HOKKO

2013

Company Information and Market Report of Agrochemicals in Japan

CONTENTS

Part I. COMPANY INFORMATION

1. Briefings (As of November 30, 2012)

Foundation:	February 27, 1950	
Paid-in Capital:	¥3.2 billion	
Main stock holders		
	Nomura Shokusan Co., Ltd.	7.0%
	Sumitomo Chemical Co., Ltd.	6.6%
	Nomura Holdings, Inc.	4.6%
	Resona Bank, Limited.	4.5%
	The Norinchukin Bank	2.9%
	National Federation of Agricultural Cooperative Associations(ZEN-NOH)	2.7%
Employees:	678	

Central Research Laboratories

Okayama Factory

2. Organization (As of February 26, 2013)

Board of Directors:

Chairman	Takao Maruyama
President	Yoshikatsu Nakashima
Director, Senior Managing Executive Officer	Motoo Abe
Director, Managing Executive Officer	Junichi Kobayashi
	Yuji Ogawa
	Tsugio Uchiyama
	Masayuki Ooba

Head Office:	Mitsui Building No.2 4-20, Nihonbashi Hongoku-cho, 4 chome, Chuo-ku Tokyo 103-8341, Japan
Branches:	Sapporo, Akita, Sendai, Tokyo, Niigata, Toyama, Nagoya, Osaka, Okayama, Takamatsu, Fukuoka (11 Branches)
Main Factories:	Hokkaido, Niigata, Okayama
Laboratories:	Central Research Laboratories (Kanagawa) Fine Chemicals Research Laboratories (Kanagawa)
Experimental Farms:	Hokkaido, Kanagawa, Shizuoka
Subsidiaries:	HOKKO SANGYO CO., LTD. (Tokyo, Japan)
	BIEI HAKUDO INDUSTRY CO., LTD. (Hokkaido, Japan)
	HOKKO PAX CO., LTD.(Okayama, Japan)
	Zhangjiagang HOKKO CHEMICAL INDUSTRY CO., LTD. (Jiangsu, China)

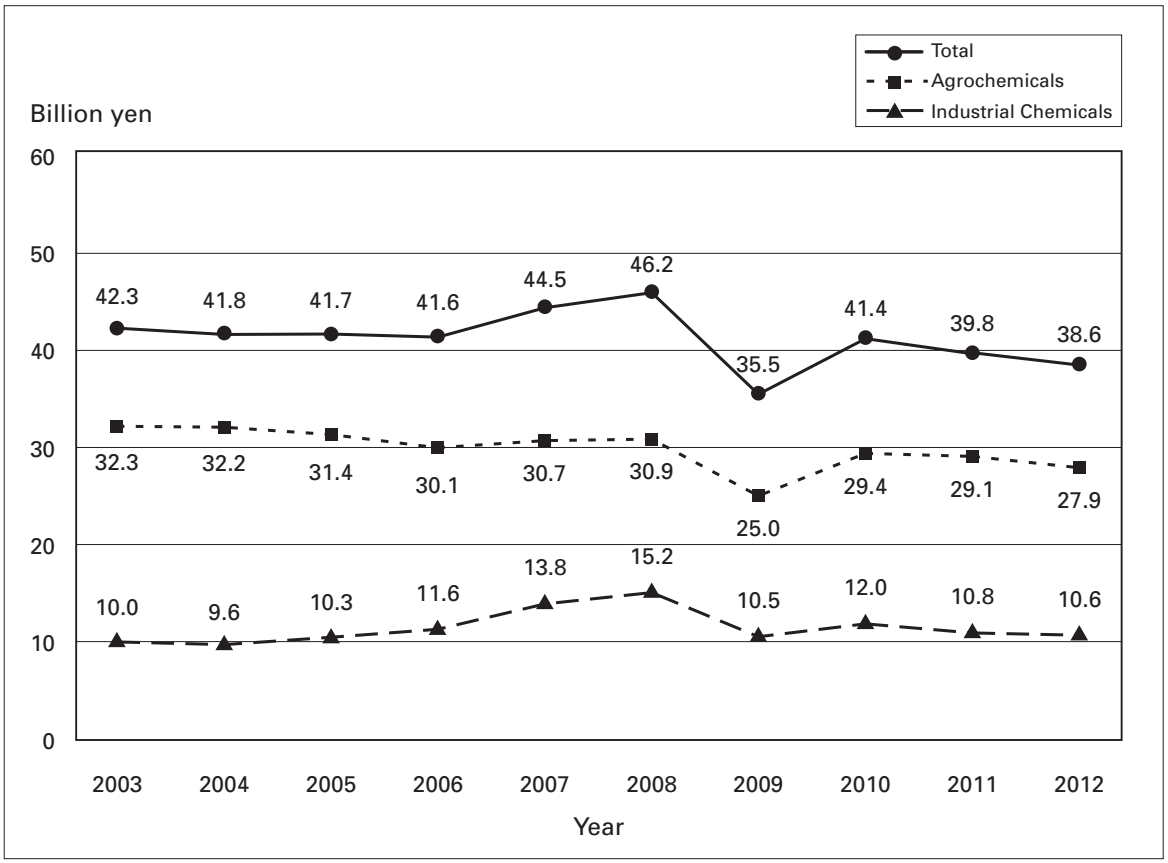
3. 2012 Business Report (As of November 30, 2012)

