

Environmental Accounting

Outline

The Kikkoman Group has published its investment in and expenditure on environmental preservation as well as their benefits since FY2001 (and Kikkoman Corporation has done so since FY2000) in accordance with the Environmental Accounting

Guidelines provided by the Ministry of the Environment of Japan. This report compiles environmental accounting data for FY2011 submitted by each Group company, and provides a review and analysis for each company's performance.

Scope of Reporting

Kikkoman Food Products Company^{※1}, Nippon Del Monte Corporation^{※2}, Manns Wine Co., Ltd., FoodChemifa Co., Ltd., KIKKOMAN FOODS, INC. (KFI), KIKKOMAN (S) PTE. LTD. (KSP), KIKKOMAN FOODS EUROPE B.V. (KFE)
Takara Shoyu Co., Ltd.

April 1, 2010 - March 31, 2011

January 2010 - December 2010

※1 Environmental accounting data of Kikkoman Food Products Company's include those of Hokkaido Kikkoman Company, Nagareyama Kikkoman Company, Heisei Foods Company and Edogawa Foods Company.

※2 Environmental accounting data of Nippon Del Monte Corporation include those of Tohoku Del Monte Corporation.

Summary of Data Submitted by Reporting Companies

Investment in and Expenditure on Environmental Preservation

(Rounded off to nearest million yen)

Category	Kikkoman Food Products Company		Nippon Del Monte Corporation		Manns Wine Co., Ltd.		FoodChemifa Co., Ltd.		Takara Shoyu Co., Ltd.	
	Investment	Expenditure	Investment	Expenditure	Investment	Expenditure	Investment	Expenditure	Investment	Expenditure
Business Area Costs	231	883	37	206	10	22	262	248	14	49
Pollution Prevention	224	287	36	140	10	12	36	33	1	19
Global Environmental Conservation		46	1	1		1	22	18	13	3
Resource Circulation	7	550		65		9	203	197		27
Upstream/Downstream Costs		210					2	13		1
Distribution		210					2	13		1
Administrative Costs		182		10		9		56		2
Environmental Preservation		182		10		9		56		2
R&D Cost	6	49								
R&D	6	49								
Social Activities Costs		16		2				3		
Nature Preservation, Supporting Environmental Preservation Organizations and Local Communities		16		2				3		
Environmental Remediation Costs										
Restoration Costs of Environmental Damage, Payments for Settlements, Reserve Funds										
Total	237	1,340	37	218	10	31	264	320	14	52

Category	KFI		KSP		KFE		Total	
	Investment	Expenditure	Investment	Expenditure	Investment	Expenditure	Investment	Expenditure
Business Area Costs	79	132	3	11	1	26	637	1,577
Pollution Prevention	3	110	3	7	1	20	314	628
Global Environmental Conservation	76	12		3			112	84
Resource Circulation		10		1		6	210	865
Upstream/Downstream Costs							2	224
Distribution							2	224
Administrative Costs		23		1		3		286
Environmental Preservation		23		1		3		286
R&D Cost							6	49
R&D							6	49
Social Activities Costs						2		23
Nature Preservation, Supporting Environmental Preservation Organizations and Local Communities						2		23
Environmental Remediation Costs								
Restoration Costs of Environmental Damage, Payments for Settlements, Reserve Funds								
Total	79	155	3	12	1	31	645	2,159

Environmental Preservation Benefits

(Rounded off to the nearest unit)

Benefit Category	Kikkoman Food Products Company	Nippon Del Monte Corporation	Manns Wine Co., Ltd.	FoodChemifa Co., Ltd.	Takara Shoyu Co., Ltd.	KFI	KSP	KFE	Total
Energy Use Reduction	-4	1	0	-3	0	-1	0	-1	-8
Energy (fossil fuel) Use Control	5	—	—	—	—	—	—	—	5
Waste and Byproduct Reduction	-2	-2	1	-21	0	-1	0	0	-25
Waste and Byproduct Control (recycling)	61	11	1	54	2	30	3	3	165
Total	60	10	2	30	2	28	3	2	137

Converting Environmental Preservation Benefits into Yen

To obtain monetary values of the benefits gained from investment in and expenditure on environmental preservation, reductions in environmental loads of energy use and of waste and byproduct discharge were first converted into their equivalents in CO₂ emissions, which were then used for the final conversion into monetary values.

Environmental load converted into CO₂ x CO₂ value

- Convert reductions in environmental loads of energy use and of waste and byproduct discharge into their equivalents in CO₂ emissions, using the formula provided in the 2004 Edition of "Environment Activity Evaluation Program" published by the Ministry of the Environment of Japan.
- From the converted CO₂, the CO₂ value was multiplied and the result was converted into monetary values.

CO₂ value: The Nikkei-JBIC Carbon Quotation Index average rate (simple average) of 1,471.5yen/t-CO₂ for March 28, 2011 was used for FY2011. (The average rate used for FY2010 was 1,450.1yen/t-CO₂)

Terms Relating to Environmental Preservation Benefits

• Energy Use Reduction

A change in the monetary value of total use of energy, such as heavy oil, electricity, gas and gasoline, from FY2010 to FY2011 is considered to be a benefit.

• Energy (fossil fuel) Use Control

The energy (fossil fuel) use control is obtained from the amount of soy sauce oil, which is of vegetable origin, burned in place of grade-A heavy oil (fossil fuel). Soy sauce, one of key products of the Kikkoman Group, is made from vegetables (soy beans and wheat). Its production process generates soy sauce cake and oil. The Kikkoman Group used both soy sauce cake and oil as fuel from 1987 up to FY2008 and has been using soy sauce oil as fuel. CO₂ emissions from burning plants or products of plant origin are considered to be offset by the carbon dioxide assimilation that occurs when live plants absorb CO₂ from the air. Therefore, the use of fuel of vegetable origin can be taken as an energy (fossil fuel) use control benefit.

• Waste and Byproduct Reduction

A change in monetary value obtained from an equivalent in CO₂ converted from environmental loads of waste and byproduct discharge from FY2010 to FY2011 is considered to be a benefit. The Kikkoman Group includes valuable metal and recycled materials in wastes and byproducts, with the exception of soy sauce oil used as fuel. However, wastes that do not generate CO₂ when burned, such as cans, iron scraps, glass waste and pottery waste, are not included in wastes, as they are considered to be unburnable.

