

Dutch fish: a source of vitamins and minerals

It is common knowledge that fish is an important source of unsaturated fats. These fats are good for the heart and blood vessels. A lesser-known but equally important fact is that fish also provides a considerable number of vitamins and minerals.

Our bodies require vitamins and minerals in order to be able to function properly. These vitamins and minerals protect us against chronic disorders and diseases that we may develop if we suffer from a certain deficiency, such as anaemia as a result of an iron deficiency. Fish is an important source of vitamins and minerals, in some cases even more so than other foodstuffs. This is why fish is extremely suitable as part of a healthy diet.

Minerals

Fish is one of the few foods that contain natural iodine; mussels in particular contain a relatively high level of iodine. Our bodies need this mineral to ensure that the thyroid is able to function properly. This gland plays an important part in growth, metabolism and the development of the nervous system.

Fish is a good source of selenium, a mineral and anti-oxidant that is primarily active in the liver and protects red blood corpuscles and cells against damage. Selenium also detoxifies heavy metals that act as poisons in our bodies. Like iodine, selenium is important for the functioning of the thyroid, and it may also help prevent cancer of the prostate.

Zinc plays a part in various physical processes such as building up proteins, tissue renewal, metabolism and the functioning of the immune system. Zinc also plays a part in taste, smell and sight and is mainly found in crustaceans and shellfish, such as oysters.

Fish is good for our teeth as well, since it is one of the few foods that contain natural fluoride. Fluoride also helps to build strong bones.

Fish is rich in chromium. This mineral regulates the cholesterol level in the blood and works with insulin in assisting cells to take in glucose and release energy.



Vitamins

Fish is packed with important vitamins, particularly Vitamins A, D and B12. Vitamin A is primarily found in fatty fish like herring, eel and mackerel, and also in crustaceans and molluscs. Vitamin A performs various functions in the body: it is important for good eyesight, healthy skin, growth and resistance to disease. Fatty fish is also an important source of Vitamin D, which is essential for strong teeth and bones. Fish contains various B vitamins, especially Vitamin B12, which is necessary for the formation of red blood cells and the proper functioning of the nervous system.



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Colophon

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Dutch Fish  Marketing Board

Publisher and editor
Dutch Fish Marketing Board
PO Box 72
2280 AB RIJSWIJK, the Netherlands
Tel.: + 31 70 - 33 69 655
Fax: + 31 70 - 39 52 950
E-mail: info@dutchfish.nl
Website: www.dutchfish.nl

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Fish News

Innovations in Dutch fish farming

Dutch fish farming has been considerably on the move during the last few years. New production methods and species of fish are being introduced. A species of tropical prawn will soon be farmed near Rotterdam for the first time in Europe, while the Australian barramundi fish will be farmed just outside the city of Groningen. Two topical and promising initiatives on the Dutch fish farming scene.

Happy shrimps

The first larvae of the Pacific white shrimp (*Litopenaeus vannamei*) will be released at the Happy Shrimp Farm at the end of 2006. These prawns are ready for consumption after six months: they then measure 18 centimetres in length and weigh 40 grams.

The farm aims to produce 30,000 kilos of fresh prawns a year, which are intended for the top segment in the catering industry in the Netherlands and Belgium. There are also plans afoot to expand by building more of these fish farms elsewhere in Europe in the long term (e.g. in Germany).

The Pacific white shrimp thrives best at a water temperature of 30 degrees Celsius. In order to be able to farm a tropical prawn profitably in a cold

The Minister of Agriculture, Nature and Food Quality officially opened the Happy Shrimp Farm in September 2006. According to the Minister, cooperation within and outside the chain helps to achieve innovation.

country like the Netherlands, the Happy Shrimp Farm is in close collaboration with the neighbouring power station: the surplus heat from this power station is used to heat the salt water at the farm. This is a sustainable co-production with advantages for both parties.

Prawn larvae for farming are flown in from the Dominican Republic, Aruba and Thailand. The larvae are kept in quarantine for one month and examined for any viruses before they are released into one of the 24 basins. The conditions of these



Freshness
from
Holland

Index

Innovations in Dutch fish farming 1

Dutch cockles for the Southern European market 2

Seawolf, unsightly but tasty 3

Dutch fish: a source of vitamins and minerals 4

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basins are intended to contribute to optimal growth and the combating of disease. Due to personal convictions, the prawn farmers absolutely refuse to use any medicines whatsoever on this farm.

