



HOKKO

2017

Company Information and Market Report of Agrochemicals in Japan

CONTENTS

Part I. COMPANY INFORMATION

1. Briefings	1
2. Organization	2
3. 2016 Business Report	3
4. Hokko's Leading Products in 2016	4
5. Hokko's Products for Export	6

Part II. MARKET REPORT OF AGROCHEMICALS IN JAPAN

1. Map of Japan by Agricultural Region	10
2. Area of Main Crops by Agricultural Region in 2016	10
3. Agrochemicals Business by the member companies of JCPA in 2016	11
4. Distribution System of Agrochemicals	12
5. Agrochemicals Production by Formulation(2011-2015)	12
6. Pest Infestation and Agrochemical Treatment in 2015	13
7. Herbicide Application in Rice Field	14
8. Farm Household Economy	14
9. Rice Production	15

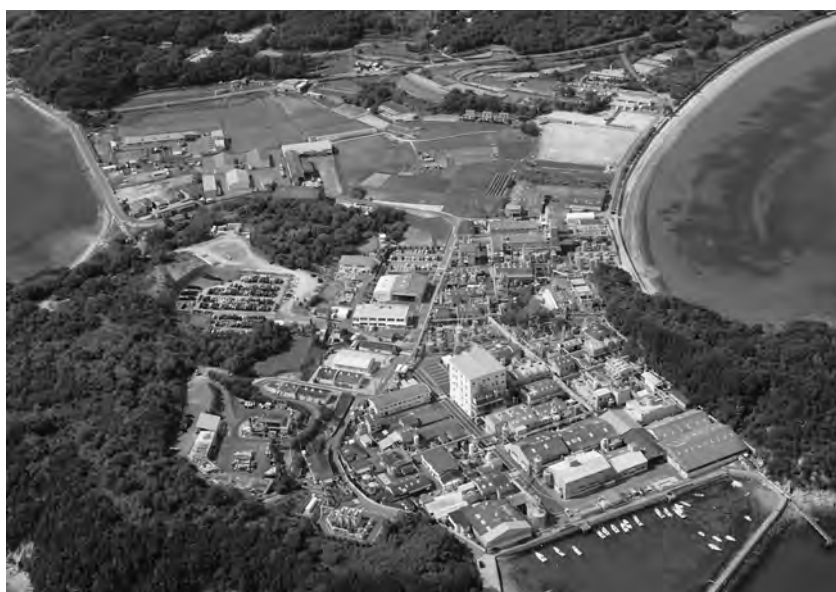
Part I. COMPANY INFORMATION

1. Briefings (As of November 30, 2016)

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%
	Hokko Chemical Industry Employee Shareholding Association 4.8%
	Resona Bank, Limited. 4.5%
	The Norinchukin Bank 2.9%
	Nomura Holdings, Inc. 2.8%
	National Federation of Agricultural Cooperative Associations(ZEN-NOH) 2.7%
Employees:	652



Central Research Laboratories



Okayama Factory

2. Organization (As of February 24, 2017)

Board of Directors:

President Yoshikatsu Nakashima

Director, Senior Managing Executive Officer
Yuji Ogawa

Director, Managing Executive Officer
Tetsuyoshi Hashimoto

Director, Executive Officer
Ken-ichi Sano

Head Office: Sumitomo Fudosan Nihonbashi Building
1-5-4, Nihonbashi Honcho, Chuo-ku
Tokyo 103-8341, Japan

Branches: Sapporo, Sendai, Tokyo, Niigata,
Osaka, Okayama, Fukuoka (7 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)
HOKKO CHEMICAL AMERICA CORPORATION (Cary, NC, U.S.A)

