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Marine Eco-Label Japan (MEL) Council

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Dear MEL Partners:

Everyone is busy in spring. As individuals, there are paths that lead to your own life following entrance exam, graduation ceremony, and entrance or initiation ceremonies. Business operators are faced with many challenges regarding planning and budgeting for the new fiscal year, financial results, personnel changes, and other unexpected changes, especially this year.

For those involved in fisheries, spring fishing season begins with the expectations of society as well as the parties involved.

We receive reports of a good catch of herring in Hokkaido, but harsh reports on the fresh sand lance and firefly squid catches. In addition to resource problems, the effects of past human activities, such as rising sea temperatures and the acidification of the sea, weigh heavily. The MEL Council is also at the end of a busy fiscal year dealing with a diversified society.

1. Status of MEL Certification

The number of new certified entities this month will be two for CoC.

The issue of multiple certification bodies has been a challenge for two years, and new MEL certification body Marine Ecology Research Institute (MERI) has been granted the first CoC certification for the Marui Shoten in Aichi Prefecture. As a scheme owner, I would

like to express my respect for the efforts of MERI, which has patiently dealt with the rigorous process leading up to its certification as a certification body, and I am pleased that they will act as an important function of the MEL certification system in the future.

2. Press conference on the ongoing mutual recognition of CoC certification with CSC, the scheme owner of Alaska RFM.

On February 28, in Tokyo, CSC and the MEL Council announced to the press our mutual recognition of CoC certification. We have already reported this to you through MEL

News and other media, and it was realized when CSC President Mark Fina and ASMI President Allen Kimball visited Japan. The Fisheries Agency also attended the meeting

with the assistant director of the four sections of the Processing and Distribution

Division.



左より家形氏、アレン・キンボール理事、マーク・フィーナ理事長、垣添直也会長
長岡英典専務理事、冠野尚教事務局長

From left, Ms.Yakata, Allen Kimball(CSC Director), Mark Fina(CSC Chairperson), Naoya Kakizoe(MEL President), Hidenori Nagaoka(MEL Managing Director), Hisa Kanno(MEL Chief Secretariat)

CSC is collaborating on a scheme approved by GSSI to reduce duplication costs in eco-label certification and has already integrated CoC certification with Iceland RFM. MEL has been in discussions with CSC, the scheme owner of Alaska RFM, to raise its profile overseas and to recognize that mutual recognition of CoC certification with overseas

schemes is effective in exporting certified seafood products. CSC has also agreed to a partnership with the Global Seafood Alliance (GSA), which is chaired by BAP, and it is expected that this will be an opportunity to promote collaboration among scheme owners worldwide. MEL also joins the core roster.

**3.Voice from Certified Entities:
With 'Masaki Wakame'**

**Masahiko Hatakeyama,
General Manager of Tarocho Fisheries**

*【From seed production to sales】
It is common for fishermen to raise seaweeds that have been boiled, salted, and cored, and then to ship the seaweeds to be auctioned off for a price about farmed seaweeds in Iwate Prefecture. While in the case of "Masaki seaweeds" sold by the Tarocho Fishery Cooperative Association, we run the unusual style that the members collect the seeds from the wild seaweeds that is growing by the shoreline in Taro-cho and produce the seeds themselves and culture it, and then we purchase it and process in our own processing plant and boiled, salted, packed and sell.*

*【Why bother】
Seaweed, like vegetables on land, has seeds and seedlings that grow early, medium, and late, so you can expect a stable harvest if you combine several seeds and seedlings, but the Taro-cho Fishery Cooperative Association only uses locally grown seeds and seedlings. That's why we believe that Taro-cho natural wakame seaweeds is the best.*



Although it is not generally known, seaweed grows naturally only in the waters around Japan and in parts of the Korean Peninsula, and its shape varies greatly depending on the environment in which it grows. In northern Iwate Prefecture, where Oyashio, which flows down the east coast of Hokkaido, first hits Honshu, the winter sea temperature is lower than the sea area on the Sea of Japan side of Hokkaido, and the year Oyashio hits the shore is below 5 degrees Celsius. For this reason, the seaweed that inhabits this area is the coldest current-adapted type of seaweed, with thicker leaves to withstand the cold, deeper notches to withstand rough seas, and grows to over 3m in length, absorbing the rich nutrients of Oyashio. The leaves are so thick that

they are sometimes mistaken for kelp.



wakame seaweed is boiled and salted on the same day it is harvested at a boiling facility in the Taro fishing port, then placed in a dewatering frame with weights on it and slowly dewatered over two days.