• Waste and Byproduct Control (recycling)

When burnable wastes are recycled without combustion treatment, it is considered that a reduction in CO₂ emissions is achieved by avoiding the need to burn such wastes. Therefore, the amount of recycled wastes and byproducts is considered to be a waste and byproduct control (recycling) benefit.

Data compiled by a group company within the scope of reporting

Kikkoman Food Products Company

Company Overview

Head Office: 2-1-1 Nishi-Shinbashi, Minato-ku,
Tokyo, 105-8428, Japan

Factories: Noda Factory (Chiba Prefecture), Takasago
Factory (Hyogo Prefecture), Edogawa Plant
(Chiba Prefecture)

Established: 2009

Paid-in Capital: ¥5,000,000,000

Major Products: Kikkoman soy sauce and soy sauce derivative
products

Website: <http://www.kikkoman.com/>
(in Japanese only)

Environmental Performance Review for FY2011

Investment in Environmental Preservation

Investment in environmental preservation was ¥237 million in FY2011, an increase of ¥163 million from the previous fiscal year. This was primarily due to the increase of investments in pollution prevention following the introduction of new packing equipment at the Noda Factory.

Expenditure on Environmental Preservation

The environmental preservation expenditure was ¥1,340 million for FY2011, a decrease of ¥136 million from the previous fiscal year.

This was primarily due to a decrease in resource circulation costs relating to the disposal of industrial waste.

Environmental Preservation Benefits

The environmental preservation benefits were ¥60 million for FY2011, an increase of ¥2 million from the previous fiscal year. This was primarily due to a decrease in negative effects of waste and byproduct reduction.

Environmental Accounting

These environmental accounting data include those of the spun-off Kikkoman Food Products Company (Noda, Takasago, Edogawa Plant), Hokkaido Kikkoman Company, Nagareyama Kikkoman Company, Heisei Foods Company and Edogawa Foods Company.

Investment in and Expenditure on Environmental Preservation

(Rounded off to nearest million yen)

Category	Investment	Expenditure
Business Area Costs	231	883
Pollution Prevention	224	287
Global Environmental Conservation		46
Resource Circulation	7	550
Upstream/Downstream Costs		210
Distribution		210
Administrative Costs		182
Environmental Preservation		182
R&D Cost	6	49
R&D	6	49
Social Activities Costs		16
Nature Preservation, Supporting Environmental Preservation Organizations and Local Communities		16
Environmental Remediation Costs		
Restoration Costs of Environmental Damage, Payments for Settlements, Reserve Funds		
Total	237	1,340

Environmental Preservation Benefits

(Rounded off to the nearest unit)

Benefits	Benefit amount (million yen)	Remarks (t-CO ₂ /y)
Energy Use Reduction	-4	-2,722 (increase)
Energy (fossil fuel) Use Control	5	3,410 (control)
Waste and Byproduct Reduction	-2	-1,263 (increase)
Waste and Byproduct Control (recycling)	61	41,504 (control)
Total	60	40,929

Environmental Preservation Benefits

Energy Use Reduction Benefit (Environmental loads by energy type in terms of CO₂)

Energy	Discharge Coefficient	FY2011		FY2010		Change in t-CO ₂ /y	FY2011/ FY2010 %
		Consumption	in CO ₂ t/y	Consumption	in CO ₂ t/y		
Heavy Oil (A)	2.710t-CO ₂ /kℓ	9,154 kℓ	24,807	9,601 kℓ	26,019	-1,212	95.3
Kerosene	2.492t-CO ₂ /kℓ	3 kℓ	7	5 kℓ	12	-5	62.3
Electricity	0.000378t-CO ₂ /kwh	53,291,000 kwh	20,144	44,695,000 kwh	16,895	3,249	119.2
City Gas	0.002108t-CO ₂ /m ³	7,139,000 m ³	15,049	5,724,000 m ³	12,066	2,983	124.7
Purchased Steam*1	0.16632t-CO ₂ /t	0 t	0	13,790 t	2,294	-2,294	—
Total			60,008		57,286	2,722	104.8

Due to organizational changes in Kikkoman Foods, changes were made to the FY2010 scope.

Energy (fossil fuel) Use Control Benefit (used as energy sources)

	Discharge Coefficient t-CO ₂ /t	FY2011	
		Consumption t/y	in CO ₂ t/y
Soy Sauce Oil (fuel)	2,700	1,263	3,410

Waste and Byproduct Reduction Benefit (Environmental loads by waste and byproduct type in terms of CO₂) Excluding those effectively re-used

Wastes and Byproducts	Discharge Coefficient t-CO ₂ /t	FY2011		FY2010		Change in t-CO ₂ /y	FY2011/ FY2010 %
		Discharge t/y	In CO ₂ t/y	Discharge t/y	In CO ₂ t/y		
Plastics	2.600	317	824	290	754	70	109.3
Cardboard, Wood Chips	1.650	313	516	270	446	70	115.8
Waste Oil	2.900	496	1,438	531	1,540	-102	93.4
Sludge	1.100	5,830	6,413	4,303	4,733	1,680	135.5
Plant Residues	2.442	2,574	6,286	2,641	6,449	-163	97.5
Garbage	2.442	138	337	258	630	-293	53.5
Unburnable Wastes	0	111	—	132	—	—	84.1
Total		9,779	15,815	8,425	14,552	1,263	108.7

Waste and Byproduct Control (Recycling) Benefit (Volume of recycled wastes and byproducts in terms of CO₂)

Wastes and Byproducts	Discharge Coefficient t-CO ₂ /t	FY2011				
		Discharge t/y	In CO ₂ t/y	Recycled t/y	Recycling Rate %	Recycled Volume in CO ₂ t/y
Plastics	2.600	317	824	317	100.0	824
Cardboard, Wood Chips	1.650	313	516	313	100.0	516
Waste Oil	2.900	496	1,438	392	79.0	1,137
Soy Sauce Cake (feed)*2	1.180	19,562	23,083	19,562	100.0	23,083
Soy Sauce Oil (Fish feed and other use)*2	2.700	908	2,452	908	100.0	2,452
Sweet Sake Cake (feed)*2	1.080	667	720	667	100.0	720
Sludge	1.100	5,830	6,413	5,827	99.9	6,410
Plant Residues	2.442	2,574	6,286	2,574	100.0	6,286
Garbage	2.442	138	337	31	22.5	76
Unburnable Wastes	0	111	—	111	100.0	—
Total		30,916	42,070	30,702	99.3	41,504

Other Environmental Loads

Volumes of Water Usage and Air Pollutant Discharge (NO_x and SO_x) in the Production Sector

	FY2011	FY2010	Change	FY2011/ FY2010 %
Water	3,166,000 kℓ	3,105,000 kℓ	61,000 kℓ	102.0
NO _x *3	37,516 kg	33,982 kg	3,534 kg	110.4
SO _x *3	10,940 kg	11,474 kg	-534 kg	95.3

*1 The CO₂ emissions coefficient of 0.16632 for FY2009 is used in accordance with the report published by the Kansai Bureau of Economy, Trade and Industry.

