluted, the left (lower) valve is deeply cupped, and the right (upper) is typically flat or slightly convex sitting within the left. The shell is pale but will take on pink pigments from its algal food giving the oyster purple or dark stripes and spots.

<i>Flavour</i>	Provides a very delicate flavour - clean 'merroir' of brine, fresh cucumber with citrus and grassy tones.  <i>Complex mineral quality on the palate with a satisfying unctuous brine taste</i>
<i>Aroma</i>	<i>Fresh sea aroma</i>
<i>Texture</i>	Clean sea mineral finish,  Combination of soft flesh and crisp muscle.

Rock Oysters are the mainstay of commercial production in Pembrokeshire and are renowned for their delicate clean "merroir" of brine, fresh cucumber with citrus and grassy tones and clean sea mineral finish reflecting the surrounding habitats and productive pristine Atlantic waters in which they are grown.

Rock Oysters from Pembrokeshire are available all year round due to modern aquaculture practices adopted by local growers.

'Pembrokeshire Rock Oysters' are a sought-after delicacy commanding a premium price on restaurant menus, compared to mass produced volume oysters. 'Pembrokeshire Rock Oysters' are a low volume /high value product, mostly eaten fresh and raw with a few drops of a condiment such as lemon juice, tabasco or mignonette dressing. Larger oysters are often served hot from the grill with any number of toppings such as the famous Rockefeller mix of spinach and bacon, or simply with garlic butter and herbs.

### **3.3 Feed (for products of animal origin only) and raw materials (for processed products only)**

N/A

### **3.4. Specific steps in production that must take place in the identified geographical area**

'Pembrokeshire Rock Oysters' are grown and harvested in the Daugleddau estuary in Pembrokeshire.

If harvested in Class A waters – purification is optional

If harvested in Class B waters – purification is obligatory

The Purification process does not have to take place in the geographical area.

### 3.5. Specific rules concerning slicing, grating, packaging, etc. of the product the registered name refers to

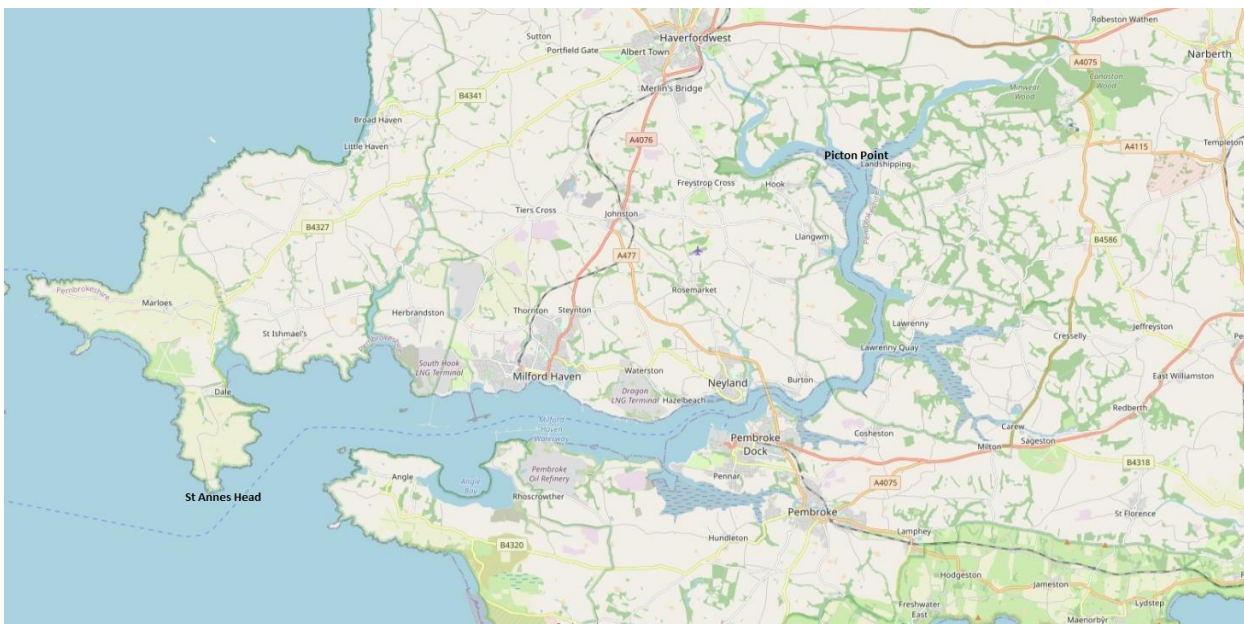
N/A

### 3.6. Specific rules concerning labelling of the product the registered name refers to

N/A

## 4. Concise definition of the geographical area

Pembrokeshire Rock Oysters are farmed in the tidal waters of the Cleddau estuary between St Annes Head in the lower estuary and Picton Point in the upper estuary.



