

the japan times

SCALLOPS SPECIAL

THE BEST OF JAPAN



INDEX

Sustainable aquacultureB2
 Global reachB3
 Healthy eatingB4

Hokkaido's large, juicy scallops are one of Japan's best-known products. DOGYOREN

This supplement is sponsored by
the Hokkaido Federation of Fisheries Cooperative Associations.

Head Office: Ichibancho-Daini-TG Bldg., 2-2 Ichibancho, Chiyoda-ku, Tokyo
Advertising (Media Solutions) Tel: 050-3646-8421
Email: jta-media-solutions@japantimes.co.jp Web: www.japantimes.co.jp

SUSTAINABLE AQUACULTURE

SUPREME SCALLOPS

HOKKAIDO: HOME TO THE KING OF SHELLFISH

Hokkaido's sustainably cultivated scallops are rigorously vetted for enjoyment in a variety of dining settings

Hokkaido produces around 80% of Japan's *hotate* (scallops) in a variety of forms, from raw and fresh in the shell, tender and sweet, to carefully preserved and brimming with umami. This island ships out hundreds of thousands of tons of the shellfish every year. Evidence of scallop consumption here stretches back around 5,000 years. Once just gathered, they are now sustainably farmed.

Scallops are generally regarded as the healthiest of seafoods, and are often called the "king of shellfish" because they are rich in nutrients, including iron, vitamin B12, and amino acids glycine and taurine. The glycine aids in sleep, taurine provides an energy boost, while iron speeds oxygen to the body and vitamin B12 helps it regenerate red blood cells. Amino acids are the source of all that umami flavor. They're also low in fat and high in protein.

According to industry expert Yoshihisa Kawasaki, director at the Hokkaido Federation of Fisheries Cooperative Associations (Dogyoren), Japan's primary production areas are in the Sea of Okhotsk and the Nemuro Strait to the north, the Sea of Japan to the west and Funka Bay in the south. Three powerful sea currents — the Soya, Tsushima and Tsugaru — sweep in plankton and other small sea organisms for the scallops to feast on.

Kawasaki said: "Two methods are used to raise scallops — seabed ranching and dredge cultivation and hanging cultivation. The first is primarily used in the Sea of Okhotsk, while the second is followed in Funka Bay and the Sea of Japan."

Prior to that, he said, juvenile scallops are gathered from early spring to summer. "They're just 3 to 5 millimeters in size at the time. After being nurtured for about a year, they reach 35 to 40 millimeters by April or so of the following year."

This is when the great divide occurs. "The ones cultivated in Funka Bay are hung from ropes and raised until they reach a size suitable for harvest. Then they are shipped from December to around June of the following year," Kawasaki explained. "The ones in the Sea of Japan area are transported to the Sea of Okhotsk and the Nemuro Strait by truck and released into the sea and harvested about three or four years later."

Innovative practices

This unique fishing practice, which involves traversing coastlines across Hokkaido, is one of the distinctive features of Hokkaido's scallop fishery. It is a rare example of how the risks and economic burden can be shared by multiple associations within the region.

"The associations also share information from seedling collection to landing, and han-



Harvested with care in the pristine waters of Hokkaido, these scallops reflect the fishery's dedication to exceptional quality and safety. DOGYOREN

dle consistent resource management together," Kawasaki explained. "Many samples are taken of the young scallops that arrive in the Sea of Okhotsk, and data is collected on how many of each association's scallops are alive, how many are diseased, and so on. Through this cumulative data, we have developed technology that has boosted survival rates. No other country in the world has such resource management."

He also noted that each association understands how many scallops are left in its sea zone and how many can be gathered on a given day, making it easy to predict and plan. This cultivation cycle and method has been in use for around five decades.

Harvest seasons and hauls also vary by region. Whereas the Sea of Okhotsk and Nemuro Strait produce about 300,000 tons of scallops between spring and winter, Funka Bay and the Sea of Japan offer up around 50,000 tons of these prized shellfish between winter and spring.