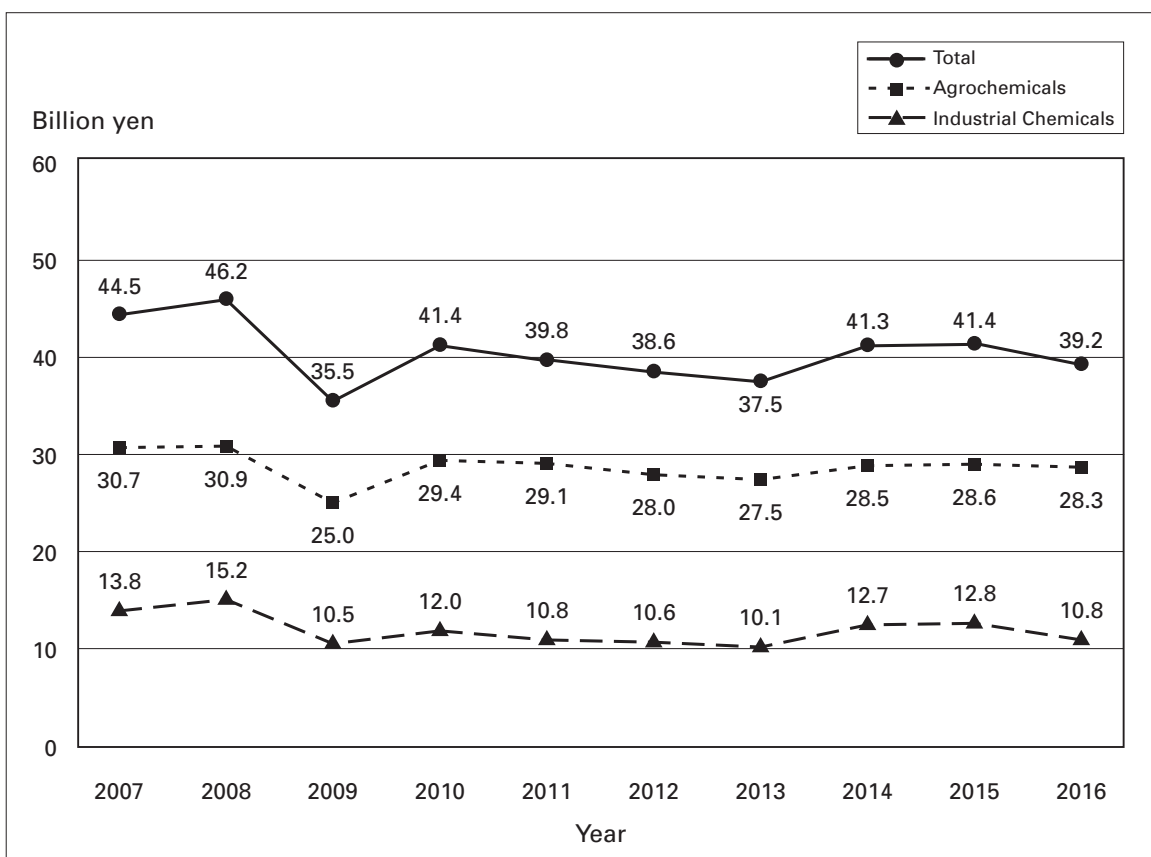
3. 2016 Business Report (As of November 30, 2016)

3-1. Sales Splits of Crop Protection Products(Fiscal Year)

Value: Million yen

	2015		2016		
	Value	Share(%)	Value	Share(%)	Growth(%)
Agrochemicals					
Insecticides	5,840	14.1	5,365	13.7	91.9
Fungicides	7,855	19.0	7,842	20.0	99.8
I/F Combinations	6,975	16.8	6,541	16.7	93.8
Herbicides	7,580	18.3	8,157	20.8	107.6
Others	387	0.9	431	1.1	111.2
Subtotal	28,637	69.1	28,335	72.4	98.9
Industrial Chemicals	12,780	30.9	10,823	27.6	84.7
Total	41,417	100	39,159	100	94.5
Export (Included in Total Sales)					
Agrochemicals	2,713	6.5	2,636	6.7	97.2
Industrial Chemicals	3,001	7.2	2,388	6.1	79.6

3-2. Annual Progress of Business Turnover(2007-2016)



4. Hokko's Leading Products in 2016

4-1. INSECTICIDE

Product Name	Active Ingredient	Crop	Pest
Ortran	acephate	Fruit, Vegetables	Thrips, Aphids, Lepidopteran pests
Starkle	dinotefuran	Rice, Vegetables, Fruit	Diamondback moth, Cabbage worm, Cabbage armyworm
Ferterra	chlorantraniliprole	Rice	Rice leafroller, Green rice caterpillar, Rice stem borer
MR.Joker	silafuofen	Rice	Planthoppers, Stinkbugs, etc.
Kirappu	ethiprole	Rice, Fruit, Tea	Planthoppers, Stinkbugs, etc.
Rody	fenpropathrin	Vegetables, Fruit, Tea	Thrips, Aphids, Lepidopteran pests, Mites, 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
Oryzmate / Dr.Oryze	probenazole	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	<i>Sclerotium cepivorum</i>
Linber	furametpyr	Rice, Sugar beet	Sheath blight, Root rot, Leaf blight
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
Builder-Ferterra-Chess	probenazole + chlorantraniliprole + pymetrozine	Rice	Blast, Green rice caterpillar, Rice leaf beetle, Planthoppers
Imotiace Starkle	metominostrobin + dinotefuran	Rice	Blast, Stinkbugs
Builder-Prince-Greatam	probenazole + fipronil + thifluzamide	Rice	Blast, Various pests
Rabcide-Starkle	dinotefuran + phthalide	Rice	Blast, Stinkbugs
Doublecut K	kasugamycin + tricyclazole + ethiprole	Rice	Blast, Stinkbugs
Topsin Starkle	dinotefuran + thiophanate-methyl	Rice	Blast, Stinkbugs, Planthoppers

4-4. HERBICIDE

Product Name	Active Ingredient	Crop	Weed, Use
A-one	oxaziclomefone+tefuryltrione	Rice	One shot application
Mr.Homerun	oxaziclomefone+clomeprop+ bensulfuron-methyl	Rice	One shot application
Winner	ipfencarbazone +bensulfuron-methyl +bromobutide	Rice	One shot application
Kachiboshi	ipfencarbazone +tefuryltrione +bensulfuron-methyl	Rice	One shot application
Meteor	pentoxazone	Rice	Annual weed, Pre-emergence application
Yuniherb	benzofenap+pretilachlor	Rice	Pre-emergence application
Clincher	cyhalofop-butyl	Rice	Grass weed, Post application
Basagran	bentazone	Rice, Beans, Wheats	Broadleaves weed, Post application
Lenapac	lenacil+chloridazon	Sugar beet	Annual weed, Early post application
Zaxa	glufosinate-P	Fruit, Vegetable, tea	Non Selective