*2 Discharge coefficients of soy sauce cake, soy sauce oil and sweet sake cake are determined by the Kikkoman Group.

*3 Excluding soy sauce oil burned as fuel.

Nippon Del Monte Corporation

Company Overview

Head Office: 1-1, Nishi-shimbashi 2-chome, Minato-ku,
Tokyo 105-8428, Japan

Factories: Nagano Factory (Nagano Prefecture), Gunma
Factory (Gunma Prefecture), Fukushima Factory
(Fukushima Prefecture) and Kijimadaira Factory
(Nagano Prefecture)

Established: 1961

Paid-in Capital: ¥900,000,000

Major Products: Tomato ketchup, tomato juice, vegetable juice
and Kikkoman sauce

Website: <http://www.delmonte.co.jp/english/>

Environmental Performance Review for FY2011

Investment in Environmental Preservation

Investment in environmental preservation was ¥37 million in FY2011, an increase of ¥15 million from the previous fiscal year. This was primarily due to refurbishing clarifier tanks and noise countermeasures at the Nagano Factory as well as implementing covered pH control tanks.

Expenditure on Environmental Preservation

The environmental preservation expenditure was ¥218 million in FY2011, a decrease of ¥11 million from the previous fiscal year. This was primarily due to the reduction in the environmental preservation costs at the Fukushima Factory through factory consolidation.

Environmental Preservation Benefits

The environmental preservation benefits were ¥10 million in FY2011, a decrease of ¥4 million from the previous fiscal year. This was primarily due to a lack of progress in waste and byproduct reduction caused by increasing production of commercial goods during the migration period of factory closures following the factory consolidation.

Environmental Accounting

This environmental accounting data include Tohoku Del Monte Corporation (Iwate Prefecture).

Investment in and Expenditure on Environmental Preservation

(Rounded off to nearest million yen)

Category	Investment	Expenditure
Business Area Costs	37	206
Pollution Prevention	36	140
Global Environmental Conservation	1	1
Resource Circulation		65
Upstream/Downstream Costs		
Distribution		
Administrative Costs		10
Environmental Preservation		10
R&D Cost		
R&D		
Social Activities Costs		2
Nature Preservation, Supporting Environmental Preservation Organizations and Local Communities		2
Environmental Remediation Costs		
Restoration Costs of Environmental Damage, Payments for Settlements, Reserve Funds		
Total	37	218

Environmental Preservation Benefits

(Rounded off to the nearest unit)

Benefits	Benefit amount (million yen)	Remarks (t-CO ₂ /y)
Energy Use Reduction	1	1,027 (reduction)
Waste and Byproduct Reduction	-2	-1,155 (increase)
Waste and Byproduct Control (recycling)	11	7,758 (control)
Total	10	7,630

Environmental Preservation Benefits

Energy Use Reduction Benefit (Environmental loads by energy type in terms of CO₂)

Energy	Discharge Coefficient	FY2011		FY2010		Change in t-CO ₂ /y	FY2011/ FY2010 %
		Consumption	in CO ₂ t/y	Consumption	in CO ₂ t/y		
Heavy Oil (A)	2.710 t-CO ₂ /kℓ	6,510 kℓ	17,642	6,859 kℓ	18,588	-946	94.9
Light Oil	2.624 t-CO ₂ /kℓ	10 kℓ	26	12 kℓ	31	-5	84.6
Kerosene	2.492 t-CO ₂ /kℓ	7 kℓ	17	12 kℓ	30	-13	58.1
Electricity	0.000378 t-CO ₂ /kwh	18,471,000 m ³	6,982	19,132,000 m ³	7,232	-250	96.5
LPG	3.002 t-CO ₂ /kℓ	0 t	0	0 t	0	0	—
City Gas	0.002108 t-CO ₂ /m ³	1,987,000 m ³	4,189	1,892,000 m ³	3,988	201	105.0
Gasoline	2.322 t-CO ₂ /kℓ	31 kℓ	72	37 kℓ	86	-14	83.7
Total			28,928		29,955	-1,027	96.6

Waste and Byproduct Reduction Benefit (Environmental loads by waste and byproduct type in terms of CO₂)

Wastes and Byproducts	Discharge Coefficient t-CO ₂ /t	FY2011		FY2010		Change in t-CO ₂ /y	FY2011/ FY2010 %
		Discharge t/y	In CO ₂ t/y	Discharge t/y	In CO ₂ t/y		
Plastics	2.600	372	967	381	991	-24	97.6
Cardboard, Wood Chips	1.650	484	799	510	842	-43	94.8
Waste Oil	2.900	2	6	1	3	3	193.3
Pressed Apple Lees*	1.470	470	691	227	334	357	206.9
Pressed Tomato Lees*	2.149	167	359	173	372	-13	96.5
Used Green Tea Leaves*	1.789	447	800	535	957	-157	83.6
Sludge	1.100	1,751	1,926	1,491	1,640	286	117.4
Plant Residues	2.442	911	2,225	600	1,465	760	151.9
Garbage	2.442	10	24	15	37	-13	66.0
Unburnable Wastes	0	920	—	1,049	—	—	87.7
Total		5,534	7,796	4,982	6,640	1,155	117.4

Waste and Byproduct Control (Recycling) Benefit (Volume of recycled wastes and byproducts in terms of CO₂)

Wastes and Byproducts	Discharge Coefficient t-CO ₂ /t	FY2011				
		Discharge t/y	In CO ₂ t/y	Recycled t/y	Recycling Rate %	Recycled Volume in CO ₂ t/y
Plastics	2.600	372	967	364	97.8	946
Cardboard, Wood Chips	1.650	484	799	484	100.0	799
Waste Oil	2.900	2	6	2	100.0	6
Pressed Apple Lees (feed)*	1.470	470	691	470	100.0	691
Pressed Tomato Lees (feed)*	2.149	167	359	167	100.0	359
Used green Tea Leaves (compost)*	1.789	447	800	447	100.0	800
Sludge	1.100	1,751	1,926	1,751	100.0	1,926
Plant Residues	2.442	911	2,225	911	100.0	2,225
Garbage	2.442	10	24	3	30.0	7
Unburnable Wastes	0	920	—	917	99.7	—
Total		5,534	7,796	5,516	99.7	7,758