According to Kawasaki, a crucial difference between scallops harvested in the U.S. and those gathered in Hokkaido is the operational procedures.

"In the United States, ships go out to sea and harvest scallops over several days," he said. "In Hokkaido, ships leave in the morning, gather the scallops, and return the same day. Processors basically finish their initial processing that same day." This streamlined process is one of the key reasons Hokkaido scallops are renowned for best preserving their freshness.

Flavor spectrum

These kings of shellfish are processed in various ways to create a spectrum of flavors suitable for various dishes. "Hokkaido scallops are typically either flash-frozen, dried or boiled," Kawasaki explained.

He said that dried scallops are the most popular souvenir and are packed with flavor. The three-step process to produce them takes nearly a month. "First they're cooked once in a steam boil, and their shells, mantles and viscera are removed, leaving only the scallops' adductor muscles, which are boiled again. After that, they're slowly dried under strictly controlled temperature and humidity." This reduces their water content to just 16%, giving them a long shelf life.

"While dried scallops are familiar to customers in Asia, many customers in the West do not know how to eat them," Kawasaki observed, "so we provide recipes and other information on our website."

Boiled scallops are frozen after boiling. "The appeal is that you can enjoy not only the adductor muscle, but also the strings and

eggs in their entirety," he said. These parts, however, are rarely exported.

Another technique is to flash-freeze the adductor muscles (*tamarei*), a process that demonstrates just how carefully these shellfish are handled. "The scallops are transported to the processing plant on the same day they are landed," Kawasaki explained. "The shells are removed by hand, and then the scallops are flash-frozen in a tunnel freezer for about 20 minutes before being shipped. After thawing, they can be eaten raw."

"About 20,000 tons are produced annually, and half of that is exported to the U.S., Southeast Asia, Hong Kong, Taiwan, Europe, Australia and so on," he continued. "Most are marketed to the food service industry, such as restaurants and hotels, but some are also sold wholesale to retail stores for general consumers."

By unifying the standard for the edible parts of these shellfish across Hokkaido rather than store by store over the past three or four decades, Kawasaki added, they have been working to deliver stable, high-quality scallops whose value is easy for consumers to see. "Middlemen say that as long as it's from Hokkaido, it doesn't matter what store it's from," he remarked.

Rigorous safety protocols

A prime concern with any food is safety, particularly if it may be eaten raw. According to Kawasaki, Hokkaido scallops rate highly in that regard both domestically and globally.

"Since they're bivalve mollusks, they can harbor shellfish poisoning, so Hokkaido's 22 marine districts must submit samples to a testing agency at least once a week during harvest seasons, and permission to harvest them is granted only after safety is confirmed," he said.

When they're distributed, a safety stamp is affixed to the product so that data on purchase, processing and distribution can be tracked. This only applies to products made from Hokkaido scallops and packed by Hokkaido processors. If shellfish contamination is detected during processing, the response depends on the toxin level. For low levels, the production of scallop products such as *tamarei* is allowed with the digestive gland removed. If high levels are present, all production is halted. If the presence of toxins is reported after distribution, the batches affected are quickly tracked and recalled.

"The comprehensive tracking system and rules not only ensure safety, they also preserve resources by narrowing down the items that are recalled and discarded," Kawasaki noted. "There is also a certification system for processing the scallops, and the safety management system for all this has been in place since the 1980s."

All participants in the Hokkaido scallop fishery, including processors and retailers, are united in their commitment to safety standards and engage in ongoing efforts to improve these standards. Consequently, their scallops have gained recognition as some of the finest marine products globally.



