



HOKKO

2019

Company Information and Market Report of Agrochemicals in Japan

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Part I. COMPANY INFORMATION

1. Briefings (As of November 30, 2018)

Foundation:	February 27, 1950
Paid-in Capital:	¥3.2 billion
Main stock holders	
	Nomura Shokusan Co., Ltd. 7.8%
	Sumitomo Chemical Co., Ltd. 7.3%
	Resona Bank, Limited. 5.0%
	Hokko Chemical Industry Employee Shareholding Association 4.7%
	Japan Trustee Services Bank, Ltd.(trust) 4.2%
	The Norinchukin Bank 3.2%
	Nomura Holdings, Inc. 3.1%
	National Federation of Agricultural Cooperative Associations(ZEN-NOH) 3.0%
Employees:	628



Central Research Laboratories



Okayama Factory

2. Organization (As of March 18, 2019)

Board of Directors:

President Yoshikatsu Nakashima

Director, Managing Executive Officer
Tetsuyoshi Hashimoto
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

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)
C.Murata & Co., Ltd.(Osaka, Japan)

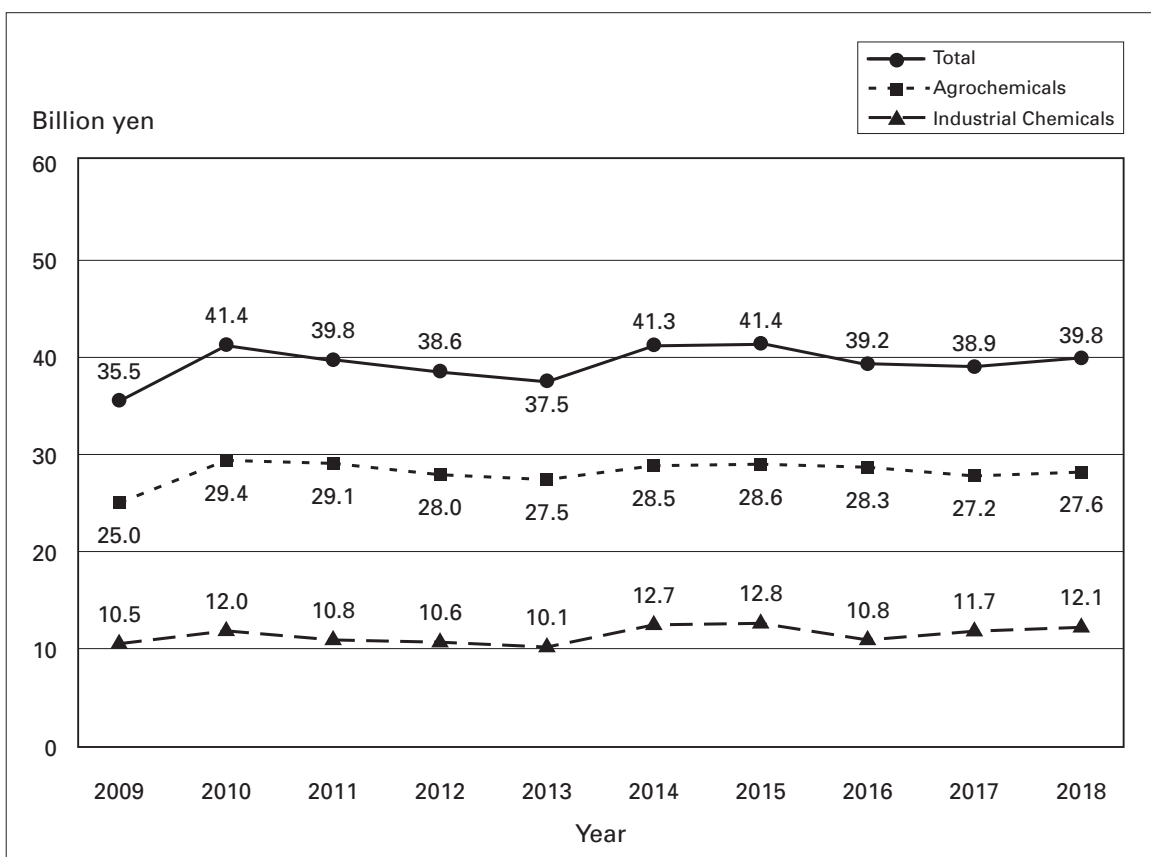
3. 2018 Business Report (As of November 30, 2018)

