



**HOKKO**

**2015**

**Company Information and Market Report of Agrochemicals in Japan**



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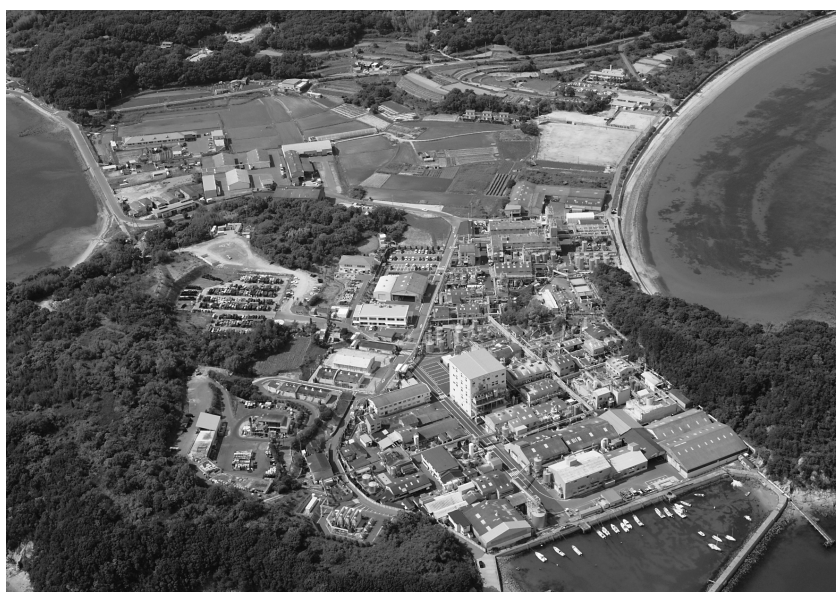
# Part I. COMPANY INFORMATION

## 1. Briefings (As of November 30, 2014)

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 4.7%
	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:	669



Central Research Laboratories



Okayama Factory

## 2. Organization (As of July 8, 2015)

### Board of Directors:

President Yoshikatsu Nakashima

Director, Senior Managing Executive Officer  
Yuji Ogawa

Director, Managing Executive Officer  
Nobuyoshi Kamaki

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)

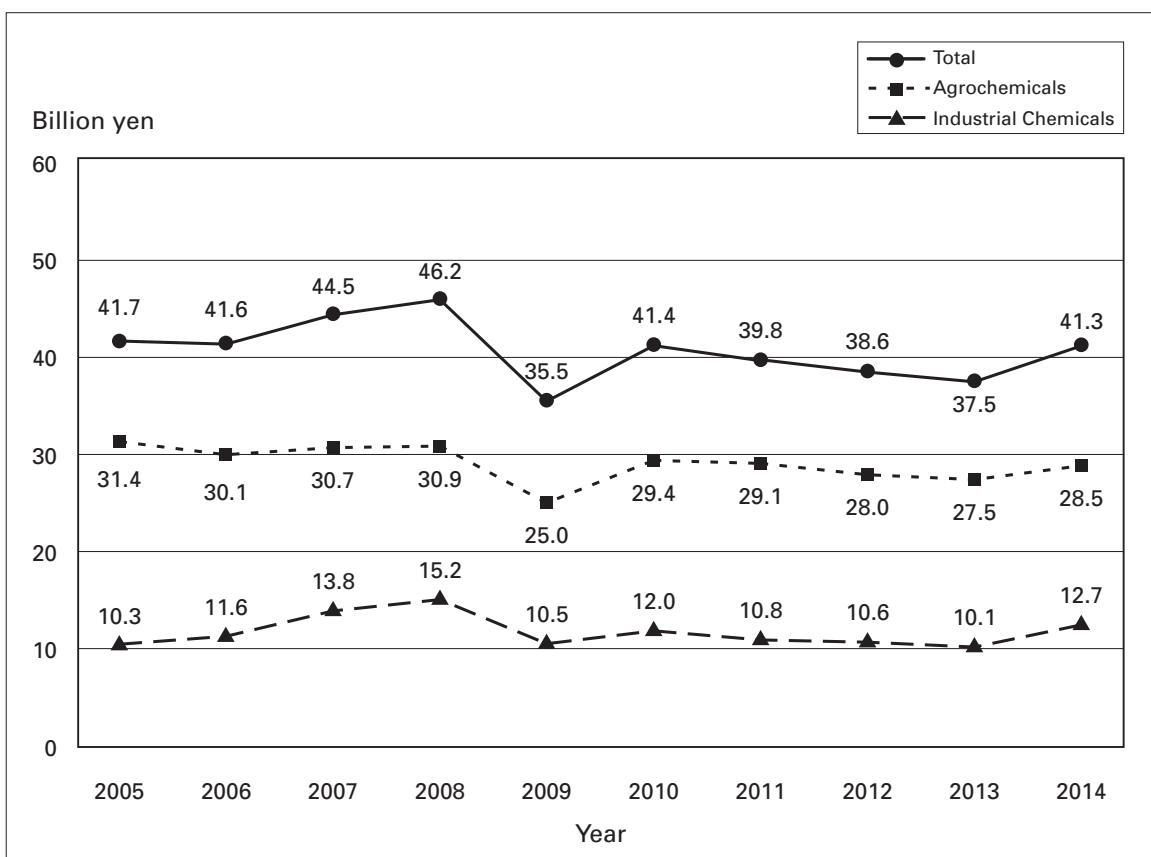
### 3. 2014 Business Report (As of November 30, 2014)