This is the first time that European consumers will be able to taste fresh tropical prawns. Up to now, this crustacean has always been imported frozen from Asia, for instance, or from various countries in South America. But this is a fresh product,

Continued on page 2

which is why it is more expensive than the frozen variety. The fresh prawns also have a different flavour and softer texture, and are easier to peel.

Exclusive barramundi

The first farm for the tropical barramundi fish on the European continent was recently opened in the north of the Netherlands. With this fresh and exclusive product, the Barramundi Farming Company is focusing on the top segment in the catering industry. The idea is to start off with a production of 70,000 kilos of fresh fish for the Dutch market, and there are plans to expand the farming of this exotic fish into other parts of Europe in due course.

The barramundi has already been successfully farmed in Australia for several years using a closed recirculation system. This means that the water in the farm is purified using biofilters, for example, and is used again and again. This small-scale and sustainable approach is extremely suitable for profitable fish farming in the Netherlands.

In order to make a success of barramundi farming in Europe, the Dutch Barramundi Farming Company works closely together with Cell Aquaculture LTD. This Australian partner not only possesses the necessary knowledge and experience, but it also supplies the fry.



The closed recirculation system provides optimal conditions for farming the exotic barramundi. The fry is still imported from Australia, although there are plans to establish a spawning ground in the Netherlands in due course.

This fry is transported by plane from Australia to the Netherlands. After they arrive at the farm, the larvae are placed in small dishes where they can acclimatise and are minutely examined for diseases before being transferred to one of the 16 cultivation basins. The development of the fish is continually and carefully monitored. Observations, measurements and research are employed in order to achieve optimal living conditions. No medicines are used on this fish farm either.

The barramundi grows at a fast rate: the fish is ready for consumption after eight months. It is a firm-fleshed white fish with few bones and lends itself to various methods of preparation. The price of this fresh farmed barramundi is about the same as that for sole. It has a mild flavour, and culinary experts say the flavour is even better than that of wild barramundi.

The Australian Ambassador officially opened the farm on 1st November. The first fresh fish will be delivered to the catering industry in December.



Freshness from Holland

Meet Mariëtte Vermeer



Although I would very much like to meet you all personally, this would be rather difficult in practice. So I will introduce myself briefly on paper first. After sixteen years, Tilly Sintnicolaas has handed over

to me, and as the new director of the Dutch Fish Marketing Board, my job is to lead a team of experts who devote themselves daily to making you familiar with Dutch fish.

My career in the food sector started in the 1990s, when I set up a cookery theatre. This was a new initiative at the time, intended to teach people to cook using all the fabulous products from Dutch agriculture, horticulture and fisheries. Following this, I worked at Villeroy and Boch in the sales and public relations department. This involved a wide range of activities, varying from managing an international sales organisation to creating and maintaining international media contacts. For instance, I organised press trips and events for clients, and also participated in various home decorating programmes on television.

And now I am back in the food sector, and very happy to be here! First of all, I love fish: it is a delicious and healthy product. At home we eat fish at least three times a week. Not only that, I find the fish sector fascinating. The Netherlands has many different kinds of fisheries, ranging from trawling to cockle-fishing. The selection of fish distributed worldwide by the Netherlands is enormous and is still increasing, partly as a result of intensified fish farming in our country. All developments in our sector are closely followed by the media, government authorities, social organisations and, of course, consumers. And rightly so: after all, fish forms part of our diet. In response to developments on the market, the fish sector is devoting more and more attention to socially responsible fish production, including such aspects as ecology, animal welfare, food safety and quality assurance.

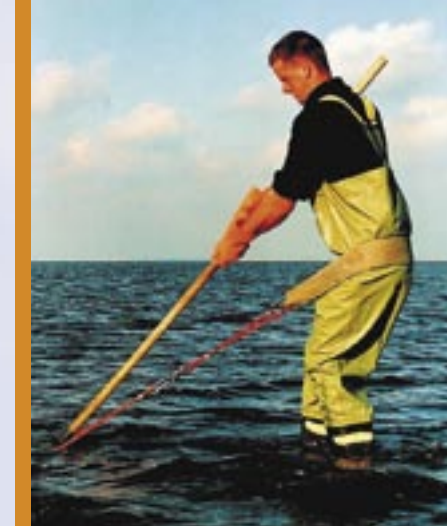
The Dutch fish sector is a dynamic environment in which people do their very best to ensure production of sustainable, healthy and delicious fish from Holland. I'm very much looking forward to contributing to this.