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

Value: Million yen

	2017		2018		
	Value	Share(%)	Value	Share(%)	Growth(%)
Agrochemicals					
Insecticides	5,329	13.7	5,656	14.2	106.1
Fungicides	7,715	19.9	7,364	18.5	95.5
I/F Combinations	5,973	15.4	6,587	16.6	110.3
Herbicides	7,718	19.9	7,581	19.1	98.2
Others	426	1.1	442	1.1	103.8
Subtotal	27,162	69.9	27,631	69.5	101.7
Industrial Chemicals	11,695	30.1	12,149	30.5	103.9
Total	38,857	100	39,780	100	102.4
Export (Included in Total Sales)					
Agrochemicals	2,738	7.0	2,706	6.8	98.8
Industrial Chemicals	2,694	6.9	2,496	6.3	92.7

3-2. Annual Progress of Business Turnover(2009-2018)



4. Hokko's Leading Products in 2018

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	fenprothrin	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
Orthocide	captan	Fruit, Vegetables, Wheats	Scab, Alternaria leaf spot, Downy mildew, Gray mold, Fusarium blight

4-3. I/F COMBINATION

Product Name	Active Ingredient	Crop	Disease, Pest
Dr.Oryze-Ferterra	probenazole + chlorantraniliprole	Rice	Blast, Various pests
Dr.Oryze-Padeet	probenazole + cyantraniliprole	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
Kimarite	ipfencarbazone + tefuryltrione	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	Broadleaf 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

SC / suspension concentrate

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>Podosphaera xanthii</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>Leveillula taurica</i>)		○
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>Podosphaera pannosa</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 ampelopsisidis</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>Podosphaera pannosa</i>)
Chrysanthemum	Rust (<i>Puccinia horiana</i>) Rust (<i>Puccinia tanacetii</i> var. <i>tanacetii</i>)
Japanese spindle tree	Powdery mildew (<i>Erysiphe euonymicola</i>)
Crape Myrtle	Powdery mildew (<i>Erysiphe australiana</i>)
Poplar	Powdery mildew (<i>Uncinula adunca</i> var. <i>mandshurica</i>) Marssonina 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