3-1. Sales splits of crop protection products(fiscal year)

Value: Million yen

	2011		2012		
	Value	Share(%)	**Value**	**Share(%)**	**Growth(%)**
Agrochemicals					
Insecticides	6,684	16.8	**6,382**	**16.5**	**95.5**
Fungicides	7,427	18.6	**6,986**	**18.1**	**94.1**
I/F Combinations	6,900	17.3	**7,228**	**18.7**	**104.7**
Herbicides	7,638	19.2	**6,974**	**18.1**	**91.3**
Others	428	1.1	**415**	**1.1**	**97.0**
Subtotal	29,077	73.0	**27,984**	**72.5**	**96.2**
Industrial Chemicals	10,756	27.0	**10,620**	**27.5**	**98.7**
Total	39,833	100	**38,604**	**100**	**96.9**
Export (Included in Total Sales)					
Agrochemicals	1,392	3.5	**1,426**	**3.7**	**102.4**
Industrial Chemicals	1,705	4.3	**1,852**	**4.8**	**108.6**

3-2. Annual Progress of Business Turnover(2003-2012)



4. Hokko's Leading Products in 2012

4-1. INSECTICIDE

Product Name	Active Ingredient	Crop	Pest
Ortran	acephate	Fruit, Vegetables	Thrips, Aphids, Lepidopteran pests
Starkle	dinotefuran	Rice, Vegetables, Fruit	Stinkbugs, Planthoppers, Leafhoppers, Leafminer, Aphids
Lannate	methomyl	Vegetables, Tea	Lepidopteran pests
Ferterra	chlorantraniliprole	Rice	Rice leafroller, Green rice caterpillar, Rice stem borer
MR.Joker	silafluofen	Rice	Planthoppers, Stinkbugs, etc.
Kirappu	ethiprole	Rice, Fruit, Tea	Planthoppers, Stinkbugs, etc.
Prince	fipronil	Rice	Planthoppers, Locust, Rice leafroller, etc.
Prevathon	chlorantraniliprole	Vegetables	Diamondback moth, Cabbage worm, Cabbage armyworm

4-2. FUNGICIDE

Product Name	Active Ingredient	Crop	Disease
Oryzemate / Dr.Oryze	probenazole	Rice	Blast
Imotiace	metominostrobin	Rice	Blast
Manage	imibenconazole	Fruit, Vegetables, Turf	Rust, Scab, Powdery mildew, Anthracnose
Topsin M	thiophanate-methyl	Fruit, Vegetables	Gray mold, Anthracnose, Bluemold, Blotch, Scab, Sclerotinia rot
Hokguard	tetraconazole	Sugar beet	Cercospora leaf spot
Kasumin-Bordeaux	kasugamycin+ copper oxychloride	Vegetables, Fruit, Tea	Bacterial diseases, Powdery mildew, Leaf mold, Downy mildew
Benlate T	thiuram+benomyl	Vegetables	*Sclerotium cepivorum*
Blasin	ferimzone+phthalide	Rice	Blast
Sumilex	procymidone	Vegetables	Gray mold, Stem rot
Aphet	penthiopyrad	Vegetables	Gray mold, Powdery mildew, Stem rot
Validacin	ValidamycinA	Rice, Vegetables	Sheath blight, Bacterial soft rot

4-3. I/F COMBINATION

Product Name	Active Ingredient	Crop	Disease, Pest
Dr.Oryze-Ferterra	probenazole + chlorantraniliprole	Rice	Blast, Various pests
Dr.Oryze-Prince	probenazole + fipronil	Rice	Blast, Various pests
Dr.Oryze-Starkle	probenazole + dinotefuran	Rice	Blast, Various pests
Imotiace Starkle	metominostrobin + dinotefuran	Rice	Blast, Stinkbugs
Builder-Prince-Greatam	probenazole + fipronil + thifluzamide	Rice	Blast, Various pests
Rabcide-Starkle	dinotefuran + phthalide	Rice	Blast, Stinkbugs
Blasin-Joker	ferimzone + phthalide + silafluofen	Rice	Blast, Stinkbugs, Planthoppers, Leafhoppers
Doublecut Trebon	kasugamycin + tricyclazole + ethofenprox	Rice	Blast, Planthoppers