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

Value: Million yen

	2013		2014		
	Value	Share(%)	Value	Share(%)	Growth(%)
Agrochemicals					
Insecticides	6,546	17.4	6,708	16.3	102.5
Fungicides	7,069	18.8	7,292	17.7	103.1
I/F Combinations	7,136	19.0	7,414	18.0	103.9
Herbicides	6,334	16.9	6,617	16.0	104.5
Others	384	1.0	485	1.2	126.3
Subtotal	27,469	73.2	28,516	69.1	103.8
Industrial Chemicals	10,062	26.8	12,735	30.9	126.6
<b>Total</b>	<b>37,531</b>	<b>100</b>	<b>41,251</b>	<b>100</b>	<b>109.9</b>
Export (Included in Total Sales)					
Agrochemicals	1,663	4.4	1,962	4.8	117.9
Industrial Chemicals	2,076	5.5	2,320	5.6	111.8

#### 3-2. Annual Progress of Business Turnover(2005-2014)



## 4. Hokko's Leading Products in 2014

### 4-1. INSECTICIDE

Product Name	Active Ingredient	Crop	Pest
<b>Ortran</b>	acephate	Fruit, Vegetables	Thrips, Aphids, Lepidopteran pests
<b>Starkle</b>	dinotefuran	Rice, Vegetables, Fruit	Diamondback moth, Cabbage worm, Cabbage armyworm
<b>Ferterra</b>	chlorantraniliprole	Rice	Rice leafroller, Green rice caterpillar, Rice stem borer
<b>MR.Joker</b>	silafuofen	Rice	Planthoppers, Stinkbugs, etc.
<b>Kirappu</b>	ethiprole	Rice, Fruit, Tea	Planthoppers, Stinkbugs, etc.
<b>Rody</b>	fenpropathrin	Vegetables, Fruit, Tea	Thrips, Aphids, Lepidopteran pests, Mites, etc.
<b>Prince</b>	fipronil	Rice	Planthoppers, Locust, Rice leafroller, etc.
<b>Prevathon</b>	chlorantraniliprole	Vegetables	Diamondback moth, Cabbage worm, Cabbage armyworm

