



SKREI, Marvelously Norwegian!



Norwegian Arctic Cod migration from the Barents Sea to Norway's coastline.

Once a year, something wonderful happens in the Barents Sea. Each year during the months of January and February, the Norwegian coastline becomes the scene for one of nature's most magnificent events. Out of the enormously fertile feeding waters of the northern Barents Sea, the migrating codfish come in the millions heading for their spawning ground along the wintry coastline of Norway - to carry their species into the future.

The majority of these fish - the Norwegian Arctic Cod, or *Skrei* as the mature Arctic Cod are called in Norwegian, are heading for their final destination in the ocean waters near beautiful and fascinating Lofoten - about 400 kilometers south of the Arctic Circle in Northern Norway. Some of these wander as far south as the coastal town of Stadt. The Norwegian Arctic Cod that is found in the Barents Sea needs about five years to reach adulthood. The fish is then sexually mature, and strong enough to take the long journey from the northern seas back to the Norwegian coastline. The Norwegian Arctic Cod, hereafter called *Skrei*, is a codfish at its best age, full of energy and fertility.



Skrei - born for love

A splendid spectacle takes place each year, when millions of these cod meet in the springtime for courtship. The oldest and grandest cods arrive first, most likely being the females. It is only later that the males dominate. The males and females swim together in tightly packed masses doing circles around one other at determined depths below the grey-blue waves of the sea, anywhere from 50 to 200 meters deep. The temperature of the water here is between 4 and 6 degrees Celsius. The male is on a constant search for a partner. When the male has finally been accepted by one of the females and found his mate, they carefully lay their heads together and swim - SKREI® Facts- 2 away. Slowly at first, then gradually faster and with more intensity, belly-to-belly. Soon after, millions of codfish eggs are fertilized and the biological life cycle begins a new rotation. A large female can actually spawn as many as 5 million eggs within a 2- month period.

The fertilized eggs - each one weighing less than 1 milligram - float to the upper water layer and drifts slowly with the coastal ocean current to the north. A tiny microscopic fetus develops after 3 weeks - a larva - that has to take care of itself by subsisting on planktonic organisms growing in the sea in springtime. At some time during the autumn season, each one of these relatively few but lucky fish - the one's that won the biological lottery for survival - has developed into a pointy little codfish 8-10 cm in length. The young cod has thus drifted as far north as possible, to areas along Norwegian coastline. Later, the fish dives down into the deep, heading for its feeding waters in the northern sea. Here, it lives in waters of one of the planet's richest oceans, an environment clean and cold, untouched by pollution from cities and industries. Here it stays for at least 5 years until it is mature, before returning to its spawning waters to the south. In the meantime, the cod may take a trip to the northernmost areas along the Norwegian coastline during the early summer, to pig out on its favorite meal - capelin.

Necessary conditions for the codfish growth period

Some broods of Skrei become strong and healthy, while others grow up weak. Norwegians and researchers alike are constantly asking the question, "Why are there such fluctuations in yearly broods?" There are many factors at play here. The most significant condition for a good brood is, to all appearances, the larva finding food at - SKREI® Facts- 3 the moment it has used up its little bag of provisions carried in the egg yolk from birth - when it is ready to open its little mouth for the very first time. If the little cod does not have an abundant and available supply of plankton from the very beginning, it dies within a few weeks. Therefore, the conditions in the little cod's environment during the first weeks of life decide whether many years later will be a good year for Skrei broods. If plankton grows in the seas at the same time and place as the Skrei larvae open their mouths for the first time, the brood year will be a good one. If the plankton growth is poor at that time and place, the brood year will be weak.



Photo: Eiliv Leren, Rights: NSEC

Skrei's characteristics

The spawning Norwegian Arctic Cod is called "skrei" in Norwegian. The name comes from an ancient word for "walk": "å skreide fram" means to stride forward - addressing the migratory journey that the codfish make each year. Photo: Eiliv Leren, Rights: NSEC Skrei is a separate species of codfish. Namely, the Norwegian Arctic Cod, with the Latin designation *Gadus morhua*. It is differentiated both genetically and in appearance from the coastal cod, by being longer and more sharp-nosed in form, and having a lighter coloration of the skin. Moreover, it wanders across great distances, and keeps to the Arctic waters as its place for growing up. The coastal codfish live a more stationary existence along the coastline, as its name implies.

Skrei and the Norwegians

The Norwegians have harvested Skrei in all its richness through all time. Great portions of the national economy have always been devoted and dependent on the existence and arrival of the yearly catch. It has always been difficult to predict exactly when, where, and in what quantities Skrei will appear in along the coast.

The Skrei's great significance has contributed to making cod fishing one of the best organized and most strictly regulated fish industries. The first regulatory controls on - SKREI® Facts- 4 fishing came to Lofoten in 1816. A separate fishing inspectorate still enacts controls on the fishing industry in Lofoten, assuring that fishing does not begin before the designated hour every day. The waterways to be fished are divided into areas according to what type of fishing equipment the anglers use. The most commonly used equipment is the hand-line, long-line, fishing net, and the Danish seine. Some types of equipment are totally forbidden in Lofoten. The reason for this is, of course, to ensure a healthy growing stock of Skrei, for our own enjoyment and for future generations.