4-4. HERBICIDE

Product Name	Active Ingredient	Crop	Weed, Use
Mr.Homerun	oxaziclomefone+clomeprop+ bensulfuron-methyl	Rice	One shot application
Gouwan	oxaziclomefone+bromobutide+ clomeprop+bensulfuron-methyl	Rice	One shot application
Clincher	cyhalofop-butyl	Rice	Grassweed
Puncher	fentrazamide+benzofenap+ benfuresate	Rice	One shot application
Yuniherb	benzofenap+pretilachlor	Rice	Soil treatment
Dash one	pentoxazone+daimuron	Rice	Early application
Basagran	bentazon	Rice, Beans, Wheats	Post treatment
Lenapac	lenacil+chloridazon	Sugar beet	Early post treatment
A-one	oxaziclomefone+tefuryltrione	Rice	One shot application
Longkick	clomeprop+fentrazamide+ bensulfuron-methyl	Rice	One shot application

5. Hokko's Products for Export

5-1. FUNGICIDE

Product Name	Active Ingredient	Formulation
Kasumin	kasugamycin	SL, WP, GR
Kasumin-Bordeaux (KASURAN)	kasugamycin +copper oxychloride	WP
Manage	imibenconazole	WP, WDG, EC
Hokko Bordeaux	copper oxychloride	WP

Formulation

GR / granule
EC / emulsifiable concentrate
WP / wettable powder
SL / soluble liquid
WDG / water dispersible granule

KASUMIN and KASUMIN-BORDEAUX

Original fungicides most reputed widely for effective control of various kinds of fungal and bacterial diseases on rice, vegetables, beans, fruit, ornamentals, etc.

MANAGE

A triazole fungicide having high efficacy against scab and rust in apple and pear, additionally showing remarkable performances in controlling grape anthracnose and citrus scab, both of which have been known as diseases difficult to control with the existing triazole fungicide

HOKKO BORDEAUX

A contact fungicide having high preventive activities and low phytotoxicity

KASUMIN and KASUMIN-BORDEAUX

Crop	Disease (Pathogen)	KASUMIN	KASUMIN-BORDEAUX
Rice	Blast (*Pyricularia grisea*)	◎	◎
	Bacterial grain rot (*Burkholderia glumae*)	◎	
	False smut (*Villosiclava virens*)		◎
	Bacterial Brown stripe (*Acidovorax avenau* subsp. *Avenae*)	◎	
Sugar beet	Cercospora leaf spot (*Cercospora beticola*)	◎	◎

Crop	Disease (Pathogen)	KASUMIN	KASUMIN-BORDEAUX
Cucumber Melon, Water melon	Angular leaf spot (*Pseudomonas syringae* pv. *lachrymans*)	◎	◎
	Bacterial spot (*Xanthomonas cucurbitae*)	◎	◎
	Anthracnose (*Colletorichum orbiculare*)	◎	
	Powdery mildew (*Sphaerothca fuliginea*)		◎
	Downy mildew (*Pseudoperonospora cubensis*)		◎
Tomato	Leaf mold (*Passalora fulva*)	◎	◎
	Bacterial canker (*Clavibacter michiganensis* subsp. *michiganensis*)	◎	◎
	Bacterial spot (*Xanthomonas vesicatoria*)		◎
	Late blight (*Phytophthora infestans*)		◎
Onion	Bacterial soft rot (*Pectobacterium carotovorum*)	◎	◎
Potato	Bacterial soft rot (*Pectobacterium carotovorum*)	◎	◎
Paprika Sweet pepper Chile	Bacterial spot (*Xanthomonas vesicatoria*)	◎	◎
	Anthracnose (*Colletotrichum acutatum*)	◎	◎
	Powdery mildew (*Levellula taurica*)		◎
Green beans	Halo blight (*Pseudomonas savastanai* pv. *phaseolicola*)	◎	◎
Apple, Pear	Fire blight (*Erwinia amylovora*)	◎	
Kiwifruit	Bacterial canker (*Pseudomonas syringae* pv. *actinidiae*)	◎	◎
	Bacterial blossom blight (*Pseudomonas marginalis* pv. *marginalis*)	◎	◎
Citrus	Canker (*Xanthomonas citri* subsp. *citri*)	◎	◎
Coffee	Black spot (*Pseudomonas syringae* pv. *garcae*)	◎	◎
Tea	Gray blight (*Pestalotiopsis longiseta*)	◎	◎
	Bacterial shoot blight (*Pseudomonas syringae* pv. *theae*)	◎	◎
Egg plant	Leaf mold (*Mycovellosiella nattrassii*)	◎	
Celery	Early blight (*Cercospora apii*)	◎	
Carrot	Bacterial soft rot (*Pectobacterium carotovorum*)	◎	
Cabbage	Black rot (*Xanthomonas vesicatoria*)		◎
	Bacterial soft rot (*Pectobacterium carotovorum*)		◎
Lettuce	Bacterial rot (*Pseudomonas cichorii, Pseudomonas marginalis* pv. *martinalis, Pseudomonas viridiflava*)		◎
	Bacterial spot (*Xanthomonas axonopodis* pv. *vitians*)		◎
Rose	Powdery mildew (*Sphaerotheca passosa*)		◎

※also effective for control of various fungal and bacterial diseases on passion fruits, agave, etc.