## 5. Link with the geographical area

Oysters are influenced by their environment and as a product express a lot of this “merroir” through their flavour.

‘Pembrokeshire Rock Oysters’ can only be farmed in the tidal waters of the Daugleddau estuary between St Annes Head in the lower estuary and Picton Point in the upper estuary.

### Geography

The provenance of 'Pembrokeshire Rock Oysters' is the key factor in influencing their form and flavour profile. "Merroir" is a term used in the context of oysters that mirrors the concept of "terroir" in wine. It refers to the idea that the flavour of oysters is significantly influenced by the environment where they are grown. This includes the composition of the water, the types and quantities of algae and other foods available, the salinity and mineral content of the water, the water temperature, and other environmental factors. Just as terroir affects the taste and characteristics of wine, merroir affects the taste and texture of oysters

Daugleddau estuary and rivers of the Western and Eastern Cleddau make up a complex region of tidal river estuary, with numerous branched side channels containing mudflats and saltmarsh. Upper estuary waters cut through a complex ancient geology picking up mineral elements of Bluestone, Old Red Sandstone, Carboniferous Limestone and Millstone Grit. The surrounding rolling grassy hinterland is interspersed with stretches of steep rocky shore, with mixed and ancient woodland to the water's edge with numerous streams bringing elements of these habitats to the estuary. Downstream the waters pass through Grey and Red Sandstones and flow over sandy seabed towards the mouth of the estuary. The deep outer estuary west of Pembroke Dock is a large sheltered drowned ria (ancient river valley). The mouth of the estuary is exposed to the open sea with strong tides and currents. This contrasts with the sheltered bays at Dale, Angle Bay, and creeks such as Sandy Haven Pill. The surrounding low rocky seaweed covered shores give way to high cliffs at the seaward most extent. The complex mix of trace elements transported by the estuary waters are considered to contribute to the "merroir" of 'Pembrokeshire Rock Oysters' described as having a complex mineral quality on the palate with a satisfying unctuous brine taste.

The 'Pembrokeshire Rock Oyster' growing areas benefits from the turbulent mixing of clean and nutrient rich Atlantic seawater, brought twice daily by the large tides, with the sweet waters of the Daugleddau estuary. This circulation of water in the deep estuary produces an environment with a distinct mix of salty sea water and river water. It is in this area, where the salt water from the sea mixes with the fresh water from the East and West Cleddau rivers, that form the main oyster farming areas.

The marine environment of the Daugleddau estuary where nutrient rich Atlantic waters mix with freshwater flowing down from the Preseli Mountains through salt marshes and seagrass beds imparts a distinct set of characteristics or "merroir" to the oysters. Contributing to the oysters 'delicate clean' merroir' of brine, fresh cucumber with citrus and grassy tones *with complex mineral quality on the palate.*

Oysters are filter feeders and are wholly reliant on local sources of planktonic food. This food is predominately phytoplankton (marine single celled algae) and Particulate Organic Matter (POM) such as microscopic seagrass and seaweed fragments.

There are significant but predictable fluctuations in planktonic food availability. These are influenced by seasonal changes in temperature, sunlight hours and climatic conditions such as rainfall around Pembrokeshire. Typically, there is a spring bloom of phytoplankton which, with warming seawater temperature, triggers and supports growth in the oysters.

Phytoplankton production plateaus over the summer and is followed by a further autumn bloom in the later summer months. Particulate Organic Matter (POM) varies throughout the year but POM originating from the surrounding seagrass beds and intertidal seaweed is thought to be higher in the autumn and early winter as the deciduous seagrass shed their fronds and stormy weather breaks up the seaweed stands.

These local food sources impart over the life of the oyster a complex variety of delicate flavours to the flesh and can even influence the colour of both flesh and shell.

The Daugleddau estuary forms part of the Pembrokeshire Marine Special Area of Conservation (SAC) and a large part of the catchment forms the Cleddau Rivers SAC and as such are routinely monitored for quality by Natural Resource Wales. Seed and part grown oysters are supplied from commercial hatcheries. Pembrokeshire Rock Oysters are then grown wholly within a series of biodiverse and rich SAC's and Site of Special Scientific Interest's (SSSIs.)

### **History –**

The strong link between the designated area and oysters is evident from historical records with oyster fisheries until the early 2000s an important shellfish industry in South Wales.