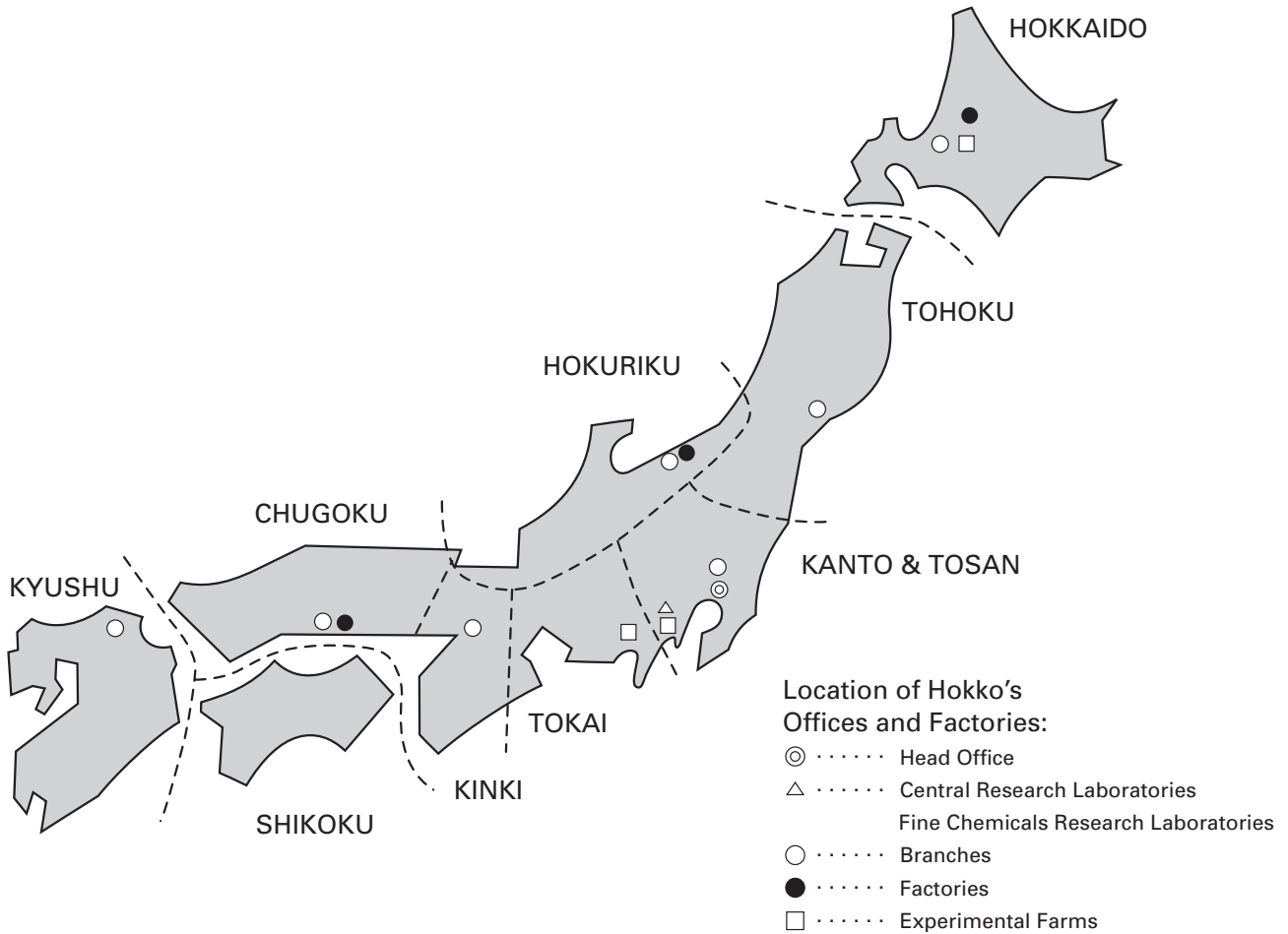
FIGHTER

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

Target weeds	<i>Echinochloa oryzicola</i> , <i>Echinochloa crus-galli</i> , <i>Leptochloa chinensis</i> , <i>Ischaemum rugosum</i> , <i>Fimbristylis miliacea</i> , <i>Cyperus difformis</i> , <i>Schoenoplectiella juncooides</i> , <i>Lindernia procumbens</i> , <i>Monochoria vaginalis</i> , <i>Cyperus rotundus</i> , 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 2018

(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	104.0	123.1	51.3	40.1	—	—	—	—	0.2	—	—
TOHOKU	379.1	7.9	—	35.4	—	—	—	—	2.1	—	—
HOKURIKU	205.6	9.8	—	13.0	—	—	—	—	0.6	—	—
KANTO & TOSAN	270.3	38.5	—	10.0	—	—	—	—	3.5	—	—
TOKAI	93.4	16.3	—	12.0	—	—	—	—	0.4	—	—
KINKI	103.1	10.4	—	9.7	—	—	—	—	0.6	—	—
CHUGOKU	103.7	5.8	—	4.5	—	—	—	—	0.5	—	—
SHIKOKU	49.3	4.8	—	0.5	—	—	—	—	0.6	—	—
KYUSHU	161.1	56.3	—	21.4	—	—	—	—	1.7	—	—
Total	1470.0	272.9	77.2	146.6	67.3	37.7	13.2	17.9	10.6	34.8	41.5
Comparison with Previous Year (100%)	100	100	100	98	98	99	96	99	98	101	98