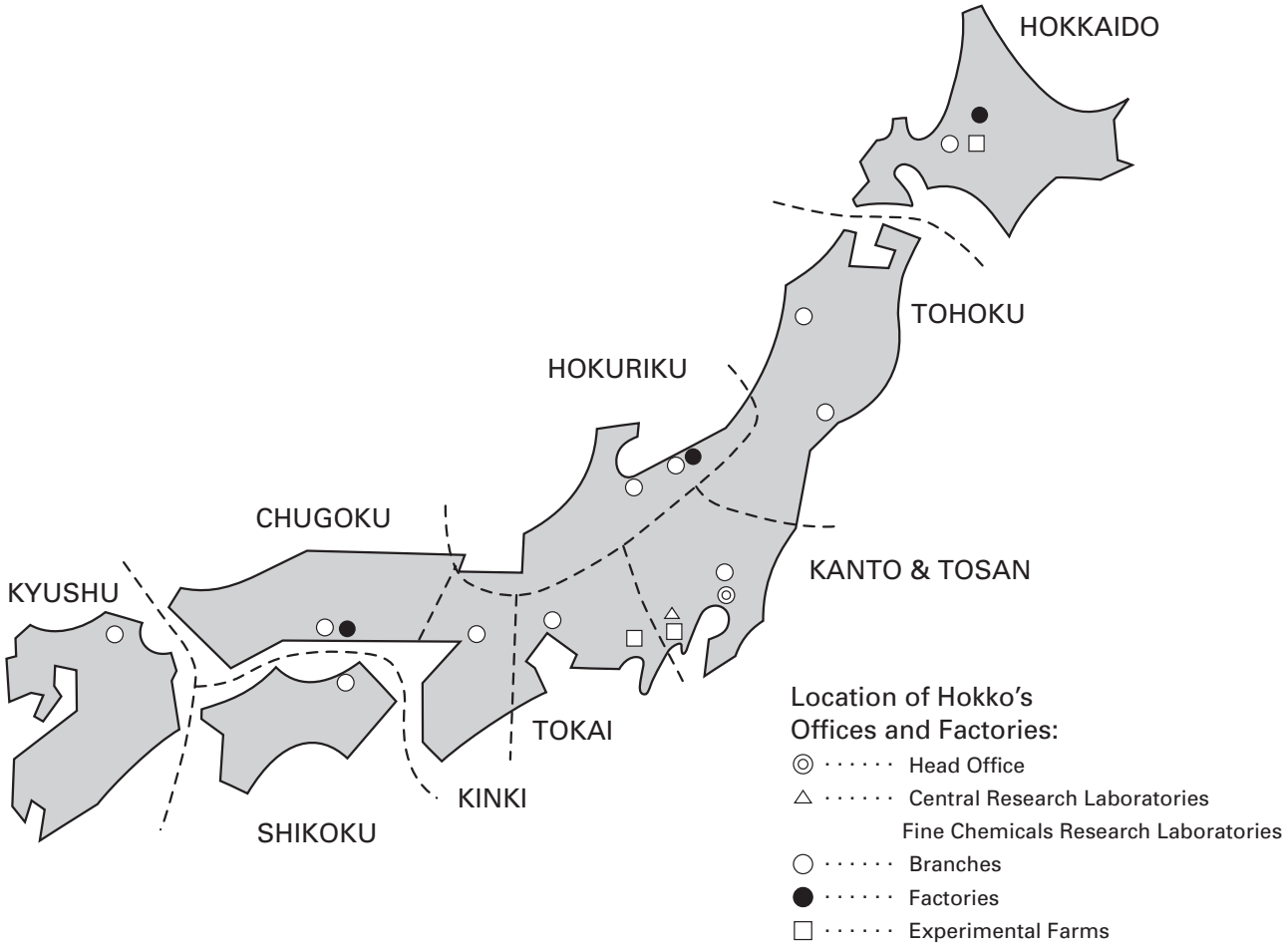
MANAGE

Triazole fungicide originally developed and well accepted for wide use of crop protection from various kinds of fungal diseases