### 4-2. FUNGICIDE

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

#### 4-3. I/F COMBINATION

Product Name	Active Ingredient	Crop	Disease, Pest
<b>Dr.Oryze-Ferterra</b>	probenazole + chlorantraniliprole	Rice	Blast, Various pests
<b>Dr.Oryze-Prince</b>	probenazole + fipronil	Rice	Blast, Various pests
<b>Builder-Ferterra-Chess</b>	probenazole + chlorantraniliprole + pymetrozine	Rice	Blast, Green rice caterpillar, Rice leaf beetle, Planthoppers
<b>Imotiace Starkle</b>	metominostrobin + dinotefuran	Rice	Blast, Stinkbugs
<b>Builder-Prince-Greatam</b>	probenazole + fipronil + thifluzamide	Rice	Blast, Various pests
<b>Rabcide-Starkle</b>	dinotefuran + phthalide	Rice	Blast, Stinkbugs
<b>Doublecut K</b>	kasugamycin + tricyclazole + ethiprole	Rice	Blast, Stinkbugs
<b>Topsin Starkle</b>	dinotefuran + thiophanate-methyl	Rice	Blast, Stinkbugs, Planthoppers

#### 4-4. HERBICIDE

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



## 5. Hokko's Products for Export

Product Name	Active ingredient	Type	Formulation
<b>Kasumin</b>	kasugamycin	Fungicide, Bactericide	2% SL, 2% GR
<b>Kasumin-Bordeaux</b>	kasugamycin + copper oxychloride	Fungicide, Bactericide	2%+75.6% WP 5%+75.6% WP
<b>Manage</b>	imibenconazole	Fungicide	5% WP, 15% WP, 30% WDG
<b>Hokko Bordeaux</b>	copper oxychloride	Fungicide, Bactericide	84.1% WP
<b>Healthied</b>	pefurazoate	Fungicide	15% EC, 20% WP
<b>Fighter</b>	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, Water melon	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 savastanai</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 Water melon	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

