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Japan Fisheries Association

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Views and Opinions of Japan's Fisheries Industry

Fisheries science

Japanese researchers develop the world's first full-cycle eel cultivation technology

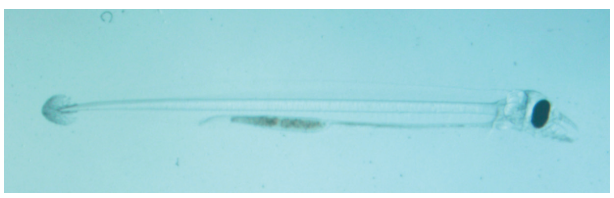
The Fisheries Research Agency (FRA) announced on April 8 that it succeeded for the first time in the world in full-cycle cultivation of Japanese eels (*Anguilla japonica*), a fish whose life cycle has long been shrouded in mysteries.

The researchers raised artificially-bred eels to maturity, and collected about 250,000 fertilized eggs, from which about 100,000 second-generation larvae were obtained.

The government-affiliated agency says the results of the experiment mark a great step forward to full-cycle eel cultivation, paving the way to reproduction of eels that do not depend on wild resources. It will not only contribute to the conservation of eel resources in the wild but also provide an important technique in preserving Japan's food culture.

In Japan, eels have been traditionally considered as a nourishing food since ancient times. Eating broiled eels, especially during the hottest period of summer, is a much cherished custom in the country.

In 1998, the FRA found that frozen dried shark egg powder was effective as feed for the eel in the initial stage of cultivation, and succeeded in raising laboratory-hatched larvae to the size of 10 millimeters. Subsequently, the agency continued improvement of feed and cultivation methods and succeeded in growing Leptocephali (flat and transparent larvae of the eel) into juveniles, which were to be raised to maturity as parent fish for full cultivation.



Larval eel or 9 days after hatching (Photo: FRA)

From early this year, the agency took steps to prompt maturity of the eel by administering hormone and raised them to the size of 45-70 centimeters. In March, it succeeded in realizing ovulation and obtained about 250,000 fertilized eggs through artificial insemination.

Larvae immediately after hatching (Photo: FRA)

After the first hatching, it was subsequently confirmed that about 100,000 larvae survived. Feeding started 6 days after hatching, prompting smooth growth of juveniles.

Kiyoshi Inouye, Executive Director of the FRA, said that "full aquaculture of the eel has been our long-time wish. We are proud to have attained the state-of-the-art technology."

Mass production of seeds in the amount of hundred of million needed for eel farming in Japan is a future task to tackle. "We have shown that the eel can be reproduced through cultivation without dependence on wild eels. We can now expect to achieve a progress toward developing stable mass production technology by producing more generations of the eels that can better adapt to the cultivation environment," Inouye said.

Currently, eel cultivation depends on the collection of wild juveniles as seeds. According to the Fisheries Agency, the amount of eel juveniles harvested from the wild in Japan has dropped to around 10 tons in recent years from 100-200 tons around 1950-60.

Eel farmers in China and Taiwan also supply eels to satisfy the market demand in Japan, but the success of the breeding experiment raises the prospect of a self-sustaining aquaculture which would not rely on declining wild stocks.

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JFA President: Toshiro Shirasu; Editor: Masashi Nishimura

Tuna trade

Imports of suspended Atlantic tuna partly resumed as ICCAT hurdles are cleared

The Japanese government has allowed the resumption of importation of part of Atlantic bluefin tuna, which had been suspended because of possible doubts in relation to the requirements of the ICCAT Bluefin Tuna Catch Documentation (BCD) system, after the suspiciouns were cleared.

Under the policy to thoroughly implement the resource management measures of the International Commission for the Conservation of Atlantic Tunas (ICCAT), Japan had suspended the importation of tuna having doubts regarding catch documents under ICCAT's rule until the contents of the catch documents are made clear.

According the Fisheries Agency, importation of a total of 3,600 tons of tuna had been withheld as of June 23 this year. After the European Union (EU) investigated into the situation of exporting countries including France and Italy, it was proved that confirmation process for the catch as required by ICCAT have been completed, and ICCAT's Compliance Committee approved the findings. As a result, Japan decided to authorize the importation of 2,900 tons of bluefin tuna to Japan. The agency said that about 700 tons are still held in suspension.

The agency further said that "our policy to rigorously examine the catch documents will continue to be thoroughly implemented in the future. We are determined not to allow the importation of tunas having any doubts into our market."