Crop	Disease (Pathogen)
Citrus	Scab (*Elsinoe fawcetti*)
Grape	Anthracnose (*Elsinoe ampelina*) Powdery mildew (*Erysiphe necator* var. *necator*) Pestalotia-tsurugare-byo (*Pestalotiopsis menezesiana*) Rust (*Phrsopella ampelop sidis*)
Apple	Scab (*Venturia inaequalis*) Rust (*Gymnosporangium yamadae*) Powdery mildew (*Podosphaera leucotricha*) Fly speck (*Zygophiala jamaicensis*) Sooty blotch (*Gloeodes pomigena*) Alternaria leaf spot (*Alternaria mali*)
Pear	Scab (*Venturia nashicola*) Rust (*Gymnosporangium asiaticum*)
Peach	Scab (*Cladosporium carpophilum*)
Japanese apricot	Scab (*Cladosporium carpophilum*)
Apricot	Brown rot (*Monilinia fructicola*)
Melon and Water melon	Powdery mildew (*Sphaerotheca fuliginea*)
Groundnut	Brown leaf spot (*Mycosphaerella arachidis*)
Soybean	Purple stain (*Cercospora kikuchii*)
Tea	Anthracnose (*Discula theae-sinensis*) Blister blight (*Exobasidium vexans*) Brown round spot (*Pseudocercospora ocellata*)
Banana	Black sigatoka (*Mycosphaerella fijiensis*)
Turf	Rust (*Puccinia zoysiae*)
Rose	Black spot (*Diplocarpon rosae*) Powdery mildew (*Sphaerotheca pannosa*)
Chrysanthemum	Rust (*Puccinia horiana*) Rust (*Puccinia tanaceti*)
Japanese spindle tree	Powdery mildew (*Uncinuliella australiana*)
Crape Myrtle	Powdery mildew (*Uncinula australiana*)
Poplar	Powdery mildew (*Uncinula adunca* var. *mandshurica*) Massoning leaf blight (*Massonina brunnea*)
Tobacco	Powdery mildew (*Erysiphe cichoracearum*)

Part II. MARKET REPORT OF AGROCHEMICALS IN JAPAN

1. Map of Japan by Agricultural Region



2. Area of Main Crops by Agricultural Region in 2012

(Source; MAFF / The Ministry of Agriculture, Forest and Fisheries of Japan)

Unit: 1,000ha.

Region \ Crop	Paddy rice	Wheat/Barley	Potato*	Soybean	Citrus	Apple	Pear	Grape	Cucumber	Cabbage*	Tea
HOKKAIDO	112.0	121.2	53.1	27.2	0.0	0.6	0.1	1.2	0.2	1.4	0.0
TOHOKU	396.7	8.8	4.2	32.7	<0.1	29.5	3.0	3.1	2.4	2.6	—
HOKURIKU	209.4	9.9	1.5	13.1	<0.1	0.2	1.0	0.5	0.7	0.8	<0.1
KANTO & TOSAN	297.6	42.5	6.9	11.1	2.0	8.9	5.9	7.7	3.9	13.0	2.3
TOKAI	101.9	15.5	1.6	11.5	10.6	0.1	0.9	0.7	0.6	6.3	23.2
KINKI	109.1	10.2	1.1	9.1	11.5	<0.1	0.4	1.1	0.7	1.9	3.2
CHUGOKU	114.7	4.7	1.5	4.9	5.4	0.2	1.7	2.0	0.7	1.4	0.5
SHIKOKU	55.8	4.4	0.7	0.6	20.9	<0.1	0.5	0.5	0.6	0.8	1.0
KYUSHU	184.2	56.2	10.4	20.9	24.4	—	2.0	1.9	1.9	5.5	15.6
Total	1,581.0	273.5	81.0	131.1	74.9	39.7	15.5	18.6	11.6	33.7	45.9
Comparison with Previous Year (100%)	100	99	98	96	99	99	97	99	99	101	99