5. Hokko's Products for Export

Product Name	Active ingredient	Type	Formulation
Kasumin	kasugamycin	Fungicide, Bactericide	2% SL, 2% GR
Kasumin-Bordeaux	kasugamycin + copper oxychloride	Fungicide, Bactericide	2%+75.6% WP 5%+75.6% WP
Manage	imibenconazole	Fungicide	5% WP, 15% WP, 30% WDG
Hokko Bordeaux	copper oxychloride	Fungicide, Bactericide	84.1% WP
Healthied	pefurazoate	Fungicide	15% EC, 20% WP
Fighter	ipfencarbazone	Herbicide	2.5% GR, 25% SC

Formulation

GR / granule

EC / emulsifiable concentrate

WP / wettable powder

SL / soluble liquid

WDG / water dispersible granule

5-1. FUNGICIDE

KASUMIN and KASUMIN-BORDEAUX

Original fungicides are globally used and highly reputed, having excellent control of various kinds of fungal and bacterial diseases on rice, vegetables, beans, fruits, 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

HOKKO BORDEAUX

A contact fungicide having high preventive activities and low phytotoxicity

HEALTHIED

An imidazole fungicide having preventive and curative activities, low phytotoxicity, broad spectrum of pathogen such as ASCOMYCOTINA (*Diaporthe*, *Monilinia*), BASIDIOMYCOTINA (*Typhula*), DEUTERROMYCOTINA (*Fusarium*, *Gibberella*, *Valsa*, *Cladosporium*, *Colletotrichum*), additionally showing high performance against benzimidazole-resistant strains of *Gibberella fujikuroi*. This fungicide is recommended for seed treatment and in green house application because of its property of rapid photolytic degradation

KASUMIN and KASUMIN-BORDEAUX

Crop	Disease (Pathogen)	KASUMIN	KASUMIN-BORDEAUX
Rice	Blast (<i>Pyricularia oryzae</i> Cavara)	⊙	⊙
	Bacterial grain rot (<i>Burkholderia glumae</i>)	⊙	
	False smut (<i>Villosiclava virens</i>)		⊙
	Bacterial Brown stripe (<i>Acidovorax avenae</i> subsp. <i>avenae</i>)	⊙	
Sugar beet	Cercospora leaf spot (<i>Cercospora beticola</i> Saccardo)	⊙	⊙
Cucumber Melon, Watermelon	Angular leaf spot (<i>Pseudomonas syringae</i> pv. <i>lachrymans</i>)	⊙	⊙
	Bacterial spot (<i>Xanthomonas cucurbitae</i>)	⊙	⊙
	Anthracnose (<i>Colletotrichum orbiculare</i>)	⊙	
	Powdery mildew (<i>Sphaerotheca cucurbitae</i>)		⊙
	Downy mildew (<i>Pseudoperonospora cubensis</i>)		⊙
Tomato	Leaf mold (<i>Passalora fulva</i>)	⊙	⊙
	Bacterial canker (<i>Clavibacter michiganensis</i> subsp. <i>michiganensis</i>)	⊙	⊙
	Bacterial spot (<i>Xanthomonas vesicatoria</i>)		⊙
	Late blight (<i>Phytophthora infestans</i>)		⊙
Onion	Bacterial soft rot (<i>Pectobacterium carotovorum</i>)	⊙	⊙
Potato	Bacterial soft rot (<i>Pectobacterium carotovorum</i>)	⊙	⊙
Paprika Sweet pepper Chile	Bacterial spot (<i>Xanthomonas vesicatoria</i>)	⊙	⊙
	Anthracnose (<i>Colletotrichum capsici</i>)	⊙	⊙
	Powdery mildew (<i>Oidiopsis sicula</i> Scalia)		⊙
Green beans	Halo blight (<i>Pseudomonas savastanae</i> pv. <i>phaseolicola</i>)	⊙	⊙
Apple, Pear	Fire blight (<i>Erwinia amylovora</i>)	⊙	
Kiwifruit	Bacterial canker (<i>Pseudomonas syringae</i> pv. <i>actinidiae</i>)	⊙	⊙
	Bacterial blossom blight (<i>Pseudomonas marginalis</i> pv. <i>marginalis</i>)	⊙	⊙
Citrus	Canker (<i>Xanthomonas citri</i> subsp. <i>citri</i>)	⊙	⊙
Coffee	Black spot (<i>Pseudomonas syringae</i> pv. <i>garcae</i>)	⊙	⊙
Tea	Gray blight (<i>Pestalotiopsis longiseta</i>)	⊙	⊙
	Bacterial shoot blight (<i>Pseudomonas syringae</i> pv. <i>theae</i>)	⊙	⊙
Egg plant	Leaf mold (<i>Mycovellosiella nattrassii</i>)	⊙	
Celery	Early blight (<i>Cercospora apii</i>)	⊙	
Carrot	Bacterial soft rot (<i>Pectobacterium carotovorum</i>)	⊙	