Other Environmental Loads

Volumes of Water Usage and Air Pollutant Discharge (NO_x and SO_x)

	FY2011	FY2010	Change	FY2011/ FY2010 %
Water	2,587,000 kℓ	2,567,000 kℓ	20,000 kℓ	100.8
NO _x	17,606 kg	18,263 kg	-657 kg	96.4
SO _x	7,785 kg	8,204 kg	-419 kg	94.9

※ Discharge coefficients of pressed apple lees, pressed tomato lees and used green tea leaves are determined by the Kikkoman Group.

Manns Wine Co., Ltd.

Company Overview

Head Office: 1-1, Nishi-shimbashi 2-chome, Minato-ku,
Tokyo 105-8428, Japan

Factories: Katsunuma Winery (Yamanashi Prefecture) and
Komoro Winery (Nagano Prefecture)

Established: 1962

Paid-in Capital: ¥900,000,000

Major Products: Wine and brandy

Website: <http://www.kikkoman.co.jp/manns/>
(in Japanese only)

Environmental Performance Review for FY2011

Investment in Environmental Preservation

Investment in environmental preservation was ¥10 million in FY2011, an increase of ¥6 million from the previous fiscal year. This was primarily due to an increase of investments in pollution prevention.

Expenditure on Environmental Preservation

The environmental preservation expenditure was ¥31 million in FY2011, a decrease of ¥7 million from the previous fiscal year. This was primarily due to a decrease in waste and byproduct processing costs of resource circulation.

Environmental Preservation Benefits

The environmental preservation benefits were ¥2 million in FY2011, the same as the previous fiscal year.

The waste and byproduct reduction increased while waste and byproduct control (recycling) decreased.

Environmental Accounting

Investment in and Expenditure on Environmental Preservation

(Rounded off to nearest million yen)

Category	Investment	Expenditure
Business Area Costs	10	22
Pollution Prevention	10	12
Global Environmental Conservation		1
Resource Circulation		9
Upstream/Downstream Costs		
Distribution		
Administrative Costs		9
Environmental Preservation		9
R&D Cost		
R&D		
Social Activities Costs		
Nature Preservation, Supporting Environmental Preservation Organizations and Local Communities		
Environmental Remediation Costs		
Restoration Costs of Environmental Damage, Payments for Settlements, Reserve Funds		
Total	10	31

Environmental Preservation Benefits

(Rounded off to the nearest unit)

Benefits	Benefit amount (million yen)	Remarks (t-CO ₂ /y)
Energy Use Reduction	0	57 (reduction)
Waste and Byproduct Reduction	1	400 (reduction)
Waste and Byproduct Control (recycling)	1	858 (control)
Total	2	1,315

Environmental Preservation Benefits

Energy Use Reduction Benefit (Environmental loads by energy type in terms of CO₂)

Energy	Discharge Coefficient	FY2011		FY2010		Change in t-CO ₂ /y	FY2011/ FY2010 %
		Consumption	in CO ₂ t/y	Consumption	in CO ₂ t/y		
Heavy Oil (A)	2.710 CO ₂ /kℓ	262 kℓ	710	257 kℓ	696	14	101.9
Electricity	0.000378 CO ₂ /kwh	2,925,000 kwh	1,106	3,111,000 kwh	1,176	-70	94.0
Total			1,816		1,872	-57	97.0

Waste and Byproduct Reduction Benefit (Environmental loads by waste and byproduct type in terms of CO₂)

Wastes and Byproducts	Discharge Coefficient t-CO ₂ /t	FY2011		FY2010		Change in t-CO ₂ /y	FY2011/ FY2010 %
		Discharge t/y	In CO ₂ t/y	Discharge t/y	In CO ₂ t/y		
Plastics	2.600	16	42	19	49	-7	84.9
Cardboard, Wood Chips	1.650	8	13	32	53	-40	24.9
Sludge	1.100	182	200	280	308	-108	65.0
Plant Residues	2.442	264	645	363	886	-241	72.8
Garbage	2.442	1	2	2	5	-3	48.8
Unburnable Wastes	0	107	—	151	—	—	70.9
Total		578	902	847	1,302	-400	69.3

Waste and Byproduct Control (Recycling) Benefit (Volume of recycled wastes and byproducts in terms of CO₂)

Wastes and Byproducts	Discharge Coefficient t-CO ₂ /t	FY2011				
		Discharge t/y	In CO ₂ t/y	Recycled t/y	Recycling Rate %	Recycled Volume in CO ₂ t/y
Plastics	2.600	16	42	1	6.3	3
Cardboard, Wood Chips	1.650	8	13	8	100.0	13
Sludge	1.100	182	200	182	100.0	200
Plant Residues	2.442	264	645	263	99.6	642
Garbage	2.442	1	2	0	0.0	0
Unburnable Wastes	0	107	—	107	100.0	—
Total		578	902	561	97.1	858

Other Environmental Loads

Volumes of Water Usage and Air Pollutant Discharge (NO_x and SO_x)

	FY2011	FY2010	Change	FY2011/ FY2010 %
Water	257,000 kℓ	273,000 kℓ	-16,000 kℓ	94.1
NO _x	1,239 kg	1,286 kg	-47 kg	96.3
SO _x	313 kg	307 kg	6 kg	102.0

FoodChemifa Co., Ltd.

Company Overview

Head Office: 2-1-1 Irifune, Chuo-ku, Tokyo 104-8553, Japan
 Factories: Kamogawa Factory (Chiba Prefecture), Gifu Factory (Gifu Prefecture), Saitama Factory (Saitama Prefecture), New Saitama Factory (Saitama Prefecture)
 Established: 1948
 Paid-in Capital: ¥3,585,000,000
 Major Products: Hyaluronates, propylene glycol alginate, alginates, soy milk beverages, and seasonings
 Website: <http://www.foodchemifa.jp/en/home.html>

Environmental Performance Review for FY2011

Investment in Environmental Preservation

Investment in environmental preservation was ¥264 million in FY2011, an increase of ¥58 million from the previous fiscal year. This was primarily due to the increased investment in resource circulation at the Gifu and Kamogawa factories.