Production

Northern Norwegians have adapted their lives to the yearly arrival of Skrei throughout all of their history - developing production, trade, and food traditions in relation to the great abundance of this fish blessing coastal waters every year. Skrei is brought to land in Northern Norway in the winter, when the air is cold and dry. Fresh Skrei is best before it has spawned. Their strong muscles give large and fine filets. After spawning, the cod become leaner, and the water content of the muscles increase. The Skrei is then best suited for drying. After drying the Skrei is called Stockfish.

During the high season, when Skrei is most plentiful, the city of Lofoten offers the fishermen a gigantic outdoor drying plant. Had the fish come later in the year, when the air is warm, the codfish would need to be preserved by salting, just as the Spanish and Portuguese taught the Norwegians. The split, salted and dried cod, called klippfish, is certainly a delicacy as well; for example, when it is prepared as bacalao. However, salt was in short supply in earlier times, and very expensive. When the English say salary or the French speak of their salaire, they are actually using the word *SALT*. With this, one understands that salt was once so valuable that it once was used as a means of payment. Because of this, it was very fortunate that the Skrei came to land at the time of the year it did, which suited outdoor air-drying techniques without using salt. If the Skrei came to the waters of Lofoten earlier in the winter, it would freeze on the drying rack.



Fresh Skrei are put on drying racks to produce Stockfish. Photo: Jean Gaumy, Rights: EFF

Stockfish is one of Norway's oldest exports and has since the Viking age connected Norway to the European trade networks. Modern times has brought the Norwegians new and efficient means of transport, which gives the possibility to ship fresh Skrei to the European markets shortly after the fish has been caught on sea. Today is both fresh Skrei, Stockfish and Klippfish the basis for Italian, French, German, Spanish and Portuguese food traditions at an elevated gastronomic level.



Photo: Petter Berg. Rights: EFF

A natural delicacy

Just as the French look forward to their *Beaujolais Nouveau* each year, the Norwegians await the year's first *Skreimølje*, made from separately boiled fresh Skrei, its liver, and its roe. As well as being the gastronomic high point of the year, *Mølje* has given the Norwegians an important nutritional food. *Skreimølje*, with its Skrei, liver and roe, gave the Norwegians the necessary yearly guarantee of vitamin D needed to avoid sicknesses associated with a lack of vitamin D before they started traveling to sunny Southern Europe. Besides, *Mølje* ensured the northerners additional fat-soluble vitamins and other essential fatty acids that made everybody strong and healthy. The meat, liver, and roe from Skrei became available at a time of year when the need was greatest to sun-famishing northerners.

Fresh Skrei creates possibilities for a rare culinary experience. People living all along the Norwegian coastline appreciate skrei for its delicate and nourishing food values, through its long cultural history.

The traditional Norwegian preparation is simple; Skrei meat, liver, and roe (each in its own casserole) soaked tender by boiling in lightly salted water - and served with boiled potatoes. The delicacies of this solid yet delicate white Skrei meat are gaining widening appeal, and many regional and international specialties are based on its unique quality as a raw food base.

Skrei is one of the leanest fish we have - because it stores superfluous fat in its liver, not in its muscles. It is rich in protein, vitamins, and minerals - a healthy, wholesome food.

Nutritional Value of Skrei	Fat (g/100 g)	Carbohydrates (g/100 g)	Protein (g/100 g)
Fillet / slice	0.3	<0.1	18
Roe	1.7	0	24.3
Liver	60.3	0.7	6.2

All numbers in g/100 g are from fresh samples. More nutritional information and facts are found at www.nifes.no/sjomatdata.



Illustration: Kaare Espolin Johnson, Rights: NSEC

All Norwegian Arctic Cod marked with this SKREI® brand is packed according to a highly defined grade label standard. The brand assures that those fish used are true Norwegian Arctic Cod, full-grown and of spawning age (of the species *Gadus morhua*). The fish are only to be caught during the winter season (from the first day of January until the last day of April) in the traditional spawning grounds along the northern Norwegian coastline.



The SKREI® brand - guaranteeing the best quality product

The official quality standard for SKREI® was ready at the start of the fishing season in 2006. The SKREI® standard is the first to be used in a new series of grade labeling for Norwegian seafood products.

The SKREI® standard states that SKREI® is packaged within 12 hours of catching and stored on ice at a temperature between 0° and 4 ° Celsius. Whole, fresh SKREI® is to have the SKREI® brand fastened to the forward dorsal fin, resting in a box with the SKREI® brand on the sidewall. Filets and slices of SKREI® are to have the brand pasted on the outside of the wrapping. This quality assurance brand ensures predictability for the consumer, presenting possibilities for profiling the excellent quality of the product to customers. An independent Certification Agency will control and assure that everyone participating in this voluntary arrangement maintain the fixed norms and qualities of the product.

Why buy SKREI® ?

- Skrei is a seasonal product. From January to April, the cod reaches its prime time of the year.
- Meat from Skrei has extra muscles, is of good consistency. This makes Skrei easy to prepare, looks delicious, and tastes incredibly good.
- Skrei trimmings - such as liver, roe, tongue, and jaw - make this product truly special. It is a true luxury for gourmets.
- Skrei is rich in protein, vitamins, minerals, and is a healthy and wholesome food.
- The SKREI® label assures that the fish is caught, packaged, and conserved according to stringent criteria, guaranteeing fresh SKREI® products of the highest quality.

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