Crop	Disease (Pathogen)	KASUMIN	KASUMIN-BORDEAUX
Cabbage	Black rot (<i>Xanthomonas campestris</i> pv. <i>campestris</i>) Bacterial soft rot (<i>Pectobacterium carotovorum</i>)		⊙ ⊙
Lettuce	Bacterial rot (<i>Pseudomonas cichorii</i> , <i>Pseudomonas marginalis</i> pv. <i>martinalis</i> , <i>Pseudomonas viridiflava</i>) Bacterial spot (<i>Xanthomonas axonopodis</i> pv. <i>vitians</i>)		⊙ ⊙
Rose	Powdery mildew (<i>Sphaerotheca passosa</i>)		⊙

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

MANAGE

Crop	Disease (Pathogen)
Citrus	Scab (<i>Elsinoe fawcetti</i>)
Grape	Anthracnose (<i>Elsinoe ampelina</i>) Powdery mildew (<i>Erysiphe necator</i> var. <i>necator</i>) Pestalotia-tsurugare-byo (<i>Pestalotiopsis menezesiana</i>) Rust (<i>Physopella ampelopsidis</i>)
Apple	Scab (<i>Venturia inaequalis</i>) Rust (<i>Gymnosporangium yamadae</i>) Powdery mildew (<i>Podosphaera leucotricha</i>) Fly speck (<i>Zygophiala jamaicensis</i>) Sooty blotch (<i>Gloeodes pomigena</i>) Alternaria leaf spot (<i>Alternaria mali</i>)
Pear	Scab (<i>Venturia nashicola</i>) Rust (<i>Gymnosporangium asiaticum</i>)
Peach	Scab (<i>Cladosporium carpophilum</i>)
Japanese apricot	Scab (<i>Cladosporium carpophilum</i>)
Apricot	Brown rot (<i>Monilinia fructicola</i>)
Melon and Watermelon	Powdery mildew (<i>Sphaerotheca fuliginea</i>)
Groundnut	Brown leaf spot (<i>Mycosphaerella arachidis</i>)
Soybean	Purple stain (<i>Cercospora kikuchii</i>)
Tea	Anthracnose (<i>Discula theae-sinensis</i>) Blister blight (<i>Exobasidium vexans</i>) Brown round spot (<i>Pseudocercospora ocellata</i>)
Banana	Black sigatoka (<i>Mycosphaerella fijiensis</i>)

Crop	Disease (Pathogen)
Turf	Rust (<i>Puccinia zoysiae</i>)
Rose	Black spot (<i>Diplocarpon rosae</i>) Powdery mildew (<i>Sphaerotheca pannosa</i>)
Chrysanthemum	Rust (<i>Puccinia horiana</i>) Rust (<i>Puccinia tanacetii</i> var. <i>tanacetii</i>)
Japanese spindle tree	Powdery mildew (<i>Oidium euonymi-japonicae</i>)
Crape Myrtle	Powdery mildew (<i>Uncinuliella australiana</i>)
Poplar	Powdery mildew (<i>Uncinula adunca</i> var. <i>mandshurica</i>) Massoning leaf blight (<i>Marssonina brunnea</i>)
Tobacco	Powdery mildew (<i>Erysiphe cichoracearum</i>)

HEALTHIED

Crop	Disease(Pathogen)	Application
Rice	Bakanae disease (<i>Gibberella fujikuroi</i>)	Seed treatment
Cyclamen(greenhouse)	Anthrachnose (<i>Colletotrichum gloeosporioides</i>)	Spray