Although dewatering with a press can improve work efficiency because the work can be done faster, but we have been dewatering with time and effort for a long time in order not to adversely affect leaf quality.

【To serve pure Taro-cho wakame seaweed】

Every seaweed-farming fisherman in Taro produces his own seaweeds. Because they are produced in the natural sea, the quality of the seeds and seedlings will depend on the quality of the seeds, aquaculture fishers will accommodate each other and not bring the seeds from other areas. Their seeding work for seaweed is attended by our staff to check the movement of zoospores, and information like regularly measuring water temperature, nutrients and growth conditions is provided to fishermen.

The only mechanized part of the process is reeling and thinning seedlings by fishermen, the other is done by hand to move trunk ropes, and most of the thinning during the extremely cold season from January to February every year. All harvested



【As a sign of commitment】

The above is just a small part of the process. "Masaki wakame" is produced with every care, from choice of parents to products, so we have absolute confidence in our products.

But the manufacturing process doesn't reach consumers with just the packaging on store shelves. It connects consumers who want safe and delicious food in front of a wide range of products and our desire to create products with care. I think that's the

"MEL" mark. This is the story of how "Masaki Wakame" was born with a foolish obsession. Marine Eco-Label Japan will appeal to consumers as its icon.



【From the reconstruction factory】
In March 2011, all the seaweed processing plants were washed away by the tsunami of the Great East Japan Earthquake. However, in February 2015, a new processing plant was rebuilt inside the seawall, and under strict sanitary control, the process of sorting and packing was carried out, and the products are shipped nationwide.

Thank you, Hatakeyama san. By all means, please protect and nurture the story that everyone cares about on "Masaki Wakame." MEL is also willing to help spread the word to society.

4.Column

"Where does fish oil and fish meal come from?"

Seafood processing residues lying in large cities in Japan and their traceability

Atsushi Ido,

Graduate School of Agriculture, Ehime University

■ ***Current status of fish oil and fish meal production in Japan and the potential of urban fish residues***

As aquaculture production expands worldwide, the need for fish oil and fish meal, which are used as feed ingredients for aquaculture, is increasing. The catch of wild fish has

reached a plateau, plant-based raw materials are not sufficient for the digestion and absorption of carnivorous farmed fish, and next generation raw materials such as insects and algae are still under development, so the importance of utilizing non-edible parts (processing

residues) of food fish as the most sustainable feed material is being reconsidered.



愛媛大学 井戸 篤史先生

Mr. Ido Ehime University

In Europe and the United States, a large amount of processing residue is generated upstream of the seafood supply chain (producing area), whereas in Japan and other Asian countries, the processing degree is higher downstream of the supply chain, so much residue is generated in the populous consuming areas, contrary to Europe and the United States. This is a huge resource called Urban Fisheries Biomass. According to a survey conducted in the early 2000s, 1.5 million tons of urban fishery residues were generated annually in Japan, accounting for approximately 70% of all residues generated in Japan (Tarui, 2005).

Much of the urban marine debris generated in Japan is recovered and

effectively used as a raw material for fish oil and fish meal. The plant in the metropolitan area collects 400 to 500 tons of fresh processing residues daily from more than 10,000 processors, dealers and eateries to produce protein-rich fish meal while squeezing fish oil. The squeezed fish oil is sent to another plant, where it undergoes a deacidification and decolorization process before being reborn as refined fish oil. The quality is surprisingly similar to fish oil derived from wild fish (Table 1). It is a problem that the extremely low food self-sufficiency in Japan, but it is noteworthy that the domestic self-sufficiency rate of fish oil is about 80%, of which 0 to 80% is produced from processing residues (Statistical Yearbook of Fisheries Oil and Fat). In comparison with other countries, processing residues account for a remarkably high percentage of fish oil and fish meal raw materials manufactured in Japan (Table 2), indicating that Japan's recycling system is unparalleled in the world. The fish oil and fish meal supply in Japan is supported by a system that makes the most of not only processing residues generated in the production areas, but also urban fish residues.