Mariëtte Vermeer
Director

This autumn, the mechanical cockle fishers are allowed to fish again for the first time in several years. A fishery foreman says: "That is a relief for the sector. But we will not be able to land the fixed quota of 2,100 tons of cockle meat in the Oosterschelde and 88 tons in the Voordelta. We started fishing too late to be able to reach the quota, and besides, we do not touch cockle beds with small cockles or breeding places so as to build up reserves for next year." The cockles landed by the mechanical cockle fishers are processed and exported as canned and bottled goods to Spain and Italy.

Manual cockle fishers

The Netherlands has 20 licence-holders for manual cockle fishing. These fishers land between 200 and 400 tons of cockle meat annually, especially from the Wadden Sea. The cockles are high-quality and most of them are exported fresh to France.



Two types of cockle fishery

Two types of cockle fishery are practised in the Netherlands. In the mechanical cockle fishery, suction nets are used to get the cockles on board ship. The cockle fisher can land about 30 tons of fresh cockles daily (4.5 tons of meat). Manual cockle fishers sift the cockles out of the sea bed using a rake with a net attached. These cockle fishers collectively land between 200 and 400 tons of cockle meat each year.



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Cultivation

Although the sector's response to the resumption of cockle fishing is a positive one, cockle fishers still need to look to the future. This is why a number of initiatives to devise profitable cockle cultivation are being taken in the Netherlands at the present moment.

Dutch cockles for the Southern European market

Until recently, the Netherlands was one of Europe's major cockle producers. However, due to stringent regulations for nature conservation and the political decision to permit the extraction of gas in the Wadden Sea while prohibiting mechanical cockle fishing, landings of cockles have decreased considerably over the past few years.

Each spring, marine biologists draw up an inventory of the cockle population in various Dutch coastal waters. The annual quota for the cockle fishery is determined on the basis

of these population surveys and of the food reservation regulations.

Continued on page 3



Seawolf, unsightly but tasty

The seawolf is delicious to eat, even though it is no beauty. It looks pretty dangerous with its wide mouth full of sharp teeth, which it uses to crack molluscs and crustaceans open. This unusual diet helps to give the seawolf its delicate flavour.

In the past, seawolf was not caught very often and was rarely eaten. Even nowadays, the percentage of seawolf in the total catch is still low. The seawolf lives in the northern part of the Atlantic Ocean: from Greenland and Spitsbergen to Cape Cod to the west and the French coast to the east. It also lives in the North Sea. In the Netherlands, the fish is primarily landed as a secondary catch during the flatfish fishery. Seawolf is also imported from Germany, Norway and Russia: nowadays it is also cultivated in the latter two countries.

A mouth full of teeth

A fully-grown seawolf (*Anarhichas lupus*) can measure more than one metre in length. It has a dark bluish-grey back, while its flanks and belly are greenish-brown with vertical black bands. The striking-looking spotted seawolf (*Anarhichas minor*) can grow even bigger. The seawolf looks rather ugly with its big mouth full of sharp molars and incisors. These teeth are used to crack open hard materials such as shells, since seawolves are fond of eating sea urchins, crabs and molluscs.



Supply

Seawolf is especially popular in the catering industry because of its exceptional and extremely distinctive flavour. Thanks to the finely-structured flesh, it does not disintegrate easily and is suitable for various methods of preparation.

Seawolf is often sold in fillets and steaks because the skin is difficult to remove. Since the fish has been skinned, one cannot easily see whether the fish is the spotted variety or not, but this makes no difference as far as the flavour is concerned.

Seawolf is obtainable all year round. Although regular landings are made, the number of fish caught is never excessive, which makes the fish

Climber

The scientific name *Anarhichas* means 'climber'; people in the Baltic region believe that the seawolf climbs up the rocks.

– both fresh and frozen – an exclusive item. Seawolf is at its best in the summer, when its fat content is highest.

Keeping

Compared with other species, seawolf keeps well, although a smell of ammonia is a sign of a lesser degree of freshness.