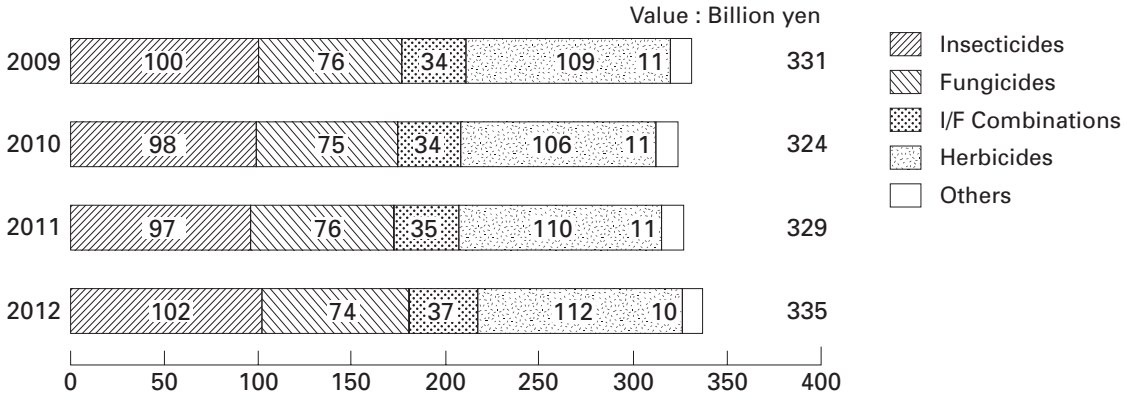
*; Data from 2011

—; not available

3. Agrochemicals Business by the member companies of JCPA* in 2012

(*Japan Crop Protection Association)