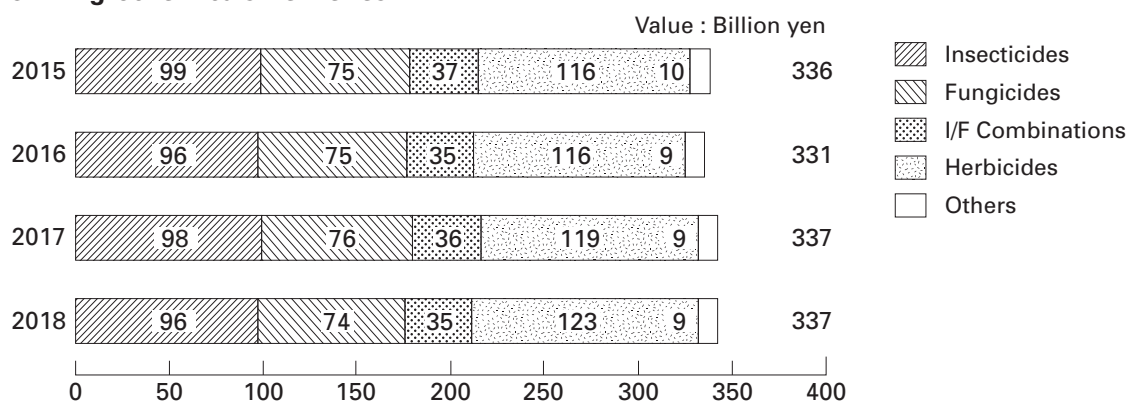
* ; Data from 2017

—; not available

3. Agrochemicals Business by the member companies of JCPA* in 2018

(*Japan Crop Protection Association)