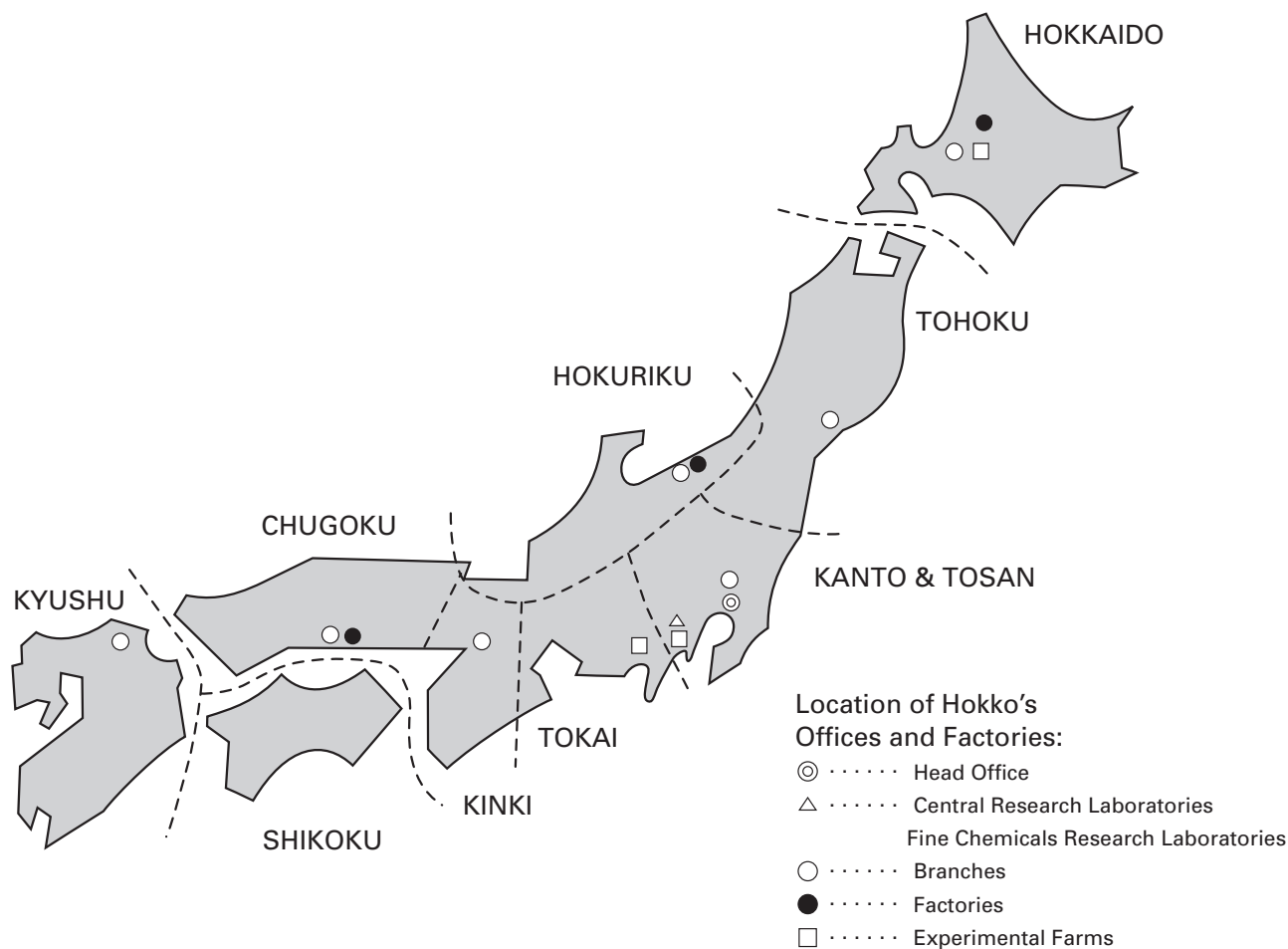
### FIGHTER

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 2014

(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	111.0	125.2	52.4	28.6	0.0	0.6	0.1	1.1	0.2	1.2	0.0
TOHOKU	402.5	8.6	3.9	32.1	<0.1	28.9	2.9	3.0	2.3	2.5	—
HOKURIKU	212.5	10.0	1.5	12.6	<0.1	0.2	1.0	0.5	0.7	0.8	<0.1
KANTO & TOSAN	294.2	42.8	6.7	10.3	1.9	8.7	5.6	7.6	3.7	13.1	2.2
TOKAI	99.7	16.0	1.5	11.8	10.3	0.1	0.8	0.7	0.6	6.6	22.7
KINKI	108.0	10.2	1.1	9.4	11.4	<0.1	0.3	1.1	0.7	1.9	3.1
CHUGOKU	112.6	5.1	1.5	4.8	5.1	0.2	1.5	1.9	0.6	1.4	0.5
SHIKOKU	55.3	4.3	0.7	0.6	20.4	<0.1	0.5	0.5	0.6	0.9	0.9
KYUSHU	179.1	56.5	10.4	21.5	23.3	—	1.9	1.9	1.9	6.0	15.4
Total	1,575.0	278.8	79.7	131.6	72.6	38.9	14.8	18.3	11.1	34.3	44.8
Comparison with Previous Year (100%)	98	101	98	102	98	99	97	99	97	101	99