ICCAT, on its part, has been reinforcing its resource management with respect to the Atlantic bluefin tuna. It has taken a measure to require the tunas found to be caught in excess of the quotas to be released from the farming cages to the sea. To date, a total of 260 tons have been returned into the wild in the EU, 560 tons in Tunisia and 20 tons in Turkey.

Seafood exports

Japan is committed to boost its seafood exports

Japan is set to prop up seafood exports on the strength of its high-level technology.

It is anticipated that the domestic seafood market in Japan will be further scaled down in the days ahead because of the decreasing population and shrinking consumption. By contrast, demand for seafood elsewhere in the world, including China, the United States and Europe, is forexeen to expand, prompted by rising awareness of consumers on fish as a healthy food.

Under these circumstances, the Ministry of Agriculture, Forestry and Fisheries (MAFF) of Japan is set to boost exports, with the aim to achieve exports of food, including seafood, to Y1 trillion by 2020. This basic growth policy was set out in the Cabinet decision on December 30, 2009.

The international competitiveness of seafood processing in other countries, notably China, has been gaining momentum lately. To face this development in the international market, MAFF believes it is crucial for Japan to not only promote exports of raw materials for processing but also achieve higher added value of seafood, such as exports of fresh fish and processed seafood on the strength of Japan's unique and advanced technology in the area of seafood freshness preservation and processing.

Given below is a table of trend in exports of major seafood commodities to China during the past 15 years.

Trend in Japan's exports of major seafood commodities to China

unit: tons

	salmon	pollock	mackerel	squid	saury	cod	scallop	crab	others
1994	4,307	–	–	5,162	–	206	1	715	2,584
1995	16,997	–	–	9,789	–	134	–	980	3,015
1996	28,277	–	–	40,254	–	490	200	461	4,696
1997	19,874	–	–	14,541	1,875	754	298	631	9,756
1998	10,083	–	174	5,549	1,219	613	195	411	14,597
1999	2,027	–	39	178	1,616	4,662	79	465	8,712
2000	3,131	–	299	4,161	1,840	7,306	193	440	14,846
2001	23,428	–	273	31,730	1,996	2,243	102	1,066	17,481
2002	23,904	1,620	1,766	14,941	1,619	541	186	1,385	17,988
2003	52,685	483	324	8,418	2,154	468	692	1,097	11,369
2004	50,524	39,400	1,129	10,894	3,232	476	383	2,013	20,514
2005	56,606	28,183	16,256	4,553	4,438	2,413	318	2,783	20,294
2006	58,206	45,532	48,419	2,089	4,833	7,002	250	3,161	19,546
2007	49,070	42,329	32,478	3,738	7,048	9,678	635	3,447	26,329
2008	37,599	15,228	16,916	10,002	8,580	5,228	780	904	14,464
2009	47,233	35,360	11,899	9,044	8,559	1,424	1,135	1,002	19,749

Source: Finance Ministry

MEL Japan News

MEL Japan labeled-products presented at international seafood show

Marine Eco-Label Japan (MEL Japan) participated in the 12th Japan International Seafood & Technology Expo, organized by the Japan Fisheries Association (JFA) at the Tokyo Big Sight from July 21, to introduce its labeling scheme and appeal visitors for MEL-certified seafood products both at its booth and the seminar.

Since its establishment in 2007, MEL Japan has certified four types of fisheries, but opportunities for public presentation of labeled products have been limited. At this event, it was given a valuable chance to make a presentation of labeled products in the real package for distribution.

Participating in the expo were distributors and/or processors that have obtained Chain of Custody (CoC) certification of Sand Lance (*Ammodytes personatus*) Boat Seine Fishery off Ise Bay and Mikawa Bay in Aichi Prefecture, and common freshwater clam (*Corbicula japonica*) fishery in Lake Jusan in Aomori prefecture.

The MEL Japan Secretariat said that it could recognize high expectations toward the labeling scheme from the retail industry during the event. The secretariat further said it will continue efforts to increase the number of certified fisheries in the days ahead.

The Expo visited by about 28,000 people

In the mean time, the expo organizer announced that the show attracted a total of 27,814 people visited the show during three days from July 21. This number compared to 31,165 last year, when the highest number was recorded. About 430 companies – 350 from Japan and 80 from 12 countries and one territory, including the United States, Norway, China and India, exhibited their products and technologies at about 500 booths, engaging in active business negotiations.

Sampling of freshwater clam soup at MEL Japan booth

Labeled products of common freshwater clam (*Corbicula japonica*) fishery in Lake Jusan in Aomori prefecture.