3-1 Agrochemicals Deliveries

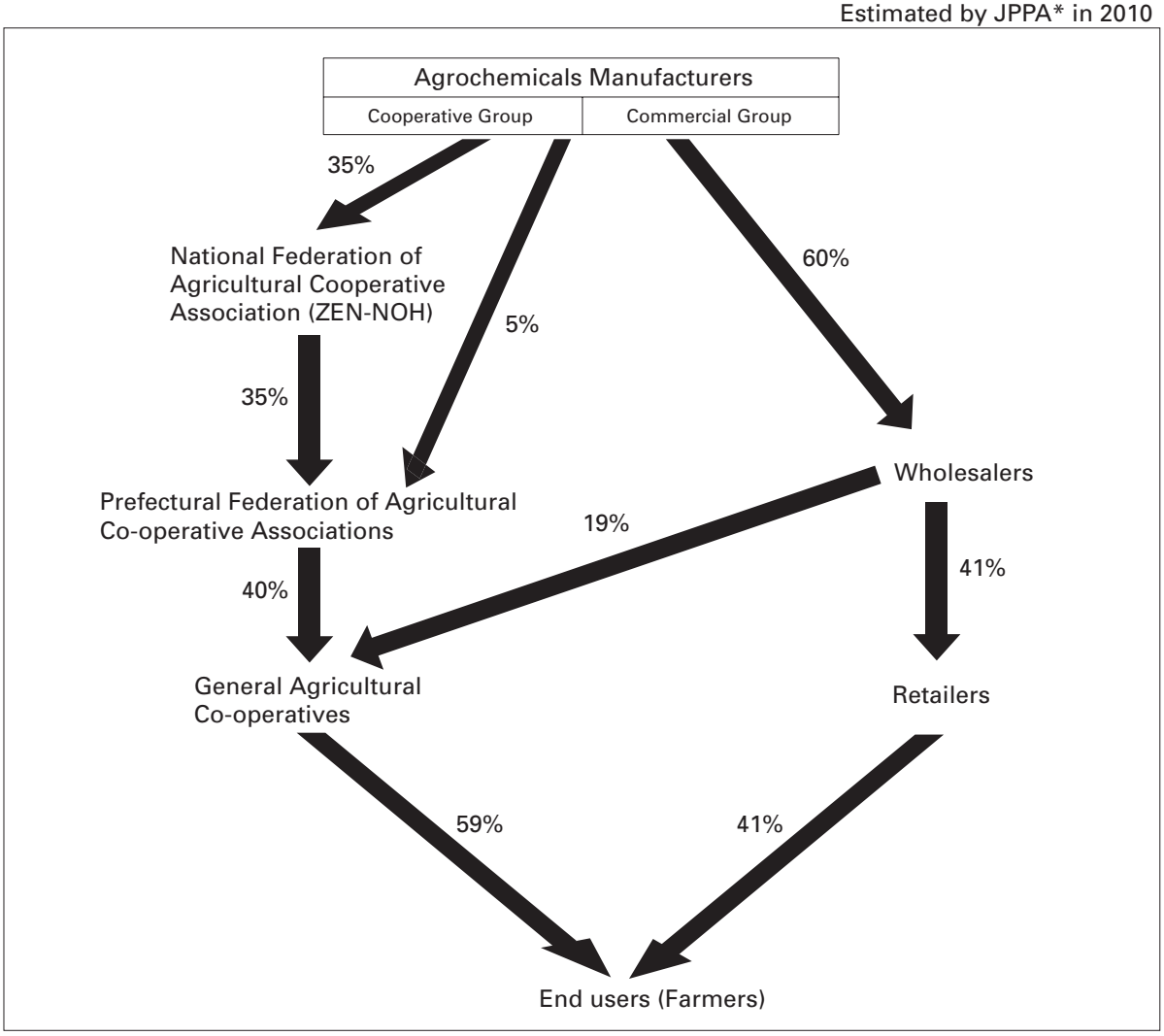


3-2 Agrochemicals Value by Crop

Sector	Agrochemicals group	Value		Comparison with 2011 (100%)
		Billion yen	%	
Paddy rice	Insecticides	13.0	4	95%
	Fungicides	11.1	3	88%
	I/F Combinations	32.4	10	100%
	Herbicides	64.0	19	101%
	Subtotal	**120.5**	**36**	**99%**
Fruit trees	Insecticides	23.2	7	103%
	Fungicides	18.5	6	96%
	I/F Combinations	0.3	0	105%
	Herbicides	8.4	3	103%
	Subtotal	**50.4**	**15**	**100%**
Vegetables, potatoes, beans etc.	Insecticides	58.5	17	105%
	Fungicides	39.1	12	99%
	I/F Combinations	2.1	1	121%
	Herbicides	19.6	6	100%
	Subtotal	**119.3**	**36**	**103%**
Others	Insecticides	7.0	2	131%
	Fungicides	5.6	2	114%
	I/F Combinations	1.6	0	581%
	Herbicides	20.0	6	108%
	Subtotal	**34.3**	**10**	**118%**
(Total)	Insecticides	101.6	30	104%
	Fungicides	74.3	22	98%
	I/F Combinations	36.5	11	105%
	Herbicides	112.0	33	102%
	Others	10.3	3	97%
Grand total		**334.8**	**100**	**102%**

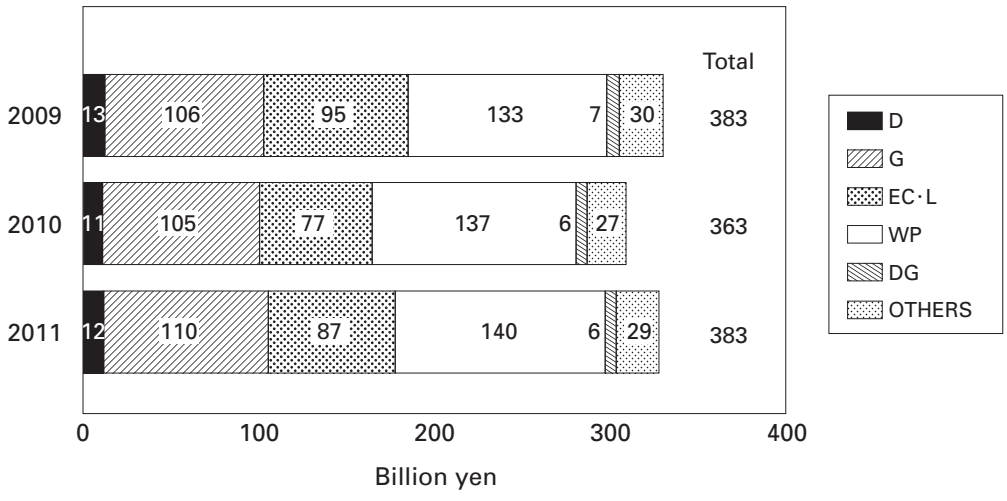
4. Distribution System of Agrochemicals

Estimated by JPPA* in 2010



(*JPPA/Japan Plant Protection Assosiation)

5. Agrochemicals Production by Formulation(2009-2011) (Source; JPPA)



6. Pest Infestation and Agrochemical Treatment in 2011 (Source; JPPA)

Crop (Planted Area 1,000ha)	Pests and diseases	Net treated area (1,000ha)	Total treated area	
			Area (1,000ha)	Comparison with 2010 (100%)
Rice (1,574)	Seedling blight	1,127	1,183	98%
	Blast(leaf)	1,025	1,427	98%
	Blast(neck & ear)	938	1,471	93%
	Sheath blight	650	747	102%
	"Bakanae" disease	1,011	1,011	100%
	Rice stem borer(2nd generation)	177	193	98%
	White-backed planthopper	848	1,351	107%
	Brown rice planthopper	582	1,001	96%
	Small brown planthopper	823	1,413	102%
	Green rice leafhopper	617	1,032	95%
	Rice leaf beetle	749	788	101%
	Rice stink bug	1,088	1,662	98%
	Rice leafroller	364	501	99%
	Rice water weevil	908	923	95%
Wheat & Barley (276)	Powdery mildew	115	242	94%
	Scab	233	515	104%
	Snow rots	91	95	110%
Potato (81)	Late blight	62	421	83%
	Twenty-eight-spotted ladybird	5	9	113%
Soybean (137)	Purple stain	69	105	95%
	Soybean pod borer	70	108	87%
	Stink bugs	67	102	89%
Citrus (76)	Scab	37	82	111%
	Melanose	55	226	99%
	Arrowhead scale	40	68	91%
	Citrus red mite	64	182	105%
Apple (40)	Blossom blight	27	57	100%
	Alternaria leaf spot	40	312	98%
	Scab	40	244	98%
	Peach fruit moth	39	164	98%
	Apple leafminer	40	81	95%
	Mites	40	141	116%
Pear (16)	Black spot	4	38	100%
	Scab	13	137	99%
Vine (19)	Ripe rot	14	44	96%
	Rust	12	29	91%
	Leaf spot	13	42	100%
	Anthracnose	13	31	129%
	Downy mildew	15	69	113%
	Gray mold	12	35	117%
	Thrips	14	46	121%