5-2. HERBICIDE

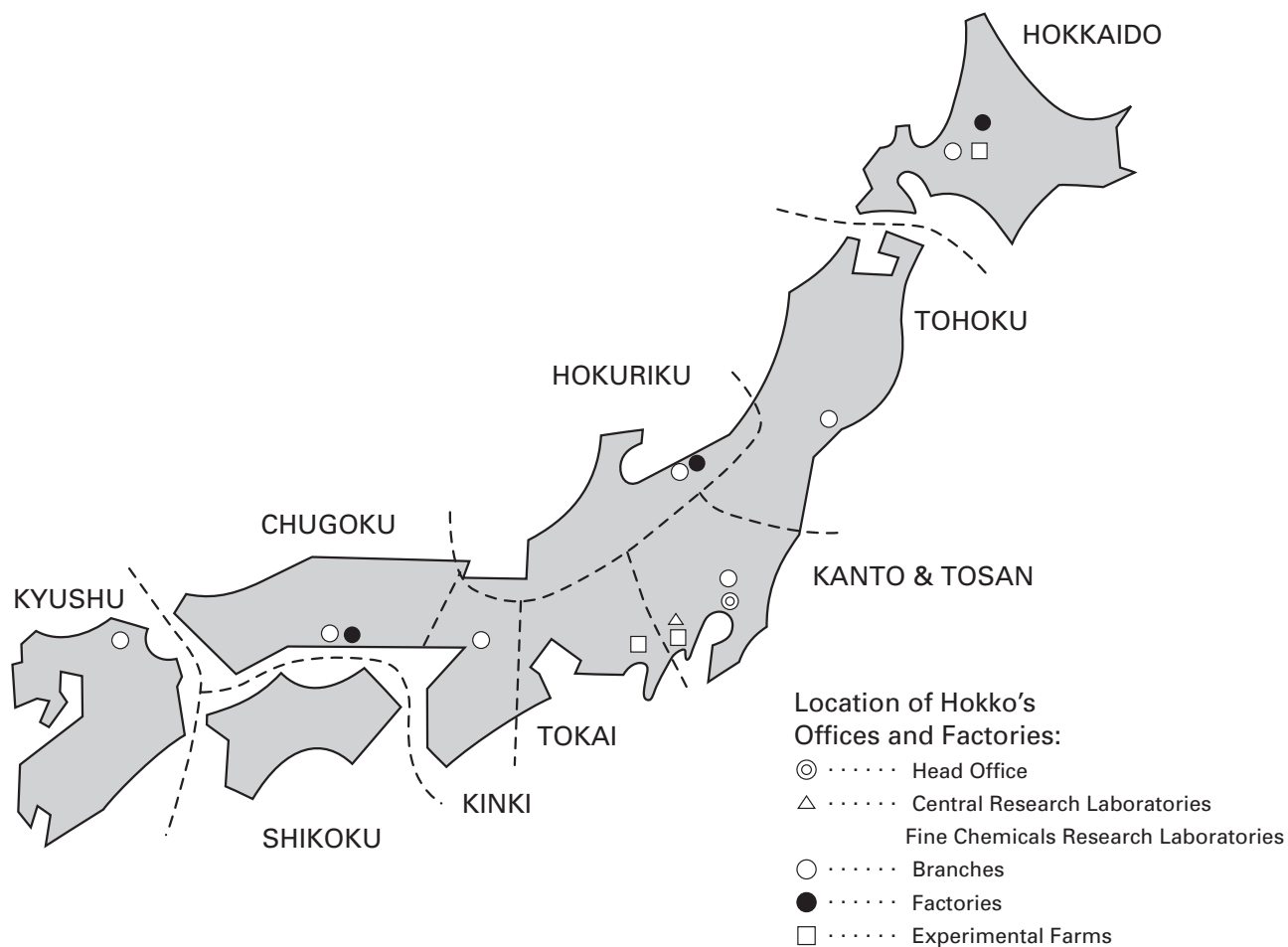
FIGHTER

A triazolinone class herbicide having high efficacy against gramineous weeds in paddy field. The mode of action is deemed as the inhibition of the very long chain fatty acids biosynthesis in plants

- Target weeds: *Echinochloa oryzicola*, *Cyperus difformis*, *Scirpus juncooides*, *Leptochloa chinensis*, *Lindernia procumbens*, *Monochoria vaginalis*, etc.
- Application timing: From pre emergence to early post emergence of weeds

Part II. MARKET REPORT OF AGROCHEMICALS IN JAPAN

1. Map of Japan by Agricultural Region



2. Area of Main Crops by Agricultural Region in 2016

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

Unit: 1,000ha.

Region	Crop										
	Rice	Wheat/Barley	Potato*	Soybean	Citrus	Apple	Pear	Grape	Cucumber	Cabbage*	Tea
HOKKAIDO	105.0	124.7	51.0	40.2	0.0	0.6	0.1	1.2	0.2	1.2	0.0
TOHOKU	375.9	8.9	3.7	35.9	<0.1	28.6	2.8	2.9	2.2	2.5	—
HOKURIKU	205.6	10.6	1.4	13.4	0.1	0.2	0.9	0.5	0.7	0.8	<0.1
KANTO & TOSAN	271.5	43.2	6.7	10.7	1.9	8.6	5.3	7.5	3.7	13.1	2.1
TOKAI	93.4	16.8	1.4	12.2	10.1	0.1	0.8	0.7	0.6	6.6	21.7
KINKI	104.5	10.6	1.1	9.8	11.1	<0.1	0.3	1.1	0.7	2.0	3.1
CHUGOKU	106.0	5.7	—	4.9	4.9	0.2	1.5	1.9	0.6	1.5	0.5
SHIKOKU	50.9	4.6	—	0.6	19.6	<0.1	0.5	0.5	0.6	—	0.8
KYUSHU	166.5	57.9	9.9	22.2	22.4	—	1.8	1.8	1.8	6.1	14.9
Total	1479.0	282.9	77.4	150.0	70.1	38.3	14.1	18.0	10.9	34.7	43.1
Comparison with Previous Year (100%)	98	101	99	106	98	99	98	99	99	100	98