3-1 Agrochemicals Deliveries

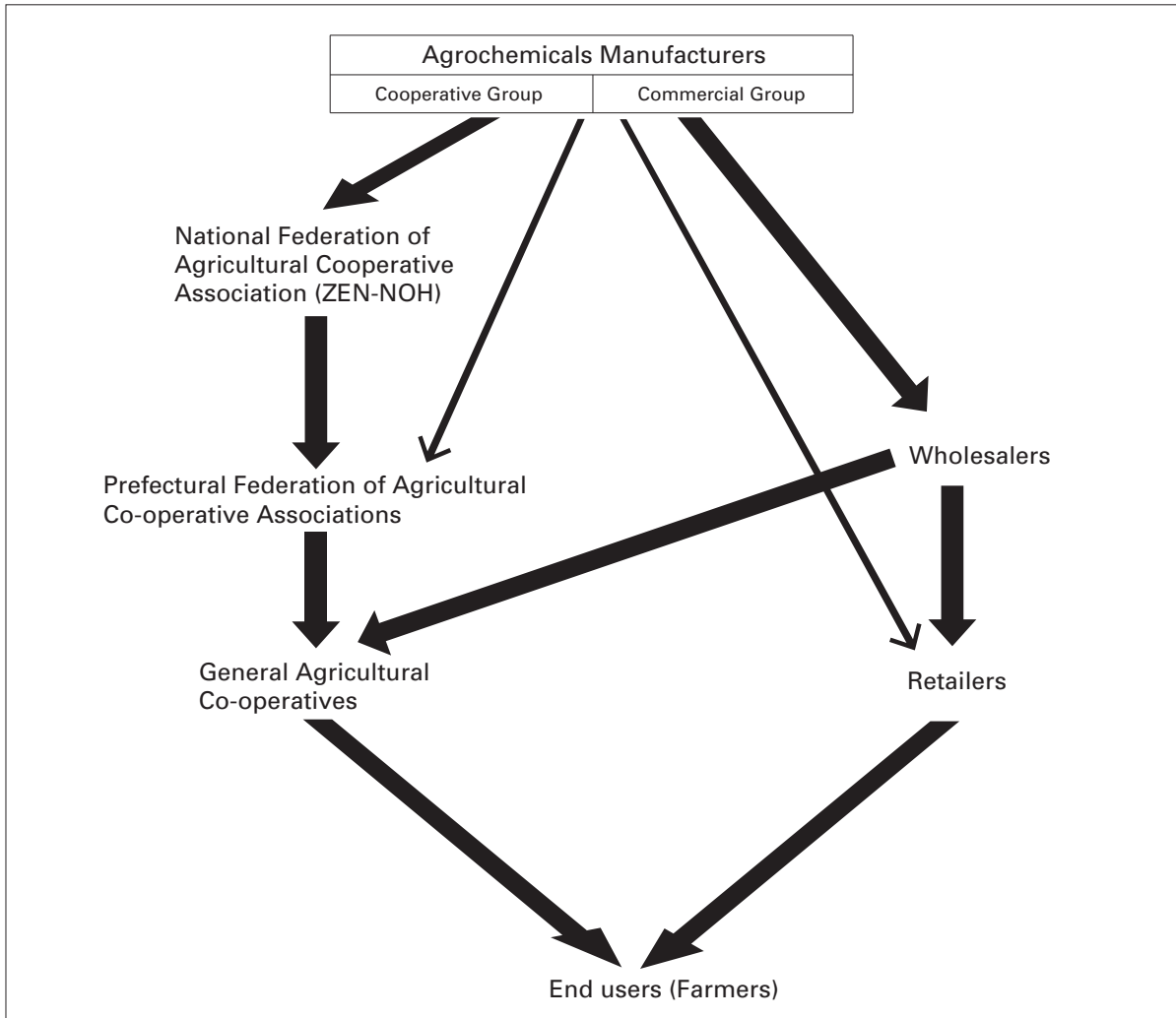


3-2 Agrochemicals Value by Crop

Sector	Agrochemicals group	Value		Comparison with 2017 (100%)
		Billion yen	%	
Paddy rice	Insecticides	12.1	4	100%
	Fungicides	9.4	3	98%
	I/F Combinations	30.1	9	99%
	Herbicides	64.3	19	99%
	Subtotal	115.9	34	99%
Fruit trees	Insecticides	20.6	6	100%
	Fungicides	18.7	6	98%
	I/F Combinations	0.3	0	85%
	Herbicides	8.2	2	98%
	Subtotal	47.9	14	99%
Vegetables, potatoes, beans etc.	Insecticides	57.2	17	98%
	Fungicides	40.6	12	99%
	I/F Combinations	3.0	1	94%
	Herbicides	21.2	6	100%
	Subtotal	122.0	36	99%
Others	Insecticides	6.4	2	96%
	Fungicides	5.8	2	101%
	I/F Combinations	1.6	0	90%
	Herbicides	28.9	9	116%
	Subtotal	42.6	13	109%
(Total)	Insecticides	96.3	29	98%
	Fungicides	74.4	22	99%
	I/F Combinations	35.0	10	98%
	Herbicides	122.7	36	103%
	Others	8.9	3	101%
Grand total		337.3	100	100%