Scallops raised by the seabed ranching and dredge cultivation method are unloaded. DOGYOREN



To make *tamarei* (flash-frozen adductor muscles), scallops are processed immediately after landing to preserve their freshness and flavor. DOGYOREN

GLOBAL REACH

SUPPLYING THE WORLD

SUSTAINABLE FUTURE FROM SEA TO TABLE

The MSC certification of Hokkaido's scallop fishery reflects its sustainable practices and global growth vision

In the pristine waters surrounding Hokkaido, a centuries-old tradition has evolved into one of the world's most well-managed and sustainable fisheries. Hokkaido scallops, known for their rich flavor, are not only a staple of Japanese cuisine, but have also gained a loyal following overseas. Central to their international appeal is the fishery's commitment to sustainability, demonstrated by the certification from the Marine Stewardship Council.

MSC standard

The MSC Fisheries Standard is an internationally recognized benchmark for assessing whether fisheries are well-managed and sustainable. Established by the MSC, the certification is a mark of environmental responsibility and reflects a fishery's commitment to preserving marine ecosystems.

To gain certification, fisheries voluntarily apply for and undergo rigorous evaluations by independent third-party auditors not affiliated with the MSC. The assessments are based on three fundamental principles. The first is ensuring that fish stocks are sustainable, meaning that fish populations are maintained at levels that allow for ongoing harvesting without depleting the species, guaranteeing long-term viability. The second is requiring fishing operations to have minimal environmental impact by having the operations carefully managed to maintain the structure, productivity, function and diversity of the marine ecosystem. The final principle requires fisheries to have effective management. This means having adaptive systems in place to respond to changes in the status quo while ensuring responsible and sustainable fishing. Together, these principles form the foundation of the MSC certification, reflecting the most current understanding of sustainable fisheries management.

Once certified, the fisheries can display the distinct blue MSC label on seafood packaging, assuring consumers that the seafood they're purchasing has been sourced from a sustainable and well-managed fishery. This label has gained prominence in markets such as the United States and Europe, where consumers are increasingly prioritizing sustainability in their purchasing decisions.

Journey to certification

The Hokkaido Federation of Fisheries Cooperative Associations, commonly known as Dogyoren, has long recognized the value

of sustainable fisheries. In 2010, Dogyoren embarked on the arduous path toward MSC certification for the island's entire scallop fishery as a whole. After three years of intense assessments, in 2013, their efforts were rewarded as the Hokkaido scallop fishery achieved MSC certification, making it the largest certified scallop fishery in the world. In 2012, the certified area harvested a staggering 410,000 metric tons of scallops, a testament to the fishery's scale and efficiency.

The certification covers three distinct operations. These are spat (wild juvenile scallop) collection, hanging cultivation and seabed ranching with dredge cultivation.

Hanging cultivation is conducted along the coasts of Funka Bay and the Sea of Japan, while seabed ranching occurs in the Sea of Okhotsk and the Nemuro Strait. Each of these operations collects spat from the wild and cultivates scallops in waters between 15 and 50 meters deep, extending up to 10 kilometers offshore.

Takanori Uda, deputy director at Dogyoren, explained the challenges faced during the certification process: "The most difficult part was the field research. Scallop fishing in Hokkaido is widely practiced along the coasts of the Sea of Japan and the Sea of Okhotsk. Since the survey covered the entire sea area, the work of visiting each sea area one by one, photographing the undersea environment, and accumulating data on the marine environment continued for nearly 15 years."

Thanks to the MSC certification, Hokkaido scallops are now eligible to bear the blue MSC label, making them highly desirable in global markets.

Thanks to the MSC certification, Hokkaido scallops are now eligible to bear the blue MSC label, enhancing their desirability in global markets. With nearly half of the regional catch exported, key destinations include the U.S., Taiwan and Europe.

Sustainable legacy

This international certification has opened the doors for Hokkaido scallops to gain a foothold in the increasingly competitive global seafood market. The history of scallop fishing in Hokkaido stretches back to the late 1800s. By the early 1900s, the fishery had embraced mechanical advancements, reaching an annual catch of 80,000 metric tons. However, this success was short-lived, and by the 1950s, catch levels had plummeted. In response, the fishery



SUSTAINABLE DEVELOPMENT GOALS



Hello Kitty



© '24 SANRIO CO., LTD. APPR. NO. L654034

The Hokkaido Federation of Fisheries Cooperative Associations supports the United Nations sustainable development goals. DOGYOREN

adopted innovative practices, including seed production and intermediate cultivation, to restore and manage the scallop population. By 1975, annual landings had rebounded to 70,000 metric tons and today the Hokkaido scallop fishery maintains a stable harvest of about 400,000 metric tons.