■ **How to find fish in urban fish residues**

Now, if you ask me if I can rave about fish oil and fish meal made from municipal fish residues, I certainly

don't. International eco-label certification systems such as the MEL Aquaculture Certification Standard and the ASC Standard require strict traceability of the raw materials used in feed. Fish taken from endangered species or illegal, unreported and unregulated (IUU) fisheries are not allowed to be used, not only for natural bait fish but also for fish that are the source of processing residues. One of the weak points of municipal fishery residues is that it is difficult to achieve traceability when collecting the residues, because the possibility of mixing all kinds of fish in the distribution can not be ruled out. Therefore, we applied a technique called DNA metabarcoding, which is used to analyze environmental DNA, to extract DNA from fish meal derived from urban marine debris and quantify the fish species contained in the DNA. Because the species of fish distributed are seasonal, Annual sampling at least once a month yielded 81 to 122 fish species per lot, with yellowtail, bonito, red sea bream, Pacific bluefin tuna, and horse mackerel in that order. Yellowtail, which produces a large amount of fish in aquaculture, is consistently detected throughout the year (9.3 to 16.2%), bonito is abundant from late March to October (7.2 to 25.6%), and red sea bream reaches its maximum level at the end of the year and beginning of the year (11.4 to 19.0%), making the species of fish that

make up the urban fishery residue look like a mirror image of Japanese fish eating (Fig. 1). On the other hand, Japanese eels and southern bluefin tuna were found in all lots of fish listed as endangered (EN) or critically endangered (CR) on the International Union for Conservation of Nature (IUCN) Red List. In particular, for Japanese eels, another study has pointed out that the risk of IUU fishing is extremely high (Kaifu, 2019). Therefore, at this time, we must conclude that fish oil and fish meal produced from municipal fishery residues is likely to include endangered species and fish caught by IUU fishing.

■ **What we can do to make better use of municipal fishery residues**

The aquaculture industry must not become complicit in the extinction of precious marine life and IUU fishing. However, the importance of fish oil and fish meal derived from municipal fishery residues in terms of food recycling remains unwavering, as they play a role in effectively utilizing limited biological resources. As mentioned earlier, urban fish residues are a mirror image of Japanese fish diet, so the risk of extinction and IUU fishing in urban fish residues should be viewed as an issue not only for fish oil and fish meal manufacturers and aquaculture producers, but also for the entire seafood supply chain. In the first place, the ideal would be for Japan to

take the lead in promoting international catch management to ensure that fish from endangered species and IUU fisheries do not enter the supply chain, and for Japan to expand its catch certification system to eliminate IUU fisheries.

As we have shown, DNA metabarcoding can provide an ex post facto understanding of at least the species traceability of any fish meal or fish oil produced at the same time as the meal. For example, if "Endangered Risk" and "IUU Fishing Risk" are set numerically for each fish species, it is

possible to quantitatively assess the risk of fish meal and fish oil. If a sudden change in the supply chain is difficult, you may be able to set goals in stages and use them as a tool to measure your progress.

In any case, we hope that enhanced traceability through new methods, such as DNA metabarcoding, will provide an opportunity to learn where the fish oil and fish meal that support aquaculture production in Japan comes from, and to raise awareness of its sustainability.

■References to learn more

Ido, A. & Kaneta, M. (2020) Fish Oil and Fish Meal Production from Urban Fisheries Biomass in Japan. *Sustainability*, 12(8), 3345. <https://doi.org/10.3390/su12083345>

Ido, A. & Miura, T. (2022) Species Identification in Fish Meal from Urban Fisheries Biomass with DNA Metabarcoding Analysis. *Aquaculture, Fish and Fisheries*, 2, 562–571. <https://doi.org/10.1002/aff2.87>

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表1. 都市水産残渣由来魚油（日興油脂株式会社提供）の精製過程における品質指標の変化