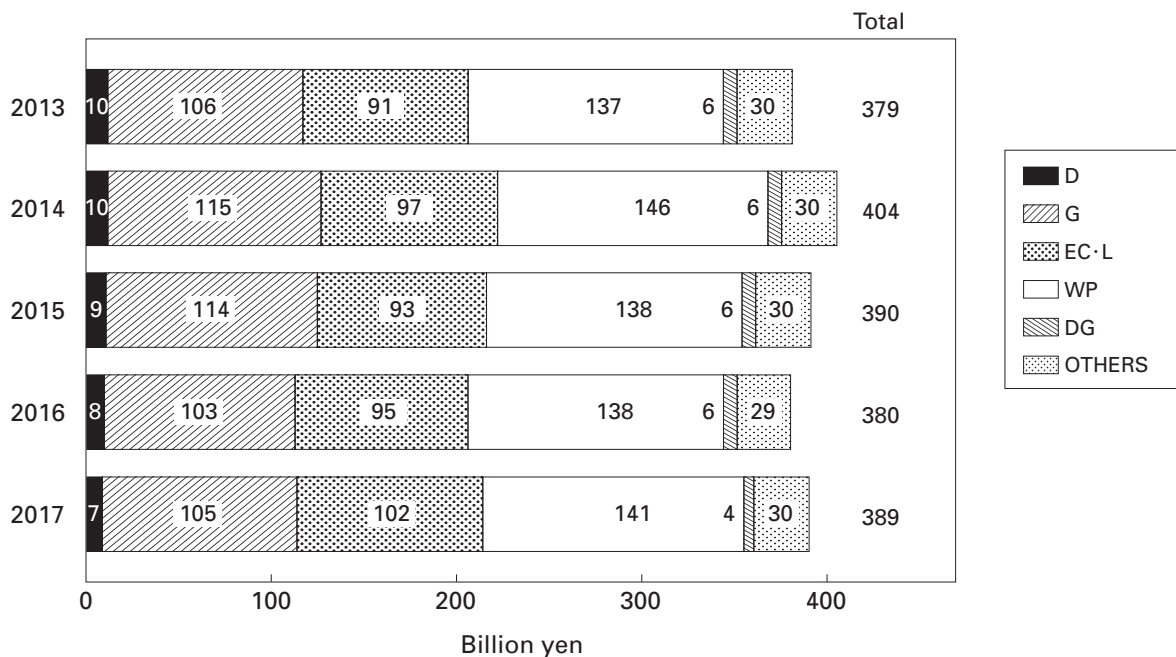
4. Distribution System of Agrochemicals

JPPA* in 2018



(*JPPA/Japan Plant Protection Association)

5. Agrochemicals Production by Formulation(2013-2017) (Source; JPPA)



6. Pest Infestation and Agrochemical Treatment in 2017(Source; JPPA)

Crop (Planted Area) (1,000ha)	Pests and diseases	Net treated area (1,000ha)	Total treated area	
			Area (1,000ha)	Comparison with 2016 (100%)
Rice (1,466)	Seedling blight	715	852	98%
	Blast(leaf)	1,024	1,323	96%
	Blast(neck & ear)	838	1,173	97%
	Sheath blight	613	713	104%
	"Bakanae" disease	957	957	111%
	Rice stem borer(2nd generation)	152	158	113%
	White-backed planthopper	766	1,129	101%
	Brown rice planthopper	536	882	107%
	Small brown planthopper	773	1,188	104%
	Green rice leafhopper	628	914	106%
	Rice leaf beetle	635	652	87%
	Rice stink bug	1,117	1,618	102%
	Rice leafroller	367	445	88%
	Rice water weevil	784	791	91%
Wheat & Barley (272)	Powdery mildew	127	314	103%
	Scab	218	504	98%
	Snow rots	87	87	91%
Potato (77)	Late blight	58	396	101%
	Twenty-eight-spotted ladybird	4	7	100%
Soybean (150)	Purple stain	63	95	103%
	Soybean pod borer	83	155	118%
	Stink bugs	58	76	85%
Citrus (69)	Scab	38	77	104%
	Melanose	57	211	98%
	Arrowhead scale	36	66	129%
	Citrus red mite	55	157	99%
Apple (38)	Blossom blight	25	53	108%
	Alternaria leaf spot	37	346	107%
	Scab	37	363	115%
	Peach fruit moth	36	181	101%
	Apple leafminer	36	76	109%
	Mites	14	41	98%
Pear (14)	Black spot	4	44	113%
	Scab	12	130	100%
Vine (16)	Ripe rot	13	43	100%
	Rust	10	27	100%
	Leaf spot	11	37	97%
	Anthraco nose	10	23	96%
	Downy mildew	13	55	100%
	Gray mold	10	32	97%
	Thrips	11	31	100%