This success is not due to luck but a result of meticulous resource management.

Yoshihisa Kawasaki, director at Dogyoren, said: "We are not forcing ourselves to maintain a 400,000-ton target. Each association manages its own resources and determines the optimum volume of scallops to be landed. The resource environment and landings vary greatly depending on the time of year and region, such as the state of growth of juvenile shellfish and weather conditions."

The cooperative system allows each region to tailor its fishing practices to local conditions, ensuring that their populations are not overexploited and that the marine environment remains healthy.

"Scallop fishing is like farming. It depends on the condition of the field. If the field is in poor condition, the scallops will not grow even if the seeds are sown. They adjust the conditions of the fields as they survey them," Kawasaki said, emphasizing the careful balance between cultivation and harvest.

Facing future challenges

While MSC certification is a mark of achievement, it is not a permanent status. Fisheries must renew their certification every five years and continue to meet the rigorous standards required to maintain it. As the global climate changes, new challenges arise. Increased precipitation, plankton blooms and outbreaks of shellfish contamination are all potential threats to the Hokkaido scallop fishery.

"To maintain certification even in the face of such changes, we will not be satisfied with the status quo but will continue to make efforts and search for areas for improvement," Uda said. Dogyoren is committed to ongoing research and adaptation, ensuring that the fishery remains sustainable despite environmental fluctuations.

The Hokkaido scallop fishery's efforts are also aligned with Japan's commitment to the United Nations sustainable development goals, particularly No. 14, which focuses on conserving and sustainably using the oceans and marine resources. Sustainability is a

guiding principle in Dogyoren's operations, which encompass sales, purchasing, guidance and the use of facilities and equipment. The cooperative has also spearheaded local environmental initiatives, such as beach cleanups and tree-planting campaigns, to help preserve the ecosystem.

On the global stage

With nearly half of Hokkaido's scallops exported, its fishery is not only a key player in Japan's economy, but also a vital contributor to global seafood markets. Maintaining the quality and safety of these scallops is paramount, as any breach could damage the fishery's reputation both domestically and internationally.

Kawasaki emphasized the importance of reputation, saying: "Even one accident can damage the reputation of Hokkaido's scallops. Behind the fact that scallops are now eaten around the world and scallop fishing has grown into one of Hokkaido's largest economic enterprises are the efforts of our predecessors who have been carrying out safety management to an exaggerated degree for decades. We would like to continue to honor this legacy and pass it on to the next generation."

Looking ahead, Dogyoren is focused on maintaining the highest safety standards and promoting the quality of Hokkaido scallops to overseas markets. As global demand for sustainable seafood continues to rise, the fishery's MSC certification will play a pivotal role in expanding its market presence in Europe, the U.S. and beyond.

The Hokkaido scallop fishery had a rich history of sustainability and innovation, long before these concepts became central to global seafood industries. By securing MSC certification, Dogyoren has positioned itself as a leader in sustainable practices, ensuring that Hokkaido scallops remain a premium product for years to come. Through its commitment to environmental stewardship, responsible resource management and continuous improvement, the cooperative not only supports the local economy, but also contributes to the global movement toward sustainable seafood. As the world becomes more focused on responsible consumption, Hokkaido scallops are poised to shine on the international stage, offering consumers both quality and peace of mind.



No. MSC-F-31365

The blue MSC label indicates the product comes from fisheries that are certified as fishing sustainably.

DOGYOREN



HEALTHY EATING

NUTRITIOUS, DELICIOUS

PROFILES IN HEALTH AND GASTRONOMY

Hokkaido scallops offer an array of nutritional and health benefits, especially when they're pitted against more traditional sources of protein.