Expenditure on Environmental Preservation

The environmental preservation expenditure was ¥320 million in FY2011, a decrease of ¥45 million from the previous fiscal year. This was primarily due to the decrease in pollution prevention and resource circulation costs at the New Saitama Factory.

Environmental Preservation Benefits

The environmental preservation benefits were ¥30 million in FY2011, a decrease of ¥6 million from the previous fiscal year. This was primarily due to the decrease in waste and byproduct reduction caused by increased production volume.

Environmental Accounting

Investment in and Expenditure on Environmental Preservation

(Rounded off to nearest million yen)

Category	Investment	Expenditure
Business Area Costs	262	248
Pollution Prevention	36	33
Global Environmental Conservation	22	18
Resource Circulation	203	197
Upstream/Downstream Costs	2	13
Distribution	2	13
Administrative Costs		56
Environmental Preservation		56
R&D Cost		
R&D		
Social Activities Costs		3
Nature Preservation, Supporting Environmental Preservation Organizations and Local Communities		3
Environmental Remediation Costs		
Restoration Costs of Environmental Damage, Payments for Settlements, Reserve Funds		
Total	264	320

Environmental Preservation Benefits

(Rounded off to the nearest unit)

Benefits	Benefit amount (million yen)	Remarks (t-CO ₂ /y)
Energy Use Reduction	-3	-2,111 (increase)
Waste and Byproduct Reduction	-21	-14,064 (increase)
Waste and Byproduct Control (recycling)	54	36,899 (control)
Total	30	20,724

Environmental Preservation Benefits

Energy Use Reduction Benefit (Environmental loads by energy type in terms of CO₂)

Energy	Discharge Coefficient	FY2011		FY2010		Change in t-CO ₂ /y	FY2011/ FY2010 %
		Consumption	in CO ₂ t/y	Consumption	in CO ₂ t/y		
Heavy Oil (A)	2.710 t-CO ₂ /kℓ	0 kℓ	0	0 kℓ	0	0	—
Light Oil	2.624 t-CO ₂ /kℓ	13 kℓ	33	9 kℓ	24	9	138.5
Kerosene	2.492 t-CO ₂ /kℓ	8 kℓ	19	0 kℓ	0	19	—
Electricity	0.000378 t-CO ₂ /kwh	28,985,000 kwh	10,956	27,401,000 kwh	10,358	598	105.8
LNG	2,692 t-CO ₂ /t	1,808 t	4,868	1,682 t	4,528	340	107.5
LPG	3.002 t-CO ₂ /t	4 t	11	3 t	9	2	121.2
City Gas	0.002108 t-CO ₂ /m ³	6,759,000 m ³	14,248	6,219,000 m ³	13,110	1,138	108.7
Gasoline	2.322 t-CO ₂ /kℓ	4 kℓ	10	3 kℓ	7	3	149.1
Total			30,146		28,035	2,111	107.5

Waste and Byproduct Reduction Benefit (Environmental loads by waste and byproduct type in terms of CO₂)

Wastes and Byproducts	Discharge Coefficient t-CO ₂ /t	FY2011		FY2010		Change in t-CO ₂ /y	FY2011/ FY2010 %
		Discharge t/y	In CO ₂ t/y	Discharge t/y	In CO ₂ t/y		
Plastics	2.600	73	191	72	187	4	102.0
Cardboard, Wood Chips	1.650	238	392	247	408	-16	96.1
Waste Oil	2.900	5	16	11	32	-16	49.3
Sludge	1.100	4,531	4,984	4,360	4,796	188	103.9
Plant Residues	2.442	13,132	32,068	8,091	19,758	12,310	162.3
Garbage	2.442	1,185	2,893	532	1,299	1,594	222.7
Unburnable Wastes	0	46	—	20	—	—	229.1
Total		19,210	40,544	13,333	26,480	14,064	153.1

Waste and Byproduct Control (Recycling) Benefit (Volume of recycled wastes and byproducts in terms of CO₂)

Wastes and Byproducts	Discharge Coefficient t-CO ₂ /t	FY2011				
		Discharge t/y	In CO ₂ t/y	Recycled t/y	Recycling Rate %	Recycled Volume in CO ₂ t/y
Plastics	2.600	73	191	68	93.2	178
Cardboard, Wood Chips	1.650	238	392	235	98.8	387
Waste Oil	2.900	5	16	5	91.6	14
Sludge	1.100	4,531	4,984	1,856	41.0	2,042
Plant Residues	2.442	13,132	32,068	13,078	99.6	31,936
Garbage	2.442	1,185	2,893	959	81.0	2,342
Unburnable Wastes	0	46	—	37	80.4	—
Total		19,210	40,544	16,238	84.5	36,899

Other Environmental Loads

Volumes of Water Usage and Air Pollutant Discharge (NO_x and SO_x)

	FY2011	FY2010	Change	FY2011/ FY2010 %
Water	1,393,000 kℓ	1,348,000 kℓ	45,000 kℓ	103.3
NO _x	19,162 kg	17,848 kg	1,314 kg	107.4
SO _x	7 kg	5 kg	2 kg	136.4

Takara Shoyu Co., Ltd.

Company Overview

Head Office: 2-3, Koami-cho, Nihonbashi, Chuo-ku,
Tokyo 103-0016, Japan
Factories: Choshi Factory (Chiba Prefecture)
Established: 1941
Paid-in Capital: ¥100,000,000
Major Products: Soy sauce, soy sauce derivative products
Website: <http://www.takara-shoyu.co.jp/>
(in Japanese only)

Environmental Performance Review for FY2011

Investment in Environmental Preservation

Investment in environmental preservation was ¥14 million in FY2011, an increase of ¥8 million from the previous fiscal year. The primary contents were updating equipment that had a large ozone depletion potential of Freon to equipment that has a lower depletion potential.

Expenditure on Environmental Preservation

The environmental preservation expenditure was ¥52 million in FY2011, an increase of ¥10 million from the previous fiscal year. The primary contents were an increase in resource circulation, pollution prevention, and global environmental preservation costs.

Environmental Preservation Benefits

The environmental preservation benefits were ¥2 million in FY2011, an increase of ¥1 million from the previous fiscal year. This was due to the waste and byproduct control (recycling).

