

FYE March 2020

Earnings Materials

July 2020

 **NIHON NOHYAKU CO., LTD.**

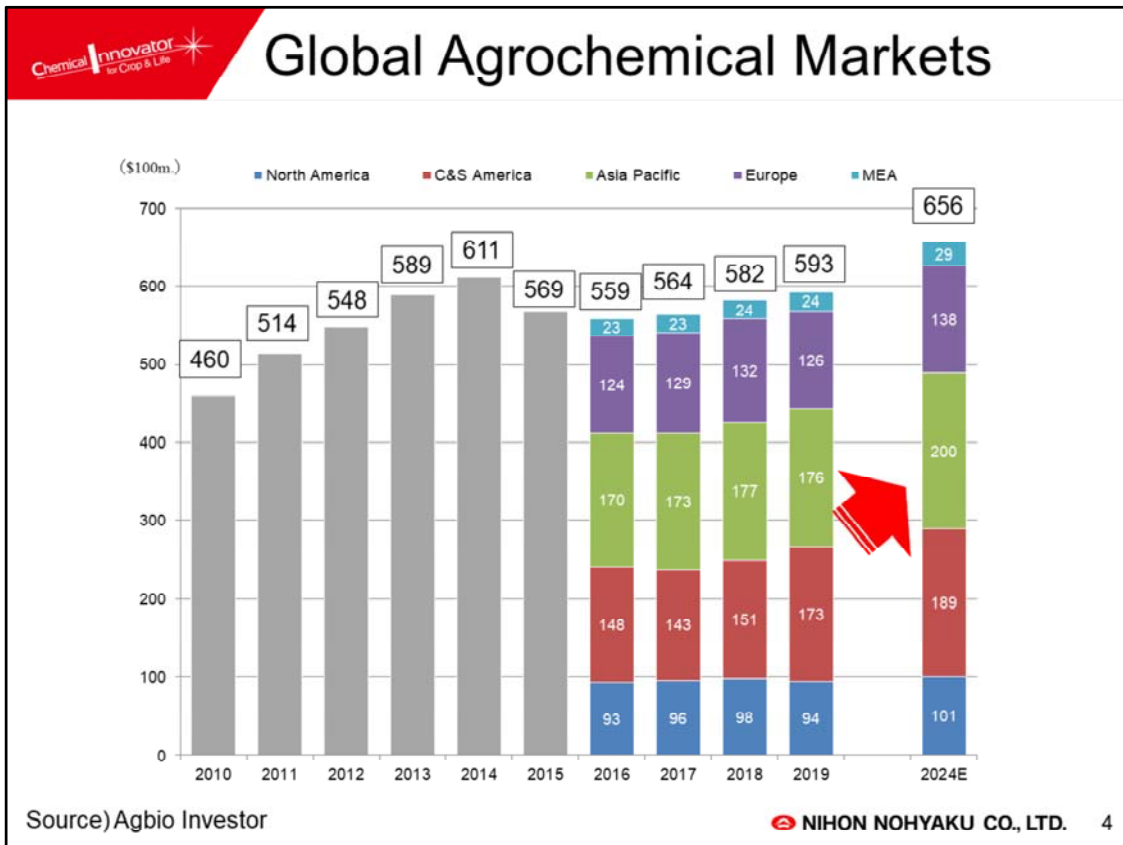
Chemical **Innovator**
for Crop & Life 

Note

The earnings forecasts and other forward-looking statements indicated in this document are based on currently available information as well as on what we deem to be certain reasonable assumptions but actual earnings may differ due to various factors.

- I. Global Agrochemical Markets
- II. FYE March 2020 Earnings
- III. Progress of R&D
- IV. Smart Agriculture Initiatives

I. Global Agrochemical Markets



The graphs in this section show the global agrochemical markets performance from 2010 to 2019 and forecasts for 2024.

The global agrochemical market grew from \$46 billion in 2010 to \$61.1 billion in 2014, reflecting population growth and economic development in emerging countries.

Over the past few years, sales have been weak due to the impact of small-scale pests in some regions and the impact of inventories in the past fiscal year due to unseasonable weather.

However, sales in major markets such as Brazil and North America have been on an uptrend again in 2019.

According to the study by Agbio Investor, the global agrochemical market is expected to grow at an average annual rate of 2.1% over the next five years to reach \$65.6 billion in 2024.

Chemical Innovator
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Global Agrochemical Markets


North America
Demand for agrochemicals stayed firm on continued warm weather.

Latin America
Overall, the market shifted towards higher sales thanks to the consumption of past inventory in Brazil, the world's largest market, but the future remains unclear due to intensifying competition.

Europe
Demand for agrochemicals was sluggish due to high levels of existing inventory.

Asia
Demand increased in India and regions with favorable weather but overall the market was sluggish.

Japan
Largely unchanged due to impact of reduction in distribution inventory.

 NIHON NOHYAKU CO., LTD. 5

Next, I will explain region-specific results on global agrochemical markets.

In North America, demand for agrochemicals were firm thanks to continued warm weather.

On the other hand, in Latin America, overall the market shifted towards higher sales thanks to the consumption of past inventory in the world's largest market Brazil, but the future remains unclear due to intensifying competition.

In Europe, agrochemical demand is sluggish due to high levels of existing inventory.

In Asia, demand increased in India and regions with favorable weather but overall the market was sluggish.