Crop (Planted Area 1,000ha)	Pests and diseases	Net treated area (1,000ha)	Total treated area	
			Area (1,000ha)	Comparison with 2010 (100%)
Tea (46)	Anthracnose	38	80	98%
	Smaller tea tortrix	30	64	103%
	Oriental tea tortrix	35	69	111%
	Tea leafroller	39	67	63%
	Tea green leafhopper	39	86	110%
	Kanzawa spider mite	39	86	96%
	Thrips	38	86	89%
Cucumber (12)	Downy mildew	7	34	92%
	Anthracnose	2	10	100%
	Powdery mildew	7	32	97%
	Bacterial spot	3	8	100%
	Aphids	7	26	96%
Cabbage (34)	Black rot	9	26	87%
	Diamondback moth	12	40	78%

7. Herbicide Application in Rice Field

Crop	Application method	2012		
		Volume (t)	Value (million yen)	Estimated Area (1,000ha)
Rice	One-shot application	15,666	41,712	1,740
	Pre- and early post-emergence application	4,551	6,204	603
	Post-emergence application	7,163	10,301	576
	Total	27,380	58,217	2,916

(Source; JAPR / The Japan Association for Advancement of Phyto-Regulators)

8. Farm Household Economy (Source; MAFF)

8-1. Average Income per Household (include tax)

Value:1,000 yen

	2007	2008	2009	2010	**2011**
Agriculture	1,195	1,082	1,042	1,223	**1,196**
Non-agriculture	1,936	1,858	1,685	1,610	**1,604**
Others (Annuity etc.)	1,701	1,712	1,833	1,820	**1,825**
Total income	4,836	4,657	4,566	4,660	**4,663**

8-2. Average Agricultural Expenditure by Crop in 2011

Unit: yen/10a

	Rice		Wheat		Potato		Sugar beet		Soybean	
Seed & Seedling	3,389	3%	2,482	5%	12,174	18%	2,367	3%	2,645	5%
Fertilizers	8,895	7%	8,657	17%	10,609	15%	22,484	24%	4,888	10%
Agrochemicals	7,409	6%	4,374	9%	8,734	13%	11,294	12%	4,475	9%
Fuel	4,453	4%	1,941	4%	3,472	5%	3,874	4%	1,859	4%
Rent & Charge	11,576	10%	13,919	27%	663	1%	3,195	3%	8,849	18%
Buildings cost	7,045	6%	1,105	2%	1,502	2%	2,488	3%	1,241	3%
Agricultural machinery	26,705	22%	8,382	17%	12,520	18%	14,270	15%	8,643	18%
Labor	36,602	31%	5,917	12%	14,125	21%	24,090	26%	11,801	24%
Others	13,281	11%	3,853	8%	4,948	7%	8,814	9%	4,449	9%
Total	119,355	100%	50,630	100%	68,747	100%	92,876	100%	48,850	100%

9. Rice Production (Source; MAFF)

9-1. Transition of Rice Cultivated Area for 10 years

Unlt: 1,000ha

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	**2012**
Cultivated Area(1,000ha)	2,592	2,575	2,556	2,543	2,530	2,516	2,506	2,496	2,474	**2,469**
Planted Area (1,000ha)	1,665	1,701	1,706	1,688	1,673	1,627	1,624	1,628	1,576	**1,581**
Set-aside*1 (%)	36	34	33	34	34	35	35	35	36	**36**

*1; Set-aside (%) = $\frac{\text{(Cultivated area – Planted area)}}{\text{Cultivated area}} \times 100$

9-2. Transition of Rice Production for 10 years

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	**2012**
Yield (t/ha)	4.69	5.14	5.32	5.07	5.22	5.43	5.22	5.22	5.33	**5.40**
Normal Yield (t/ha)*1	5.24	5.25	5.27	5.29	5.29	5.30	5.30	5.30	5.30	**5.30**
Index number of Rice Yield*2	90	98	101	96	99	102	98	98	101	**102**
Total Production (million ton)	7.8	8.7	9.1	8.5	8.7	8.8	8.5	8.5	8.4	**8.5**

*1; Determined by MAFF

*2; Index number = $\frac{\text{Yield}}{\text{Normal Yield}} \times 100$

HOKKO CHEMICAL INDUSTRY CO., LTD.

MITSUI BUILDING NO.2
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