Environmental Accounting

Investment in and Expenditure on Environmental Preservation

(Rounded off to nearest million yen)

Category	Investment	Expenditure
Business Area Costs	14	49
Pollution Prevention	1	19
Global Environmental Conservation	13	3
Resource Circulation		27
Upstream/Downstream Costs		1
Distribution		1
Administrative Costs		2
Environmental Preservation		2
R&D Cost		
R&D		
Social Activities Costs		
Nature Preservation, Supporting Environmental Preservation Organizations and Local Communities		
Environmental Remediation Costs		
Restoration Costs of Environmental Damage, Payments for Settlements, Reserve Funds		
Total	14	52

Environmental Preservation Benefits

(Rounded off to the nearest unit)

Benefits	Benefit amount (million yen)	Remarks (t-CO ₂ /y)
Energy Use Reduction	0	-133 (increase)
Waste and Byproduct Reduction	0	-177 (increase)
Waste and Byproduct Control (recycling)	2	1,057 (control)
Total	2	747

Environmental Preservation Benefits

Energy Use Reduction Benefit (Environmental loads by energy type in terms of CO₂)

Energy	Discharge Coefficient	FY2011		FY2010		Change in t-CO ₂ /y	FY2011/ FY2010 %
		Consumption	in CO ₂ t/y	Consumption	in CO ₂ t/y		
Light Oil	2.624 t-CO ₂ /kℓ	8 kℓ	21	7 kℓ	18	3	116.6
Electricity	0.000378 t-CO ₂ /kwh	2,270,000 kwh	858	2,136,000 kwh	807	51	106.3
LPG	3.002 t-CO ₂ /t	4 t	12	3 t	9	3	133.4
Gasoline	2.322 t-CO ₂ /kℓ	4 kℓ	9	4 kℓ	9	0	103.2
Purchased Steam* ¹	0.16632 t-CO ₂ /t	4,903 t	815	4,450 t	740	75	110.2
Total			1,716		1,583	133	108.4

Waste and Byproduct Reduction Benefit (Environmental loads by waste and byproduct type in terms of CO₂)

Wastes and Byproducts	Discharge Coefficient t-CO ₂ /t	FY2011		FY2010		Change in t-CO ₂ /y	FY2011/ FY2010 %
		Discharge t/y	In CO ₂ t/y	Discharge t/y	In CO ₂ t/y		
Plastics	2.600	5	13	7	18	-5	72.2
Cardboard, Wood Chips	1.650	66	109	59	97	12	112.3
Sludge	1.100	198	218	167	184	34	118.4
Plant Residues	2.442	176	430	118	288	142	149.2
Garbage	2.442	134	327	136	332	-5	98.6
Unburnable Wastes	0	57	—	54	—	—	105.6
Total		636	1,097	541	920	177	119.2

Waste and Byproduct Control (Recycling) Benefit (Volume of recycled wastes and byproducts in terms of CO₂)

Wastes and Byproducts	Discharge Coefficient t-CO ₂ /t	FY2011				
		Discharge t/y	In CO ₂ t/y	Recycled t/y	Recycling Rate %	Recycled Volume in CO ₂ t/y
Plastics	2.600	5	13	5	100.0	13
Cardboard, Wood Chips	1.650	66	109	66	100.0	109
Soy Sauce Cake (feed)* ²	1.180	388	458	388	100.0	458
Soy Sauce Oil (other use)* ²	2.700	0	0	0	—	0
Sludge	1.100	198	218	194	98.0	213
Plant Residues	2.442	176	430	108	61.4	264
Garbage	2.442	134	327	0	0.0	0
Unburnable Wastes	0	57	—	56	98.2	—
Total		1,024	1,555	817	79.8	1,057

Other Environmental Loads

Volumes of Water Usage and Air Pollutant Discharge (NO_x and SO_x)

	FY2011	FY2010	Change	FY2011/ FY2010 %
Water	92,000 kℓ	80,000 kℓ	12,000 kℓ	115.0
NO _x	716 kg	673 kg	43 kg	106.4
SO _x	4 kg	4 kg	0 kg	100.0

※1 The CO₂ emissions coefficient of 0.16632 for FY2009 is used in accordance with the report published by the Kansai Bureau of Economy, Trade and Industry.

※2 Discharge coefficients of soy sauce cake and soy sauce oil are determined by the Kikkoman Group.

Data compiled by a group company within the scope of reporting

KIKKOMAN FOODS, INC. (KFI)

Company Overview

Head Office: N1365 Six Corners Road, Walworth, Wisconsin 53184, U.S.A.

Factories: • Wisconsin Plant (Wisconsin, United States)
Established: 1972

Major Products: Kikkoman soy sauce and soy sauce derivative products

• California Plant (California, United States)

Established: 1998

Major Products: Kikkoman soy sauce

Paid-in Capital: U.S.\$6,000,000

Environmental Performance Review for FY2011

Investment in Environmental Preservation

Investment in environmental preservation was ¥79 million in FY2011, an increase of ¥52 million from the previous fiscal year. This was primarily due to the new introduction of solar power generation equipment at the California Plant as an effort for global environmental preservation.

Expenditure on Environmental Preservation

The environmental preservation expenditure was ¥155 million in FY2011, a decrease of ¥8 million from the previous fiscal year. This was primarily due to an increase in the depreciation from investments in new equipment and an increase in the cost of maintenance because of increased snow removal, but resource recycling costs decreased.

Environmental Preservation Benefits

The environmental preservation benefits were ¥28 million in FY2011, an increase of ¥1 million from the previous fiscal year. This was primarily due to a decrease in the energy use reduction because of increased power consumption from higher production volume and raising temperatures of the summer season. However, waste and byproduct control (recycling) increased.