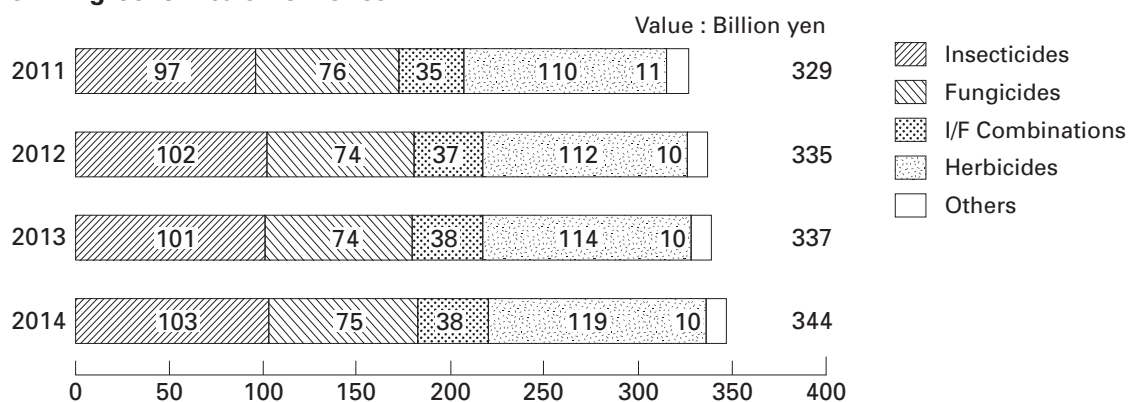
\*; Data from 2013

—; not available

### 3. Agrochemicals Business by the member companies of JCPA\* in 2014

(\*Japan Crop Protection Association)