魚油	AV (mg KOH/g)	POV (meq of O ₂ /kg)	p-AV	TOTOX value	TBARs (μ mol/g)
未精製	4.25 ± 0.39 ^a	5.89 ± 0.94 ^a	24.99 ± 1.80 ^a	36.77 ± 2.58 ^a	1.09 ± 0.09 ^a
脱酸後	0.12 ± 0.09 ^b	2.56 ± 0.81 ^b	27.12 ± 5.19 ^a	32.23 ± 4.25 ^a	0.77 ± 0.14 ^b
脱色後	0.35 ± 0.09 ^b	1.04 ± 0.13 ^c	18.16 ± 1.78 ^b	20.25 ± 1.85 ^b	0.60 ± 0.07 ^b
タラ肝油	0.49	7.09	25.19	39.37	1.38

数値は平均値±標準偏差（n=5）。天然魚由来の魚油としてタラ肝油を比較対象とした。異なるアルファベットは、Kruskal-Wallis 検定後の Steel-Dwass の多重比較で有意差が得られたことを示す（ $p < 0.05$ ）。表2. 各国・地域における原料毎の魚粉製造量

原料毎の魚粉製造量	餌魚由来(000 t)	残渣由来(000 t)	残渣由来率(%)
日本	37	144	79.4
ヨーロッパ	320	381	54.4
アジア（中国を除く）	580	454	43.9
中国	281	152	35.1
南アメリカ	1,532	289	15.9

日本は「水産油脂統計年鑑」、その他の国・地域は IFFO の調査による。いずれも 2016 年の数値を記載した。

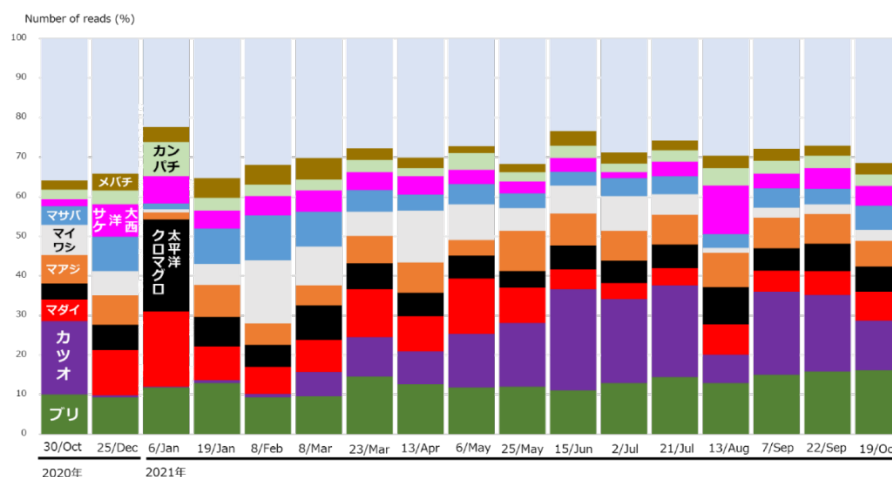


図1. DNAメタバーコーディングによる都市水産残渣由来魚粉（三幾飼料工業株式会社提供）の構成魚種の解析日付は、解析対象魚粉の製造日を示す。

Thank you, Dr. Ido. I don't think it will be easy, but the MEL Council, with the help of everyone involved, will make efforts to make processing and urban residues a trusted resource for society.