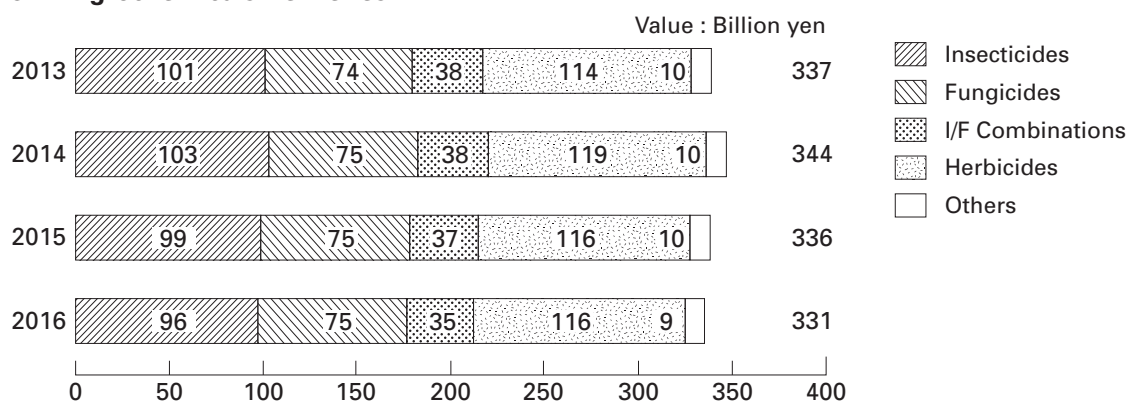
*; Data from 2015

—; not available

3. Agrochemicals Business by the member companies of JCPA* in 2016

(*Japan Crop Protection Association)