Labeled products of Sand Lance (*Ammodytes personatus*) Boat Seine Fishery off Ise Bay and Mikawa Bay in Aichi Prefecture

Court ruling on anti-whaling activist

NZ Sea Shepherd activist gets suspended prison term --Paul Watson on Interpol wanted list--

The Tokyo District Court on July 7 sentenced Peter Bethune, 45, from New Zealand to two years in prison, suspended for five years, for obstructing the activities of the Japanese research whaling fleet in the Antarctic Ocean earlier this year.

The former captain of the Sea Shepherd Conservation Society's boat was found guilty on five counts of trespassing, vandalism, carrying a knife, obstructing commercial activities, and

assault.

Bethune was given a suspended term as he had said he would not participate in antiwhaling activities in the Antarctic Ocean in the future and had paid for the damage to the net, according to the ruling.

In a joint statement issued on the same day, the Institute of Cetacean Research (ICR) and Kyodo Senpaku Kaisha, Ltd. welcomed the verdict, saying that it "demonstrated that his actions put the lives of Japanese seamen at risk and he committed a crime."

"Bethune's criminal actions were perpetrated in disregard of a statement adopted at the IWC intersessional meeting in 2008, which called upon Sea Shepherd to refrain from dangerous actions that jeopardize safety at sea, and on its vessels and crews concerned to exercise restraint," they said.

ICR and Kyodo Senpaku strongly condemned the SS's dangerous and violent actions against Japan's whale research vessels and crews in the Antarctic and demanded that they should be stopped immediately.

The two institutions also called on the Netherlands, which provides Sea Shepherd vessels with a flag, and Australia, which provides Sea Shepherd with port facilities, to take action to stop further criminal acts being committed by this group.

Meanwhile, in April, Interpol placed Paul Watson, 59, founder and president of the U.S.-based anti-whaling group Sea Shepherd Society on an international wanted list at the request of the Japan Coast Guard for allegedly masterminding the group's disruption of Japanese whale research in the Antarctic.

Japan has asked Interpol to issue a so-called blue notice, asking national police forces to provide information on Watson's whereabouts and activities.

Over the past years, Sea Shepherd has engaged in harassment of Japan's whale research fleets in the Antarctic, by such actions as throwing bottles of butyric acid on the Japanese vessels and putting whaling vessel crews' lives at risk.

Editorial

Many countries give clear "NO" to emotionally-driven protectionism at CITES and IWC

At its 62nd annual meeting in Agadir, Morocco, the International Whaling Commission failed to reach a consensus on its Chair's initiative to put an end to years of impasse in the organization as the differences between pro-whaling and anti-whaling nations were not smoothed out.

Commenting on the outcome of the meeting, some radical conservation groups recently claimed that the consensus was not achieved at the IWC because Japan stuck obstinately to its position to continue research whaling in the Antarctic against the will of the international society.

Admittedly, such criticisms completely miss the point as they represent a serious or intentional misapprehension of the facts on the part of the conservationists.

The truth is that what they call "the will of the international society" is nothing but "the will of a handful of anti-whaling groups and countries." It is quite emotional and inappropriate to ignore the fact that a substantial number of IWC member countries supported Japan's position. It is obviously misleading to assert as if the entire world takes the anti-whaling position.

In a similar vein, conservationists are trying to insinuate that Japan defeated the global efforts to conserve the Atlantic bluefin tuna, sharks and coral species at the recent meeting of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) held in Qatar in March this year. We should recognize that the outcome of the CITES meeting reflects the patent fact that many members of the international community (whose voices are often not represented adequately) gave a clear "no" to the emotion-driven protectionist movement.

Under the current circumstances where increase in production of food from terrestrial sources is no longer viable to feed the ever-expanding world population, it is clear that mankind has no choice but to go toward rational utilization of marine resources in the future.

Many countries in the world support the use of whales as one of marine resources. Under the situation, anti-whaling movement is losing its rational ground. Undoubtedly, the current of the world opinion will change dramatically toward the wise and sustainable use of the marine resources in the not-too-distant future.

In the meantime, we observe that the oil spill in the Gulf of Mexico is causing tremendous disaster to marine resources and environment and creating concerns to local fishermen. But, as we see it, there have not been so many conservationist groups who urge the oil industry to take better heed to the conservation of the marine environment. Given the gravity of the impact, we believe that they should first and foremost level their criticisms against the occurrence of such a horrendous incident and certainly not against fisheries and whaling of Japan for which much effort has been expended to ensuring sustainability.