For example, compare 100 grams of raw scallops to the same amount of beef shoulder loin: The latter has over seven times the calories (66 vs. 472 kilocalories). Dried scallops are major protein powerhouses too, containing 65.7 g versus just 13.8 g in the same amount of beef shoulder loin, 17.1 g in pork shoulder loin and 16.6 g in a chicken thigh. Even boiled and raw scallops are nearly equal to or superior to beef in this aspect.

For those concerned about fat content, scallops are the champions of lean. The boiled variety, the fattiest of all, have just 1.9 g. That's far less than chicken (14.2 g), pork (19.2 g) and beef (37.4 g).

In addition to their high protein profile, scallops are imbued with an array of amino acids. For example, they're full of glutamic acid and aspartic acid, both prime sources of umami.

Hokkaido scallops are also blessed with high amounts of glycine, which gives them their fine sweetness and is also known to promote deeper sleep. Another prominent component — an amino acid called arginine — builds muscle and helps the body overcome fatigue. Thanks to taurine and vitamin B1, they also speed up recovery after exertion.

Scallops are rich in nutrients essential for overall health, including folic acid and zinc, which are important for blood production and gene production. They also boast more

iron than the same amount of spinach, and double that of prunes.

For chefs everywhere

There are two primary options available for chefs abroad: *tamarei* (the flash-frozen adductor muscles of scallops) and dried scallops. While boiled scallops, processed immediately to lock in the flavor and including their mantles, are less commonly available outside of Japan, they're a flavorful addition to menus, and especially popular in hotpots and curries.

Tamarei can be used for a variety of cooking, including sashimi, ceviche and sushi. This is because they're covered with a thin film of ice to lock in freshness and flavor very close to their raw state. In this form, Hokkaido scallops are thick, firm and tender, with a definite sweetness.

There are three ways to prepare these flash-frozen treats. One is to thaw them slowly in the refrigerator for half a day. A quicker method is to put them in a sealed plastic bag and place the bag under running water. The third way is put ice in a bowl, sprinkle a teaspoon of salt over it, and place the rock-hard frozen scallops inside. Then cover with plastic wrap and leave to defrost at room temperature.

From there, they can be grilled, fried and baked in dishes as varied as salads, soups, stir-fries, pilafs, pasta and noodle-based dishes, mini-burgers and more. To maintain the firmest texture when prepping scallops, they should be cut vertically along the fibers.

The dried variety are typically washed and



Flash-frozen to lock in freshness and flavor, *tamarei* (scallop adductor muscles) can be prepared and cooked in a variety of ways. DOGYOREN

soaked in cold water overnight. For a quicker method, dried scallops can be run through a food processor and soaked in warm water (around 40 C) for 10 minutes. Alternatively, they can be soaked in warm water for a few minutes, covered with plastic wrap and microwaved at 500 watts for a couple of minutes. They make fantastic soup stock and their extended shelf life makes them a perfect survival food for hiking and camping.

While scallops are popular in dishes in restaurants worldwide, they can easily be enjoyed at home as well, and preparing them is not difficult.

Tasteful variations

There are so many recipe possibilities that utilize scallops, from appetizers to sides to main dishes.

Home gourmets may want to start out small with an appetizer, salad or other side dish. One easy starter is scallop carpaccio — several scallops cut into slices and then garnished with red and yellow peppers, baby leaf and topped with sea salt, coarse black pepper and drizzled with olive oil. A dried scallop potato salad is another simple dish. Made by combining scallops with mashed potatoes and diced cucumbers and carrots, and seasoned with salt, pepper and mayonnaise, this salad is an inventive variation on a standard.

Sauteed scallops can be either a side or a main, depending on volume. The scallops can be placed in a frying pan with some olive oil, (adding white wine later) and drizzled with a mixture of fresh cream, grain mustard and

salt. The finished dish can be served with some fresh steamed broccoli. Bacon-wrapped scallops are another easy-to-prepare side or main dish, pan-fried in butter and topped with a simple sauce and lemon juice.

