

EMBAJADA DEL JAPON  
EN CHILE

REPUBLICA DE CHILE	
PRESIDENCIA	
REGISTRO Y ARCHIVO	
NR.	93/12900
A:	25 JUN 93
P.A.A.	<input type="checkbox"/> R.C.A.
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ULTIMAS NOTICIAS DEL JAPON

(VIP 93)

(DISTRIBUCION EXCLUSIVA)

DISCOVERY OF BACTERIA EFFECTIVE FOR  
CLEANING OF CONTAMINATED SOIL

The National Institute for Environmental Studies of the Environmental Agency has ascertained that the interesting bacteria, *Methylocystis* sp.M (strain M), discovered by the institute is effective in cleaning up chlorinated organic compound contaminating soil. Laboratory tests have shown that the bacteria can decompose trichloroethylene almost completely. In the future, the institute will use the bacteria to clean up the contaminated soil in-situ at an early date. Contamination of soil and groundwater by chlorinated organic compounds has been spreading in Japan, but there is no good method for detoxification.

Several bacteria that aerobically decompose chlorinated organic compounds have been discovered. In 1989, the institute isolated strain M from the soil. Culture technology was established to clean up water and gases contaminated with chlorinated organic compounds by immobilized bacteria with alginate gel in a bioreactor.

This time, the institute determined the composition of chlorinated organic compounds by the strain M in trichloroethylene-contaminated soil. A container was filled with soil contaminated with 1 ppm of trichloroethylene (1 mg per 1 Kg of the soil) to which 1 million bacteria were added per 1 g of the soil. Since there are 100 million bacteria in 1 g of normal soil, this is equivalent to 1% of normal bacteria. The added bacteria remained active in the contaminated soil and decomposed the trichloroethylene almost completely in one day. Although the decomposition activity stopped in one day, the addition of methane, oxygen and nutrient retained the activity. Strain M showed decomposing activity in contaminated soil at 20 ppm.

Compared with conventional methods, clean up methods with bacteria are less expensive and applicable at the site of contamination.

Thus the actual application of this new method is much awaited. The institute will continue to study the conditions for maintaining the decomposition activities of the bacteria in actual soils with only trace quantities of nutrient salts.

(Extracted from JETRO's "New Technology Japan, May 1993, with kind permission of Santiago JETRO Office, The Japan External Trade Organization).

1992 FISHERIES WHITE PAPER:

JAPAN IS CATCHING LESS, IMPORTING MORE FISH

The Ministry of Agriculture, Forestry and Fisheries recently released the fisheries white paper for fiscal 1992 (April 1992 to March 1993). The White paper reveals that, at the same time as the growing international debate over protection of the environment has given rise to calls for stronger controls on fishing in the open oceans, in each year from 1989 through 1991 the amount of fish caught by Japan's fishing fleets declined. In particular, in 1991, for the first time the quantity of fish caught in deep-sea waters fell below the quantity bred and raised in ocean fisheries. In Japan's period of high economic growth (from the mid-1960s to the mid-1970s), companies involved in the fishing industry focused mainly on maximizing the size of their catch. Now, because the oceans are yielding less than in the past, the Ministry strongly asserts the need for such companies to shift their emphasis toward controlled fishing with an eye to preserving resources, and more breeding and raising of fish in fisheries.

According to the white paper, Japan's total fish catch in 1991 was 9.98 million tons, a 10 percent decrease from that of the previous year. This was the first time in 20 years that the figure dropped below 10 million tons. The yield from deep-sea fishing showed an especially marked decline of 21 percent, to 1.18 million tons, in the same period. This yield fell short of the yield from ocean-surface fisheries that year, which at 1.26 million tons was a 1 percent drop from the previous year's figure.

Comparing 1990 statistics for Japan and other countries with fishing industries shows that China caught 13.87 million tons of fish that year, thus maintaining the lead position for two years running. Japan, once the supreme "Fishing Superpower", lagged behind China for the second year in a row, bringing in 11.05 million tons in 1990. The main source of China's lead position is fish from rivers, lakes, and other inland bodies of water, which accounted for some 40 percent of the country's take in 1990.

Meanwhile, as Japan itself is catching less fish, its imports of fish are rising steeply. Japan's fish imports from Thailand, China, Indonesia, and other countries in 1991 came to 2.85 million tons, an increase of 12 percent from the previous year. The imports were valued at 1.69 trillion Yen, a 5 percent increase over the value of the previous year's fish imports. Both the amount and the monetary value are record-setting figures for Japan.

(The material herein is based on domestic Japanese news sources and is offered for reference purposes. It does not necessarily represent the policy or views of the Japanese Government or of the Ministry of Foreign Affairs.)

AMOUNT OF FISH CAUGHT BY JAPAN'S FISHING ENTERPRISES  
(THOUSAND TONS)

YEAR	TOTAL	DEEP-SEA	OFFSHORE	COASTAL	INLAND
1980	11,122	2,167	5,705	3,029 (992)	221 (94)
1986	12,739	2,336	6,792	3,411 (1,198)	200 (94)
1987	12,465	2,344	6,634	3,288 (1,137)	198 (97)
1988	12,785	2,247	6,897	3,442 (1,327)	198 (99)
1989	11,913	1,976	6,340	3,395 (1,272)	202 (99)
1990	11,052	1,496	6,081	3,265 (1,273)	209 (97)
1991	9,978	1,179	5,438	1,894 (1,262)	205 (97)

NOTE: Figures in parenthesis indicate yields from fisheries.

JAPAN 'S FISH IMPORTS

YEAR	VOLUME (Thousand tons)	VALUE (Billion Yen)
1980	1,038	764
1986	1,869	1,138
1987	2,075	1,234
1988	2,414	1,405
1989	2,288	1,450
1990	2,544	1,608
1991	2,850	1,688

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MAJOR COUNTRIES' FISHING YIELDS (MILLION TONS)

COUNTRY	YEAR						
	1980	1985	1986	1987	1988	1989	1990
CHINA	5.8	8.5	9.5	10.7	12.0	13.1	13.9
JAPAN	11.1	12.2	12.7	12.5	12.8	11.9	11.1
FORMER SOVIET UNION	9.7	10.6	11.4	11.3	11.5	11.5	10.5
PERU	2.7	4.1	5.6	4.6	6.6	6.8	6.9
CHILE	2.9	5.0	5.7	4.9	5.4	6.6	5.9
UNITED STATES	3.8	5.0	5.2	6.1	6.0	5.8	5.4
INDIA	2.4	2.8	2.9	2.9	3.1	3.6	3.8
KOREA	2.4	3.1	3.7	3.3	3.2	3.3	3.2
THAILAND	1.8	2.2	2.5	2.8	2.8	2.8	2.7