Environmental Accounting

Investment in and Expenditure on Environmental Preservation

(Rounded off to nearest million yen)

Category	Investment	Expenditure
Business Area Costs	79	132
Pollution Prevention	3	110
Global Environmental Conservation	76	12
Resource Circulation		10
Upstream/Downstream Costs		
Distribution		
Administrative Costs		23
Environmental Preservation		23
R&D Cost		
R&D		
Social Activities Costs		
Nature Preservation, Supporting Environmental Preservation Organizations and Local Communities		
Environmental Remediation Costs		
Restoration Costs of Environmental Damage, Payments for Settlements, Reserve Funds		
Total	79	155

Environmental Preservation Benefits

(Rounded off to the nearest unit)

Benefits	Benefit amount (million yen)	Remarks (t-CO ₂ /y)
Energy Use Reduction	-1	-869 (increase)
Waste and Byproduct Reduction	-1	-896 (increase)
Waste and Byproduct Control (recycling)	30	20,731 (control)
Total	28	18,966

Environmental Preservation Benefits

Energy Use Reduction Benefit (Environmental loads by energy type in terms of CO₂)

Energy	Discharge Coefficient	FY2011		FY2010		Change in t-CO ₂ /y	FY2011/ FY2010 %
		Consumption	in CO ₂ t/y	Consumption	in CO ₂ t/y		
Electricity	0.000378 t-CO ₂ /kwh	29,025,000 kwh	10,971	26,581,000 kwh	10,048	923	109.2
City Gas	0.002108 t-CO ₂ /m ³	7,748,000 m ³	16,333	7,772,000 m ³	16,383	-50	99.7
Gasoline	2.322 t-CO ₂ /kℓ	0 kℓ	0	2 kℓ	5	-5	0.0
Total			27,304		26,435	869	103.3

Waste and Byproduct Reduction Benefit (Environmental loads by waste and byproduct type in terms of CO₂)

Wastes and Byproducts	Discharge Coefficient t-CO ₂ /t	FY2011		FY2010		Change in t-CO ₂ /y	FY2011/ FY2010 %
		Discharge t/y	In CO ₂ t/y	Discharge t/y	In CO ₂ t/y		
Plastics	2.600	69	180	64	167	13	107.9
Cardboard, Wood Chips	1.650	272	448	173	286	162	156.7
Waste Oil	2.900	1	3	0	1	2	263.2
Sludge	1.100	5,698	6,268	4,677	5,145	1,123	121.8
Plant Residues	2.442	424	1,035	383	935	100	110.7
Garbage	2.442	76	186	283	690	-504	27.0
Unburnable Wastes	0	182	—	198	—	—	92.1
Total		6,722	8,120	5,779	7,224	896	112.4

Waste and Byproduct Control (Recycling) Benefit (Volume of recycled wastes and byproducts in terms of CO₂)

Wastes and Byproducts	Discharge Coefficient t-CO ₂ /t	FY2011				
		Discharge t/y	In CO ₂ t/y	Recycled t/y	Recycling Rate %	Recycled Volume in CO ₂ t/y
Plastics	2.600	69	180	53	76.1	137
Cardboard, Wood Chips	1.650	272	448	272	100.0	448
Waste Oil	2.900	1	3	1	100.0	3
Soy Sauce Cake (feed)*	1.180	10,389	12,259	10,389	100.0	12,259
Soy Sauce Oil*	2.700	168	453	168	100.0	453
Sludge	1.100	5,698	6,268	5,666	99.4	6,233
Plant Residues	2.442	424	1,035	424	100.0	1,035
Garbage	2.442	76	186	67	88.1	164
Unburnable Wastes	0	182	—	182	100.0	—
Total		17,278	20,831	17,221	99.7	20,731

Other Environmental Loads

Volumes of Water Usage and Air Pollutant Discharge (NO_x and SO_x)

	FY2011	FY2010	Change	FY2011/ FY2010 %
Water	642,000 kℓ	569,000 kℓ	73,000 kℓ	112.8
NO _x	17,573 kg	17,027 kg	546 kg	103.2
SO _x	0 kg	0 kg	0 kg	—

※ Discharge coefficients of soy sauce cake and soy sauce oil are determined by the Kikkoman Group.

Data compiled by a group company within the scope of reporting

KIKKOMAN (S) PTE. LTD. (KSP)

Company Overview

Head Office: 7 Senoko Crescent, Singapore 758263
 Factory: 7 Senoko Crescent, Singapore 758263
 Established: 1983
 Paid-in Capital: S\$7,500,000
 Major Products: Kikkoman soy sauce and soy sauce derivative products

Environmental Performance Review for FY2011

• Investment in Environmental Preservation

The environmental preservation expenditure was ¥3 million in FY2011, a decrease of ¥2 million from the previous fiscal year. This was primarily due to prioritizing budget allocation for the expansion work at KSP that started in FY2011.

• Expenditure on Environmental Preservation

The environmental preservation expenditure was ¥12 million in FY2011, an increase of ¥1 million from the previous fiscal year. This was primarily due to an increase in anti-pollution costs for water pollution prevention.

• Environmental Preservation Benefits

The environmental preservation expenditure was ¥3 million in FY2011, the same as the previous fiscal year. This was due to waste and byproduct control (recycling).

Environmental Accounting

Investment in and Expenditure on Environmental Preservation

(Rounded off to nearest million yen)

Category	Investment	Expenditure
Business Area Costs	3	11
Pollution Prevention	3	7
Global Environmental Conservation		3
Resource Circulation		1
Upstream/Downstream Costs		
Distribution		
Administrative Costs		1
Environmental Preservation		1
R&D Cost		
R&D		
Social Activities Costs		
Nature Preservation, Supporting Environmental Preservation Organizations and Local Communities		
Environmental Remediation Costs		
Restoration Costs of Environmental Damage, Payments for Settlements, Reserve Funds		
Total	3	12

Environmental Preservation Benefits

(Rounded off to the nearest unit)

Benefits	Benefit amount (million yen)	Remarks (t-CO ₂ /y)
Energy Use Reduction	0	-175 (increase)
Waste and Byproduct Reduction	0	2 (reduction)
Waste and Byproduct Control (recycling)	3	2,058 (control)
Total	3	1,885

Environmental Preservation Benefits

Energy Use Reduction Benefit (Environmental loads by energy type in terms of CO₂)

Energy	Discharge Coefficient	FY2011		FY2010		Change in t-CO ₂ /y	FY2011/ FY2010 %
		Consumption	in CO ₂ t/y	Consumption	in CO ₂ t/y		
Light Oil	2.624 t-CO ₂ /kℓ	591 kℓ	1,551	557 kℓ	1,462	89	106.1
Electricity	0.000378 t-CO ₂ /kwh	3,168,000 kwh	1,198	2,939,000 kwh	1,111	87	107.8
Total			2,748		2,573	175	106.8

Waste and Byproduct Reduction Benefit (Environmental loads by waste and byproduct type in terms of CO₂)