3-1 Agrochemicals Deliveries

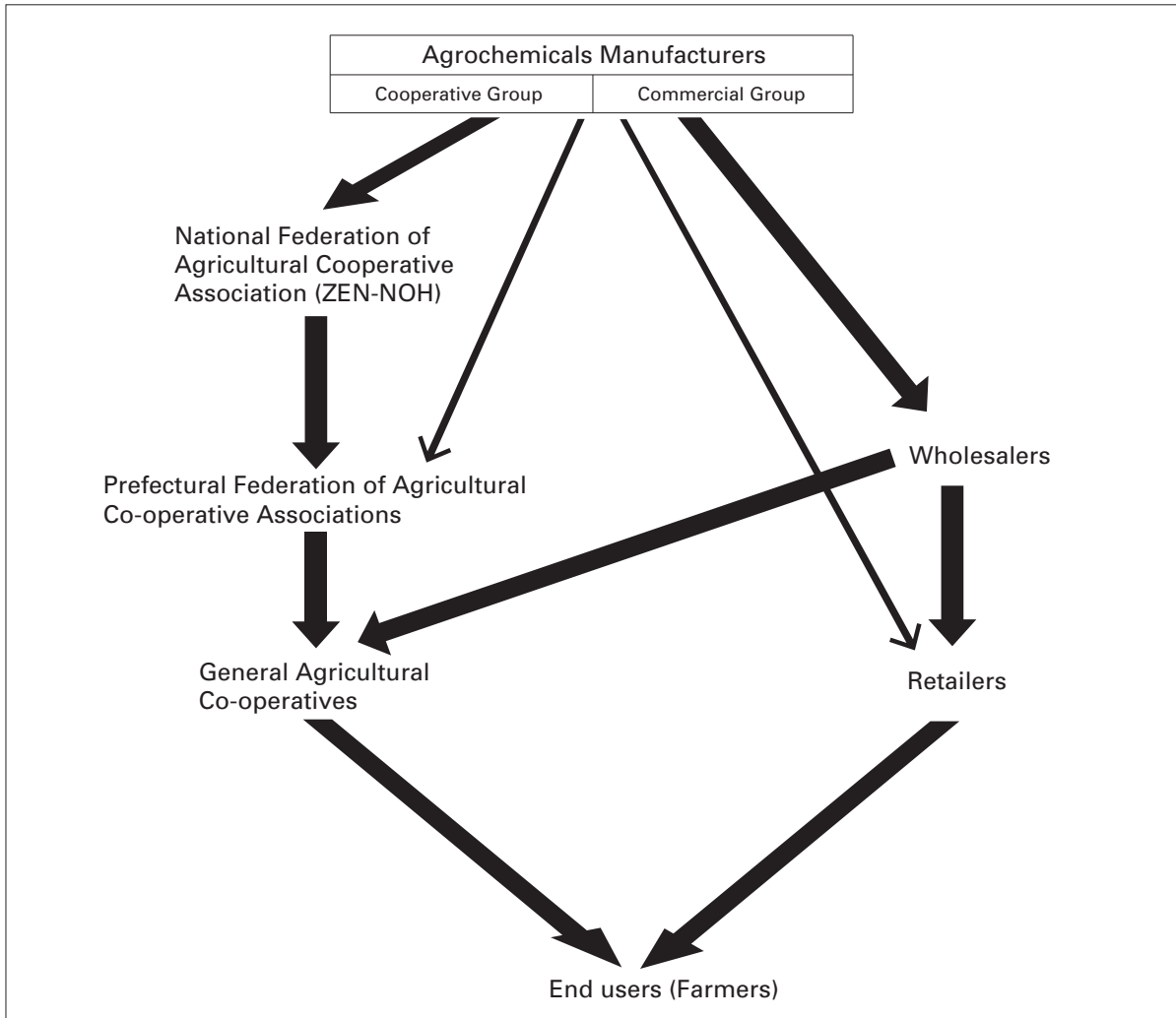


3-2 Agrochemicals Value by Crop

Sector	Agrochemicals group	Value		Comparison with 2015 (100%)
		Billion yen	%	
Paddy rice	Insecticides	12.1	4	94%
	Fungicides	9.9	3	95%
	I/F Combinations	30.1	9	94%
	Herbicides	63.7	19	98%
	Subtotal	115.7	35	96%
Fruit trees	Insecticides	21.1	6	95%
	Fungicides	19.5	6	99%
	I/F Combinations	0.3	0	96%
	Herbicides	8.0	2	102%
	Subtotal	48.9	15	98%
Vegetables, potatoes, beans etc.	Insecticides	56.1	17	99%
	Fungicides	40.0	12	103%
	I/F Combinations	2.9	1	106%
	Herbicides	21.1	6	100%
	Subtotal	120.1	36	101%
Others	Insecticides	6.8	2	98%
	Fungicides	5.6	2	94%
	I/F Combinations	1.6	0	93%
	Herbicides	23.5	7	106%
	Subtotal	37.5	11	102%
(Total)	Insecticides	96.0	29	97%
	Fungicides	75.1	23	100%
	I/F Combinations	34.9	11	95%
	Herbicides	116.2	35	100%
	Others	8.8	3	91%
Grand total		331.0	100	99%

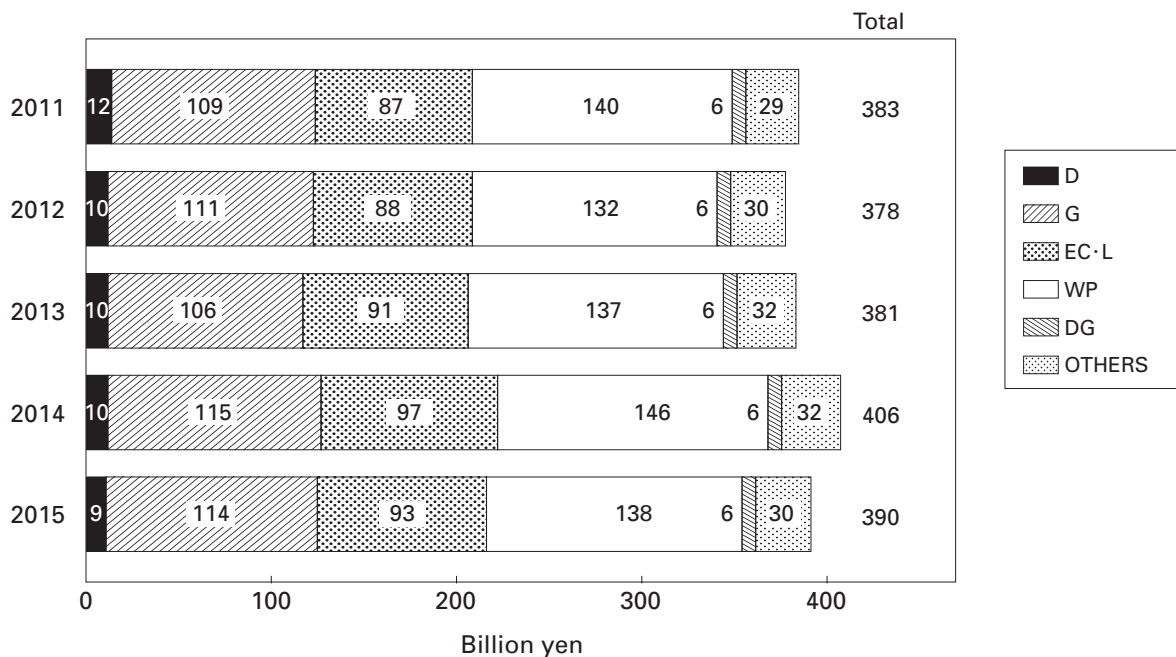
4. Distribution System of Agrochemicals

JPPA* in 2016



(*JPPA/Japan Plant Protection Association)