5. Seafood Expo North America

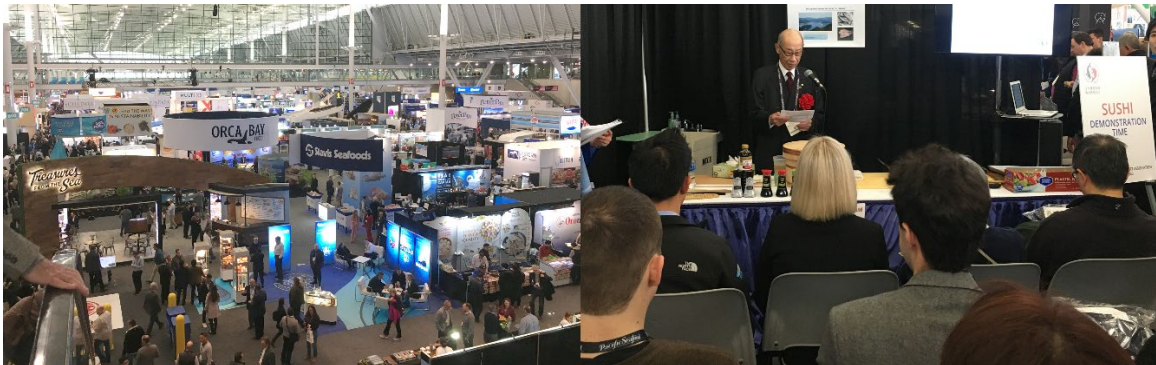
MEL has participated in Seafood Expo North America for the first time in 4 years since 2019, when it held the first workshop to introduce marine eco-labels originating in Japan to overseas markets under the Project for Establishing a

Sustainable Use System led by Japan Fisheries Association.

This year, in addition to the regular JETRO Japan Pavilion, the Japan Aquaculture Fish Export Promotion Association and the Japan Scallop Export Promotion

Association set up booths to enthusiastically market Japanese yellowtail, amberjack, red sea bream and scallop. MEL also participated in the "Aquaculture Fish Export Promotion Seminar" with Japan Fisheries Association and introduced MEL certification and MEL

certified fish. Although the venue was overwhelmingly dominated by salmon, the tasting at the Japanese booth was very popular, especially in the United States, where sushi is becoming popular, and I felt the business meeting got well.



In order to achieve the 2030 seafood export target of 1.2 trillion yen, we need to make a determined and seamless effort.

MEL also hopes to play a part, albeit with a slight edge.

6. Closing ceremony for the second MEL Ambassador.

Five MEL ambassadors (including one online participant) gathered to recap a year of activities on March 24.

The "MEL Ambassador MVP" to honor this year's most outstanding contributions has been selected for Mr. Mitsuhiro Enomoto. Congratulations Enomoto san ! His reel on Instagram about Buri-oh of Azumacho Fisheries Cooperative Association has been viewed over 176,000 times!!

It has been two years since the MEL ambassador program started, I would like to express my sincere gratitude for the great encouragement I received from our ambassadors through SNS, such as cooking examples of certified products with a sense of life, and the ability to broadcast market watches. We look forward to your continued support as a supporter of MEL.



MELアンバサダー修了式

Closing Ceremony of MEL Ambassadors

Recruitment of ambassadors for the third term will begin after the holidays in May.

7.-NHK Toyama Broadcasting Local Efforts to Obtain MEL Certification

How does "Protect the resources of the sea by Marine Eco-Label!" connect to protecting resources for consumers, according to the March 15 broadcast of the TV program 'Marine Eco-Label'? They explained their meaning and introduced the efforts of Shinminato Fishery

Cooperative to catch white shrimp, which is applying for MEL certification. You can view it at the following

URL:

https://www.nhk.or.jp/toyama/toyama_kokokara/

Please take a look!

3月15日放送 「みんなでちょいエコ宣言！海の資源を守る！水産エコラベル」



EDITOR'S POSTSCRIPT

In the midst of global natural, political, economic, and social upheaval, we feel "the new era of Marine Eco-Labels" is coming. The MEL Council Secretariat is also happy to respond to various inquiries. Is this a sign that the marine eco-label has taken root in society step by step?

Thanks to MEL News, it's been 5 years (60 issues) since its first issue. We at the Secretariat will continue to strive to further enhance our activities as a tool for interaction with you. Thank you for your continued support.

In the personnel affairs of the member companies and organizations, Mr. Hirofumi Yamazaki of Mitsubishi Corporation, who had asked to be a director, has been transferred. I would like to take this opportunity to thank you for your various contributions to the MEL Council. I wish you all the best in your new assignment.

We are about to enter the new year amid the lingering effects of the many dramas played by Samurai Japan on the WBC that heated up the nation and delivered the best results. Together with all of you, we hope to capitalize on the power of the "team as one" and respond appropriately to the era of "unprecedented change."

Marine Eco-Label Japan Council Secretariats

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