Wastes and Byproducts	Discharge Coefficient t-CO ₂ /t	FY2011		FY2010		Change in t-CO ₂ /y	FY2011/ FY2010 %
		Discharge t/y	In CO ₂ t/y	Discharge t/y	In CO ₂ t/y		
Cardboard, Wood Chips	1.650	40	66	32	53	13	124.2
Waste Oil	2.900	14	41	17	49	-8	84.1
Garbage	2.442	276	674	279	681	-7	99.0
Total		330	781	328	783	-2	99.7

Waste and Byproduct Control (Recycling) Benefit (Volume of recycled wastes and byproducts in terms of CO₂)

Wastes and Byproducts	Discharge Coefficient t-CO ₂ /t	FY2011				
		Discharge t/y	In CO ₂ t/y	Recycled t/y	Recycling Rate %	Recycled Volume in CO ₂ t/y
Cardboard, Wood Chips	1.650	40	66	40	100.0	66
Waste Oil	2.900	14	41	14	100.0	41
Soy Sauce Cake (feed)*	1.180	1,083	1,277	1,083	100.0	1,277
Soy Sauce Oil*	2.700	0	0	0	—	0
Garbage	2.442	276	674	276	100.0	674
Total		1,413	2,058	1,413	100.0	2,058

Other Environmental Loads

Volumes of Water Usage and Air Pollutant Discharge (NO_x and SO_x)

	FY2011	FY2010	Change	FY2011/ FY2010 %
Water	75,000 kℓ	69,000 kℓ	6,000 kℓ	109.4
NO _x	1,853 kg	1,732 kg	121 kg	107.0
SO _x	296 kg	279 kg	17 kg	106.1

※ Discharge coefficients of soy sauce cake and soy sauce oil are determined by the Kikkoman Group.

Data compiled by a group company within the scope of reporting

KIKKOMAN FOODS EUROPE B.V. (KFE)

Company Overview

Head Office: De Vosholen 100, 9611 TG Sappemeer,
The Netherlands

Factory: De Vosholen 100, 9611 TG Sappemeer,
The Netherlands

Established: 1996

Paid-in Capital: EUR12,705,000

Major Products: Kikkoman soy sauce and soy sauce derivative
products

Environmental Performance Review for FY2011

Investment in Environmental Preservation

Investment in environmental preservation was ¥1 million in FY2011, a decrease of ¥12 million from the previous fiscal year. There were no significant investments in environmental preservation in FY2011.

Expenditure on Environmental Preservation

The environmental preservation expenditure was ¥31 million in FY2011, a decrease of ¥1 million from the previous fiscal year. The variations in the exchange rate for Japanese yen decreased compared to FY2010, but the rate of the euro increased slightly. Costs, such as pollution prevention, were almost the same.

Environmental Preservation Benefits

The environmental preservation benefits were ¥2 million in FY2011, a decrease of ¥1 million from the previous fiscal year. This was primarily due to an increase in energy and a decrease in the energy use reduction.

Environmental Accounting

Investment in and Expenditure on Environmental Preservation

(Rounded off to nearest million yen)

Category	Investment	Expenditure
Business Area Costs	1	26
Pollution Prevention	1	20
Global Environmental Conservation		
Resource Circulation		6
Upstream/Downstream Costs		
Distribution		
Administrative Costs		3
Environmental Preservation		3
R&D Cost		
R&D		
Social Activities Costs		2
Nature Preservation, Supporting Environmental Preservation Organizations and Local Communities		2
Environmental Remediation Costs		
Restoration Costs of Environmental Damage, Payments for Settlements, Reserve Funds		
Total	1	31

Environmental Preservation Benefits

(Rounded off to the nearest unit)

Benefits	Benefit amount (million yen)	Remarks (t-CO ₂ /y)
Energy Use Reduction	-1	-428 (increase)
Waste and Byproduct Reduction	0	-85 (increase)
Waste and Byproduct Control (recycling)	3	2,214 (control)
Total	2	1,701

Environmental Preservation Benefits

Energy Use Reduction Benefit (Environmental loads by energy type in terms of CO₂)

Energy	Discharge Coefficient	FY2011		FY2010		Change in t-CO ₂ /y	FY2011/ FY2010 %
		Consumption	in CO ₂ t/y	Consumption	in CO ₂ t/y		
Electricity	0.000378 t-CO ₂ /kwh	3,062,000 kwh	1,157	2,834,000 kwh	1,071	86	108.1
City Gas	0.002108 t-CO ₂ /m ³	1,132,000 m ³	2,386	970,000 m ³	2,045	341	116.7
Total			3,544		3,116	428	113.7

Waste and Byproduct Reduction Benefit (Environmental loads by waste and byproduct type in terms of CO₂)

Wastes and Byproducts	Discharge Coefficient t-CO ₂ /t	FY2011		FY2010		Change in t-CO ₂ /y	FY2011 FY2010 %
		Discharge t/y	In CO ₂ t/y	Discharge t/y	In CO ₂ t/y		
Plastics	2.600	13	34	18	46	-12	73.5
Cardboard, Wood Chips	1.650	49	81	29	47	34	172.0
Waste Oil	2.900	0	0	0	0	0	—
Garbage	2.442	94	230	68	166	64	138.3
Unburnable Wastes	0	23	—	3	—	—	—
Total		179	344	117	259	85	132.9

Waste and Byproduct Control (Recycling) Benefit (Volume of recycled wastes and byproducts in terms of CO₂)

Wastes and Byproducts	Discharge Coefficient t-CO ₂ /t	FY2011				
		Discharge t/y	In CO ₂ t/y	Recycled t/y	Recycling Rate %	Recycled Volume in CO ₂ t/y
Plastics	2.600	13	34	13	100.0	34
Cardboard, Wood Chips	1.650	49	81	49	100.0	81
Soy Sauce Cake (feed)*	1.180	1,573	1,856	1,573	100.0	1,856
Soy Sauce Oil*	2.700	5	14	5	100.0	14
Garbage	2.442	94	230	94	100.0	230
Unburnable Wastes	0	23	—	23	100.0	—
Total		1,757	2,214	1,757	100.0	2,214

Other Environmental Loads

Volumes of Water Usage and Air Pollutant Discharge (NO_x and SO_x)

	FY2011	FY2010	Change	FY2011/ FY2010 %
Water	61,000 kℓ	47,000 kℓ	14,000 kℓ	129.8
NO _x	2,241 kg	1,982 kg	259 kg	113.1
SO _x	0 kg	0 kg	0 kg	—

* Discharge coefficients of soy sauce cake and soy sauce oil are determined by the Kikkoman Group.