#### 3-1 Agrochemicals Deliveries

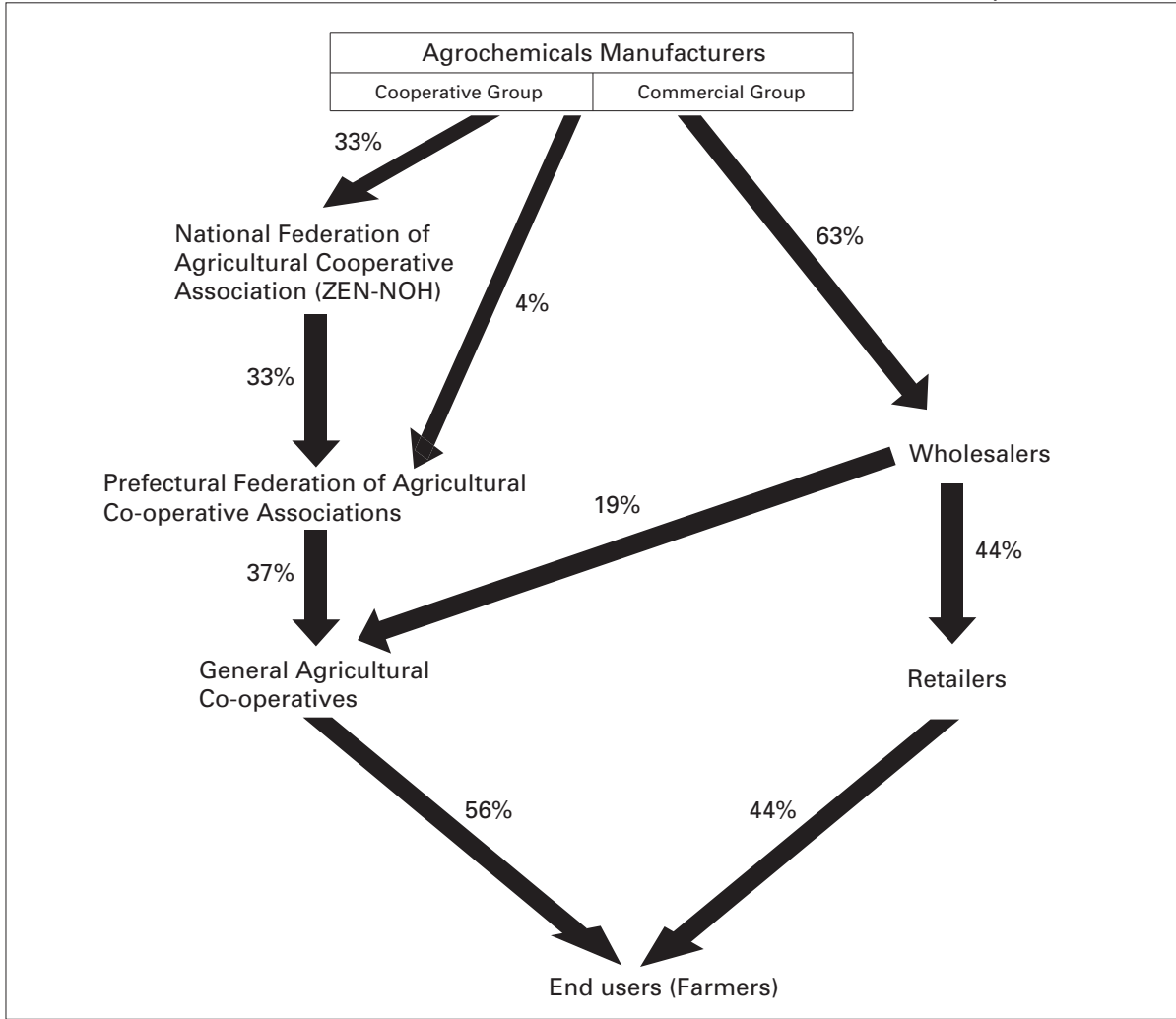


#### 3-2 Agrochemicals Value by Crop

Sector	Agrochemicals group	Value		Comparison with 2013 (100%)
		Billion yen	%	
Paddy rice	Insecticides	14.5	4	103%
	Fungicides	10.9	3	101%
	I/F Combinations	33.3	10	100%
	Herbicides	67.7	20	103%
	<b>Subtotal</b>	<b>126.5</b>	<b>37</b>	<b>102%</b>
Fruit trees	Insecticides	22.7	7	99%
	Fungicides	19.5	6	101%
	I/F Combinations	0.4	0	101%
	Herbicides	7.7	2	103%
	<b>Subtotal</b>	<b>50.3</b>	<b>15</b>	<b>100%</b>
Vegetables, potatoes, beans etc.	Insecticides	58.4	17	103%
	Fungicides	39.0	11	101%
	I/F Combinations	2.6	1	91%
	Herbicides	20.6	6	105%
	<b>Subtotal</b>	<b>120.7</b>	<b>35</b>	<b>102%</b>
Others	Insecticides	6.9	2	98%
	Fungicides	5.5	2	105%
	I/F Combinations	1.7	0	106%
	Herbicides	23.0	7	108%
	<b>Subtotal</b>	<b>37.0</b>	<b>11</b>	<b>106%</b>
(Total)	Insecticides	102.5	30	102%
	Fungicides	74.9	22	101%
	I/F Combinations	37.9	11	99%
	Herbicides	119.1	35	104%
	Others	9.5	3	96%
<b>Grand total</b>		<b>344.0</b>	<b>100</b>	<b>102%</b>