The farming of 'Pembrokeshire Rock Oysters' has been carried out in the Daugleddau estuary from the 1980s prompted in response to declining wild native oyster numbers and a strong market demand for premium oysters. 'Pembrokeshire Rock Oysters' were farmed in large numbers at sites in Beggars Reach and Creswell Quay in the upper estuary during the 1980s and early 1990s. These farms were forced to close after the Sea Empress oil spill in February 1996 and sadly much of the local oyster related food culture was lost until recently.

The 'Pembrokeshire Rock Oyster' is at the heart of a revival in Pembrokeshire with a new farm starting production at Angle Bay towards the seaward end of the estuary in 2018. Current production is close to 200,000 oysters per year, and these are a fixture on restaurants in the region and are the centre of oyster festivals at local pubs.

### **Knowledge and Skill Base**

#### **Human Factors**

Best practice in oyster growing has developed with changing attitudes to how farmers work with the natural world. Oyster farmers have developed novel approaches to growing Pembrokeshire Rock Oysters which means that their operations have the lightest of touches on the marine environment. These considerations mean that production is relatively small compared to other more industrialised production areas in Europe. Large volume producers in Ireland and France benefit from economies of scale but require correspondingly large spatial footprint on the shore and high levels of mechanisation with the use of tractors and machinery on the shore. Farming oysters in sensitive sites in Pembrokeshire, where all areas of shore are highly protected, require a different business model based upon high-quality low volume production which enables the use of less mechanisation and smaller low-impact vehicles and adopting a smaller spatial footprint

which reduces potential impacts to shore habitats. Growing oysters in the estuary requires a particular set of skills as the oyster producers need to understand the biology and ecology of their oysters, the natural cycles of both oyster and the wider environment, and then be able to apply that understanding to their stock husbandry and operations which themselves are dictated by tide, wind and weather.

Safe working in an estuary with one of the highest tidal ranges in the UK requires an intimate understanding and awareness of the sea and how the weather can influence its behaviour. This depth of understanding can only be learned on the job and through experience passed on to new entrants.

## **Sustainability**

Oyster farming is considered to be the leading form of Restorative Aquaculture and provides a suite of ecosystem services to the environment leaving it in comparatively better condition. Oyster farming provides important ecosystem services, including water filtration, as oysters efficiently remove pollutants and excess nutrients, improving water clarity and quality. Additionally, oyster farming creates habitats for a variety of marine species, enhancing biodiversity and supporting coastal ecosystems. The comprehensive licencing system requires that all oyster farming carried out in the estuary are subject to extensive Habitat Regulation Assessments. This ensures that farm management and operations address risk to sensitive habitats and species.

## **Reputation**

The use of the name 'Pembrokeshire Rock Oysters' as a quality product is well established and highly recognised by the food industry both regionally and nationally among fishmongers and restaurants. It is used by chefs who value their quality and unique merroir, and regularly appears as a named ingredient on their menus. Renowned restaurateurs and agri-food businesses have demonstrated their preference for these oysters as shown below.

There is high demand for 'Pembrokeshire Rock Oysters' with chefs sourcing them for specialist restaurants around the UK.

Quotes:

### **Pembrokeshire Rock Oysters**

*"Pembrokeshire Rock Oysters' have many fantastic qualities with a **strong cucumber aroma** and a delightful salty, **complex mineral quality** on the palate that reflects the quality and purity of our coastal waters".*

Fred Clapperton (Executive Chef, Coast, Saundersfoot)

*"Pembrokeshire Rock Oyster's most striking attribute is their delicate flavour profile; they literally taste unbelievably **'fresh'**. Why? these oysters have grown in an area with an enormously dense amount of sea grass, providing citrus and grassy overtones. For anyone who's had a **Gin with cucumber**, this is almost exactly what they taste like. There's none of that metallic after taste or even overt saltiness. Exactly like the waters they're in – they're just beautifully **pure**"*

Ben King (Pesky Fish, London)

## **Awards**

### **Great Taste Award 2022**

'Pembrokeshire Rock Oysters' were awarded a Great Taste Award (2 Stars) in 2022 and were the only oyster awarded in that year.

Judges' comments:

"Wow! Fresh briny, seaside loveliness. Ozone saltiness with a clean mineral abundant flavour that transports you to the coast. Lingering sweetness on the palate with, as you say a delicate cucumber delicacy that is just stunning. Divine, clear water. Your description is perfect - we are left with a gentle brine note which balances with the cucumber and sea minerals to lift the palate and put a smile on your face! Exquisite."

"What a beautiful description to accompany such majestic-looking huge oysters! There is a beautiful ozone aroma. On tasting the saltiness hits first then the creamy sweetness with a hint of citrus and yes, that cucumber develops on the finish. You feel you are eating a bit of the ocean."

"It's always a pleasure to try fresh oysters, and these are lovely, full of mineral seawater flavours with a hint of the fresh air of the Pembrokeshire coast."

ENDS

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