Crop (Planted Area (1,000ha))	Pests and diseases	Net treated area (1,000ha)	Total treated area	
			Area (1,000ha)	Comparison with 2016 (100%)
Tea (38)	Anthracnose	33	71	91%
	Smaller tea tortrix	36	75	99%
	Oriental tea tortrix	30	59	97%
	Tea leafroller	36	61	100%
	Tea green leafhopper	36	86	99%
	Kanzawa spider mite	36	74	99%
	Thrips	36	92	99%
Cucumber (11)	Downy mildew	6	29	100%
	Anthracnose	2	9	113%
	Powdery mildew	7	28	100%
	Bacterial spot	2	6	120%
	Aphids	6	21	100%
Cabbage (35)	Black rot	17	32	97%
	Diamondback moth	18	46	105%

7. Herbicide Application in Rice Field

Crop	Application method	2018		
		Volume (t)	Value (million yen)	Estimated Area (1,000ha)
Rice	One-shot application	13,753	41,871	1,750
	Pre- and early post-emergence application	4,179	5,870	596
	Post-emergence application	6,608	12,201	657
	Total	24,540	59,942	3,003

(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

	2013	2014	2015	2016	2017
Agriculture	1,321	1,186	1,527	1,851	1,907
Non-agriculture	1,531	1,455	1,472	1,403	1,418
Others (Annuity etc.)	1,865	1,909	1,946	1,952	1,924
Total income	4,727	4,562	4,960	5,212	5,260

8-2. Average Agricultural Expenditure by Crop in 2017

Unit: yen/10a

	Rice		Wheat		Potato		Sugar beet		Soybean	
Seed & Seedling	3,697	3%	3,084	6%	14,541	19%	2,685	3%	3,615	7%
Fertilizers	8,872	8%	9,403	17%	10,795	14%	22,514	24%	5,064	10%
Agrochemicals	7,639	7%	4,818	9%	11,353	15%	13,969	15%	5,549	11%
Fuel	4,227	4%	1,908	3%	2,955	4%	3,518	4%	2,024	4%
Rent & Charge	11,989	11%	15,657	29%	1,284	2%	3,085	3%	8,553	16%
Buildings cost	4,292	4%	1,138	2%	1,438	2%	2,014	2%	1,243	2%
Agricultural machinery	24,542	22%	8,726	16%	14,523	19%	16,094	17%	10,354	20%
Labor	35,028	31%	6,015	11%	15,286	20%	21,792	23%	10,980	21%
Others	12,937	11%	4,182	8%	5,554	7%	9,253	10%	4,667	9%
Total	113,223	100%	54,931	100%	77,729	100%	94,924	100%	52,049	100%

9. Rice Production (Source; MAFF)

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

Unit: 1,000ha

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cultivated Area	2,506	2,496	2,474	2,469	2,326	2,320	2,310	2,296	2,284	2,273
Planted Area	1,624	1,628	1,576	1,581	1,599	1,575	1,506	1,479	1,466	1,470
Set-aside*1 (%)	35	35	36	36	31	32	35	36	36	35

*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	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Yield (t/ha)	5.22	5.22	5.33	5.40	5.39	5.36	5.31	5.44	5.34	5.29
Normal Yield (t/ha)*1	5.30	5.30	5.30	5.30	5.30	5.30	5.31	5.31	5.31	5.32
Index number of Rice Yield*2	98	98	101	102	102	101	100	102	101	99
Total Production (million ton)	8.5	8.5	8.4	8.5	8.6	8.4	8.0	8.0	7.8	7.8

*1; Determined by MAFF

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



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