5. Agrochemicals Production by Formulation(2011-2015) (Source; JPPA)



6. Pest Infestation and Agrochemical Treatment in 2015(Source; JPPA)

Crop (Planted Area) (1,000ha)	Pests and diseases	Net treated area (1,000ha)	Total treated area	
			Area (1,000ha)	Comparison with 2014 (100%)
Rice (1,506)	Seedling blight	866	923	90%
	Blast(leaf)	1,051	1,458	98%
	Blast(neck & ear)	885	1,265	95%
	Sheath blight	617	709	95%
	"Bakanae"disease	843	844	87%
	Rice stem borer(2nd generation)	192	223	91%
	White-backed planthopper	775	1,194	93%
	Brown rice planthopper	541	877	85%
	Small brown planthopper	790	1,227	96%
	Green rice leafhopper	583	898	90%
	Rice leaf beetle	607	624	78%
	Rice stink bug	1,006	1,549	90%
	Rice leafroller	307	391	78%
	Rice water weevil	798	816	100%
Wheat & Barley (278)	Powdery mildew	120	286	118%
	Scab	232	527	98%
Potato (77)	Late blight	59	390	94%
	Twenty-eight-spotted ladybird	5	7	100%
Soybean (142)	Purple stain	57	87	109%
	Soybean pod borer	73	124	101%
	Stink bugs	61	85	91%
Citrus (71)	Scab	40	83	106%
	Melanose	59	217	101%
	Arrowhead scale	38	63	75%
	Citrus red mite	60	156	91%
Apple (39)	Blossom blight	25	40	71%
	Alternaria leaf spot	37	305	100%
	Scab	37	314	131%
	Peach fruit moth	36	185	118%
	Apple leafminer	37	68	162%
	Mites	37	114	82%
Pear (14)	Black spot	4	39	100%
	Scab	12	135	100%
Vine (18)	Ripe rot	13	42	100%
	Rust	11	29	100%
	Leaf spot	12	40	98%
	Anthracnose	11	26	90%
	Downy mildew	13	56	97%
	Gray mold	10	33	118%
	Thrips	12	34	94%

Crop (Planted Area (1,000ha))	Pests and diseases	Net treated area (1,000ha)	Total treated area	
			Area (1,000ha)	Comparison with 2014 (100%)
Tea (44)	Anthracnose	38	82	99%
	Smaller tea tortrix	37	76	103%
	Oriental tea tortrix	31	59	102%
	Tea leafroller	37	64	97%
	Tea green leafhopper	37	88	96%
	Kanzawa spider mite	37	77	96%
	Thrips	37	92	97%
Cucumber (11)	Downy mildew	6	29	91%
	Anthracnose	2	8	100%
	Powdery mildew	6	27	96%
	Bacterial spot	2	6	100%
	Aphids	6	21	88%
Cabbage (35)	Black rot	17	32	110%
	Diamondback moth	20	53	113%

7. Herbicide Application in Rice Field

Crop	Application method	2016		
		Volume (t)	Value (million yen)	Estimated Area (1,000ha)
Rice	One-shot application	14,318	41,752	1,740
	Pre- and early post-emergence application	4,209	5,833	565
	Post-emergence application	6,640	11,010	612
	Total	25,167	58,595	2,917

(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

	2011	2012	2013	2014	2015
Agriculture	1,196	1,347	1,321	1,186	1,527
Non-agriculture	1,604	1,553	1,531	1,455	1,472
Others (Annuity etc.)	1,825	1,853	1,865	1,909	1,946
Total income	4,663	4,762	4,727	4,562	4,960

8-2. Average Agricultural Expenditure by Crop in 2015

Unit: yen/10a

	Rice		Wheat		Potato		Sugar beet		Soybean	
Seed & Seedling	3,691	3%	2,755	5%	13,789	19%	2,635	3%	3,411	7%
Fertilizers	9,318	8%	10,207	18%	10,946	15%	23,959	25%	5,397	11%
Agrochemicals	7,640	7%	4,640	8%	10,135	14%	13,692	14%	5,395	11%
Fuel	4,362	4%	2,167	4%	3,027	4%	3,551	4%	1,986	4%
Rent & Charge	12,200	11%	16,309	29%	878	1%	3,886	4%	8,353	16%
Buildings cost	4,170	4%	933	2%	1,521	2%	2,370	2%	1,108	2%
Agricultural machinery	24,898	22%	8,829	16%	13,839	19%	14,813	15%	9,620	19%
Labor	34,731	30%	5,784	10%	14,334	19%	22,869	23%	11,419	22%
Others	13,032	11%	4,223	8%	5,053	7%	9,598	10%	4,268	8%
Total	114,042	100%	55,847	100%	73,522	100%	97,373	100%	50,957	100%

9. Rice Production (Source; MAFF)

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

Unit: 1,000ha

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Cultivated Area(1,000ha)	2,530	2,516	2,506	2,496	2,474	2,469	2,326	2,320	2,310	2,296
Planted Area (1,000ha)	1,673	1,627	1,624	1,628	1,576	1,581	1,599	1,575	1,506	1,479
Set-aside*1 (%)	34	35	35	35	36	36	31	32	35	36

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

9-2. Transition of Rice Production for 10 years

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Yield (t/ha)	5.22	5.43	5.22	5.22	5.33	5.40	5.39	5.36	5.31	5.44
Normal Yield (t/ha)*1	5.29	5.30	5.30	5.30	5.30	5.30	5.30	5.30	5.31	5.31
Index number of Rice Yield*2	99	102	98	98	101	102	102	101	100	102
Total Production (million ton)	8.7	8.8	8.5	8.5	8.4	8.5	8.6	8.4	8.0	8.0

*1; Determined by MAFF

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



HOKKO CHEMICAL INDUSTRY CO., LTD.

SUMITOMO FUDOSAN NIHONBASHI BUILDING
1-5-4, NIHONBASHI, HONCHO, CHUO-KU,
TOKYO, 103-8341, JAPAN
TELEPHONE : +81-3-3279-5151
URL [http : //www.hokkochem.co.jp/](http://www.hokkochem.co.jp/)

the date of issue : November, 2017