For a breakfast or brunch main dish, a scallop and vegetable omelet is a delicious option. This dish starts with small, cubed pieces of scallop, bacon, potatoes, green peppers, carrots and onions, all stir-fried in olive oil until browned. Beaten egg, mixed with spices and cheese, is then poured over the sauteed vegetables, and the dish is left to cook on very low heat for 15 to 20 minutes.

For those looking to boost umami flavor in their dishes, a few dried scallops can be added to fish-based soups and stews such as bouillabaisse, chowder and cioppino. Fried rice with dried scallops and congee is another simple dish with a rich umami taste that mixes nicely with the mild flavor of the rice.

For fans of tempura, deep-fried dried scallops are a must-try. The scallops are marinated in a mixture of soy sauce, grated ginger and garlic, then lightly coated with potato starch before being fried to a crisp. A garnish of lemon adds a refreshing touch.

Scallops pair very well with sake, wine or beer. For example, lightly acidic sake with a subtle flavor complements raw or butter-fried scallops, while dry sparkling wines and Champagne match well with scallop sashimi and *nigiri* sushi, as do Japanese lagers. Grilled scallops, meanwhile, pair well with more robust brews. Finding the right combination is part of a great taste adventure.



Scallops can be sliced vertically for a chewy texture or horizontally for a softer, more tender bite. DOGYOREN

SOUVENIR-READY

DOGYOREN-BRAND SCALLOPS AT NEW CHITOSE AIRPORT

For travelers passing through New Chitose Airport in Hokkaido, the Dogyoren stores offer an exceptional opportunity to bring home the best of the island's scallops. Located at both the domestic and international terminals, these are the only two stores directly managed by the Hokkaido Federation of Fisheries Cooperative Associations (Dogyoren), making them a unique stop for anyone seeking quality seafood souvenirs.

Among the many offerings, dried scallops stand out as the most popular choice. These versatile products are perfect for

gifts or personal use, with options ranging from large, well-shaped scallops ideal for presents to smaller, more affordable cracked varieties. Dried scallops can be enjoyed as a snack or used to make flavorful soup stock, and for added convenience, customers can request a leaflet with English recipes, making these a thoughtful gift for friends and family.

Another notable product is *tamarei* — frozen scallop adductor muscles that can be enjoyed as sashimi. Packaged with dry ice, these frozen delicacies can be safely carried on board (checked baggage depends on air-



The Dogyoren store in the international terminal is a go-to spot for buying souvenirs before departing Hokkaido. DOGYOREN

line regulations), with specially designed packaging keeping them fresh for several hours. Aluminum bags can maintain freshness for up to seven hours, while plastic foam boxes extend this time to 14 hours.

As the departure time for international flights approaches, Dogyoren stores see a steady flow of travelers, particularly from Hong Kong, Taiwan and South Korea, stopping by to purchase last-minute souvenirs before returning home. The store caters to international customers by displaying helpful pop-ups in both English and Chinese to help as many visitors as possible understand the product details.

As Dogyoren stores do not currently offer international shipping, those passing through New Chitose Airport are encouraged to visit and select from the high-quality scallop products exclusive to Hokkaido. Whether as a gift or a personal treat, these seafood offerings

capture the authentic taste of Hokkaido, making them an essential stop for travelers looking to take home a piece of the region's culinary excellence.

Dogyoren New Chitose Airport, Domestic Terminal Store

Location: New Chitose Airport International Terminal Building 3F

Opening hours: 10 a.m.-3 p.m.

Tel: 0123-46-2120

Dogyoren New Chitose Airport, International Terminal Store

Location: New Chitose Airport International Terminal Building 3F, in front of departure counters C and D

Opening hours: 9 a.m.-4 p.m. (hours may vary by season and flight schedule)

Tel: 0123-46-2120



Pop-up displays in English and Chinese highlight recommended products and cooking tips, helping shoppers choose souvenirs. DOGYOREN