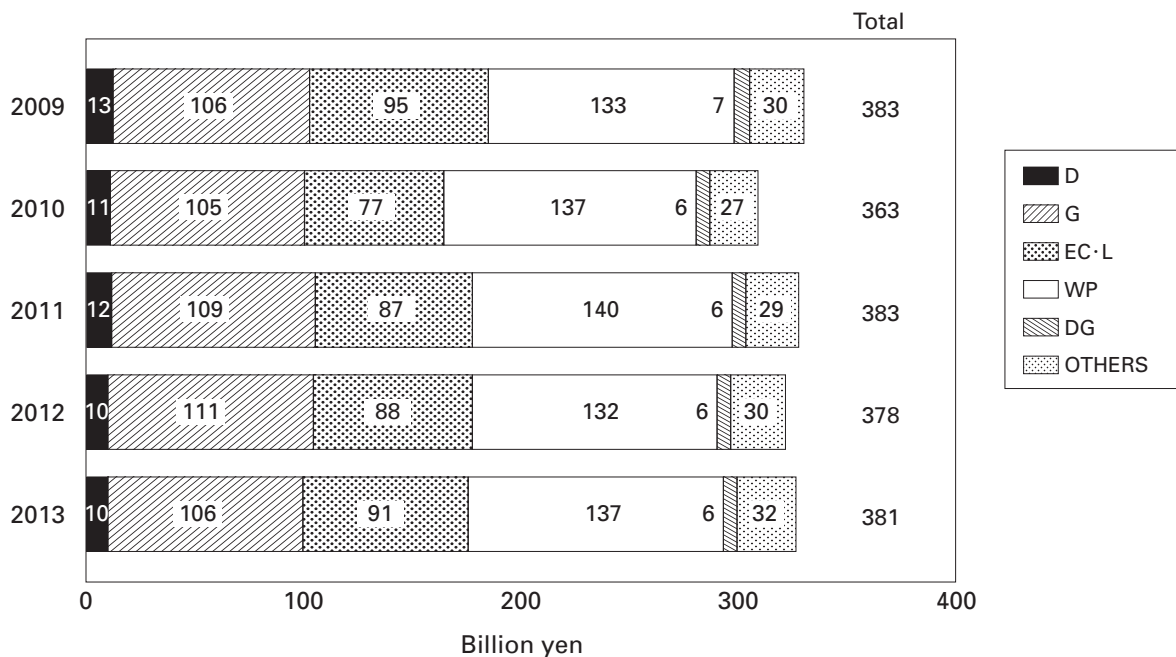
#### 4. Distribution System of Agrochemicals

Estimated by JPPA\* in 2012



(\*JPPA/Japan Plant Protection Association)

#### 5. Agrochemicals Production by Formulation(2009-2013) (Source; JPPA)



## 6. Pest Infestation and Agrochemical Treatment in 2013(Source; JPPA)

Crop (Planted Area) (1,000ha)	Pests and diseases	Net treated area (1,000ha)	Total treated area	
			Area (1,000ha)	Comparison with 2012 (100%)
Rice (1,600)	Seedling blight	948	1,030	90%
	Blast(leaf)	1,067	1,487	102%
	Blast(neck & ear)	903	1,335	99%
	Sheath blight	631	747	102%
	"Bakanae" disease	973	973	100%
	Rice stem borer(2nd generation)	201	245	102%
	White-backed planthopper	869	1,281	93%
	Brown rice planthopper	594	1,036	99%
	Small brown planthopper	758	1,280	97%
	Green rice leafhopper	626	997	101%
	Rice leaf beetle	778	798	99%
	Rice stink bug	1,066	1,714	105%
	Rice leafroller	360	503	103%
	Rice water weevil	809	819	92%
Wheat & Barley (274)	Powdery mildew	116	243	103%
	Scab	226	536	90%
	Snow rots	101	104	102%
Potato (80)	Late blight	61	414	100%
	Twenty-eight-spotted ladybird	5	7	78%
Soybean (129)	Purple stain	59	80	85%
	Soybean pod borer	69	123	103%
	Stink bugs	63	93	97%
Citrus (74)	Scab	40	78	98%
	Melanose	61	215	96%
	Arrowhead scale	43	84	104%
	Citrus red mite	62	172	95%
Apple (39)	Blossom blight	26	56	98%
	Alternaria leaf spot	37	306	99%
	Scab	37	239	98%
	Peach fruit moth	34	157	99%
	Apple leafminer	17	42	95%
	Mites	37	139	118%
Pear (15)	Black spot	5	39	91%
	Scab	13	135	95%
Vine (19)	Ripe rot	13	42	98%
	Rust	11	29	100%
	Leaf spot	13	41	98%
	Anthraxnose	12	29	94%
	Downy mildew	14	58	98%
	Gray mold	10	28	85%
	Thrips	13	36	97%



Crop (Planted Area (1,000ha))	Pests and diseases	Net treated area (1,000ha)	Total treated area	
			Area (1,000ha)	Comparison with 2012 (100%)
Tea (45)	Anthracnose	39	83	101%
	Smaller tea tortrix	38	74	97%
	Oriental tea tortrix	32	58	95%
	Tea leafroller	38	66	100%
	Tea green leafhopper	39	92	100%
	Kanzawa spider mite	38	80	104%
	Thrips	38	95	100%
Cucumber (11)	Downy mildew	7	32	103%
	Anthracnose	2	8	89%
	Powdery mildew	7	28	97%
	Bacterial spot	2	6	100%
	Aphids	6	24	100%
Cabbage (34)	Black rot	15	29	97%
	Diamondback moth	18	47	102%

## 7. Herbicide Application in Rice Field

Crop	Application method	2014		
		Volume (t)	Value (million yen)	Estimated Area (1,000ha)
Rice	One-shot application	15,585	43,652	1,823
	Pre- and early post-emergence application	4,809	6,683	638
	Post-emergence application	7,836	12,568	684
	Total	28,230	62,903	3,146

(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

	2009	2010	2011	2012	2013
Agriculture	1,042	1,223	1,196	1,347	<b>1,321</b>
Non-agriculture	1,685	1,610	1,604	1,553	<b>1,531</b>
Others (Annuity etc.)	1,833	1,820	1,825	1,853	<b>1,865</b>
Total income	4,566	4,660	4,663	4,762	<b>4,727</b>

## 8-2. Average Agricultural Expenditure by Crop in 2013

Unit: yen/10a

	Rice		Wheat		Potato		Sugar beet		Soybean	
Seed & Seedling	3,704	3%	2,673	5%	12,568	18%	2,440	3%	3,037	6%
Fertilizers	9,500	8%	9,460	18%	10,473	15%	23,510	25%	5,033	10%
Agrochemicals	7,555	7%	4,333	8%	9,389	13%	12,412	13%	5,152	10%
Fuel	4,782	4%	2,160	4%	3,738	5%	4,289	5%	2,162	4%
Rent & Charge	12,078	11%	14,289	27%	703	1%	2,905	3%	8,168	16%
Buildings cost	4,802	4%	947	2%	1,234	2%	2,145	2%	1,196	2%
Agricultural machinery	23,683	21%	8,428	16%	13,284	19%	13,914	15%	9,089	18%
Labor	35,884	31%	5,883	11%	14,785	21%	23,066	25%	11,820	24%
Others	12,957	11%	4,014	8%	4,930	7%	9,444	10%	4,241	8%
<b>Total</b>	<b>114,945</b>	<b>100%</b>	<b>52,187</b>	<b>100%</b>	<b>71,104</b>	<b>100%</b>	<b>94,125</b>	<b>100%</b>	<b>49,898</b>	<b>100%</b>

## 9. Rice Production (Source; MAFF)

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

Unit: 1,000ha

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Cultivated Area(1,000ha)	2,556	2,543	2,530	2,516	2,506	2,496	2,474	2,469	2,326	<b>2,320</b>
Planted Area (1,000ha)	1,706	1,688	1,673	1,627	1,624	1,628	1,576	1,581	1,599	<b>1,575</b>
Set-aside*1 (%)	33	34	34	35	35	35	36	36	31	<b>32</b>

\*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	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Yield (t/ha)	5.32	5.07	5.22	5.43	5.22	5.22	5.33	5.40	5.39	<b>5.36</b>
Normal Yield (t/ha)*1	5.27	5.29	5.29	5.30	5.30	5.30	5.30	5.30	5.30	<b>5.30</b>
Index number of Rice Yield*2	101	96	99	102	98	98	101	102	102	<b>101</b>
Total Production (million ton)	9.1	8.5	8.7	8.8	8.5	8.5	8.4	8.5	8.6	<b>8.4</b>

\*1; Determined by MAFF

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



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