In comparison, Japan was largely unchanged due to impact of reduction in distribution inventory.

II . FYE March 2020 Earnings

FYE March 2020 Earnings

Decreased sales

(¥100m./%)

	FYE Mar 2020	(Reference) 1H/FYE Sep 2019		
			YoY	Growth %
Net Sales	356	371	△ 15	△ 4.1
Domestic Agrochemical Sales	128	139	△ 10	△ 7.9
Overseas Agrochemical Sales	180	192	△ 11	△ 6.2
Other agrochemicals	20	13	6	45.4
Chemical Products excluding agrochemicals	19	18	0	1.0
Other	11	9	1	15.8
Cost of Sales	230	246	△ 16	△ 6.6
Gross Profit	126	125	1	0.9
SG&A	86	84	1	2.3
Operating Income	40	40	△ 0	△ 2.1
Ordinary Income	40	40	△ 0	△ 1.9
Profit Attributable to Owners of Parent	14	29	△ 15	△ 50.4

Net sales were ¥35.6 billion, down ¥1.5 billion, or 4.1% year on year.

Looking at profit, operating income was ¥4.0 billion, down 2.1% year on year.

Ordinary income was ¥4.0 billion, down 1.9% year on year. Profit attributable to owners of parent was ¥1.4 billion, down ¥1.5 billion, or 50.4% year on year, due in part to recording extraordinary losses in the form of goodwill impairment loss related to consolidated subsidiary Sipcam Nichino Brasil (SNB).

Net sales ¥37.1 bn → ¥35.6 bn (-¥1.5 bn)

Operating income: ¥4.0 bn → ¥4.0 bn (-¥0 bn)

Increase in know-how technical fees +¥0.6 bn

Contributions from consolidation of Nichino Europe +¥0.2 bn

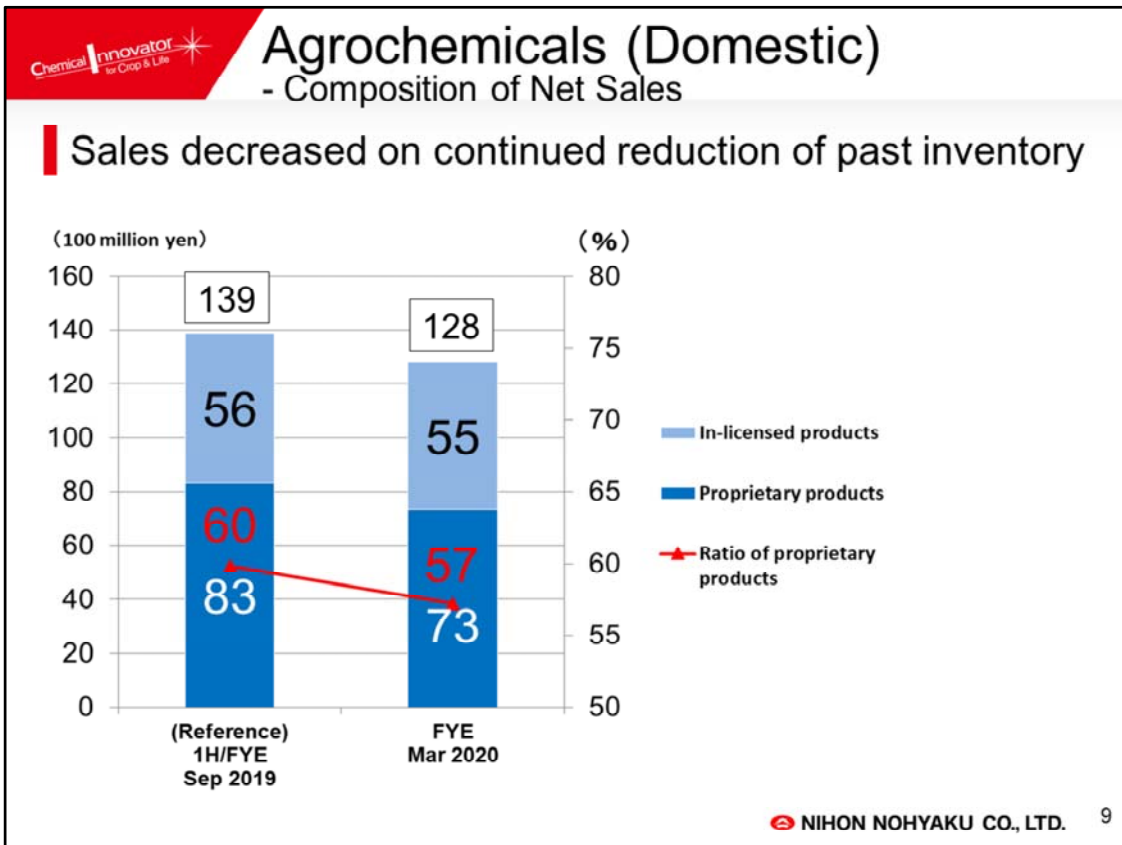
Nichino America profit increase +¥0.2 bn

Sipcam Nichino Brasil (SNB) profit decline -¥0.8 bn

Decreased sales of domestic agrochemical sales due to improvements in business practices -¥0.2 bn

Operating income was largely unchanged year on year at ¥4.0 billion. I will explain the factors contributing to these results.

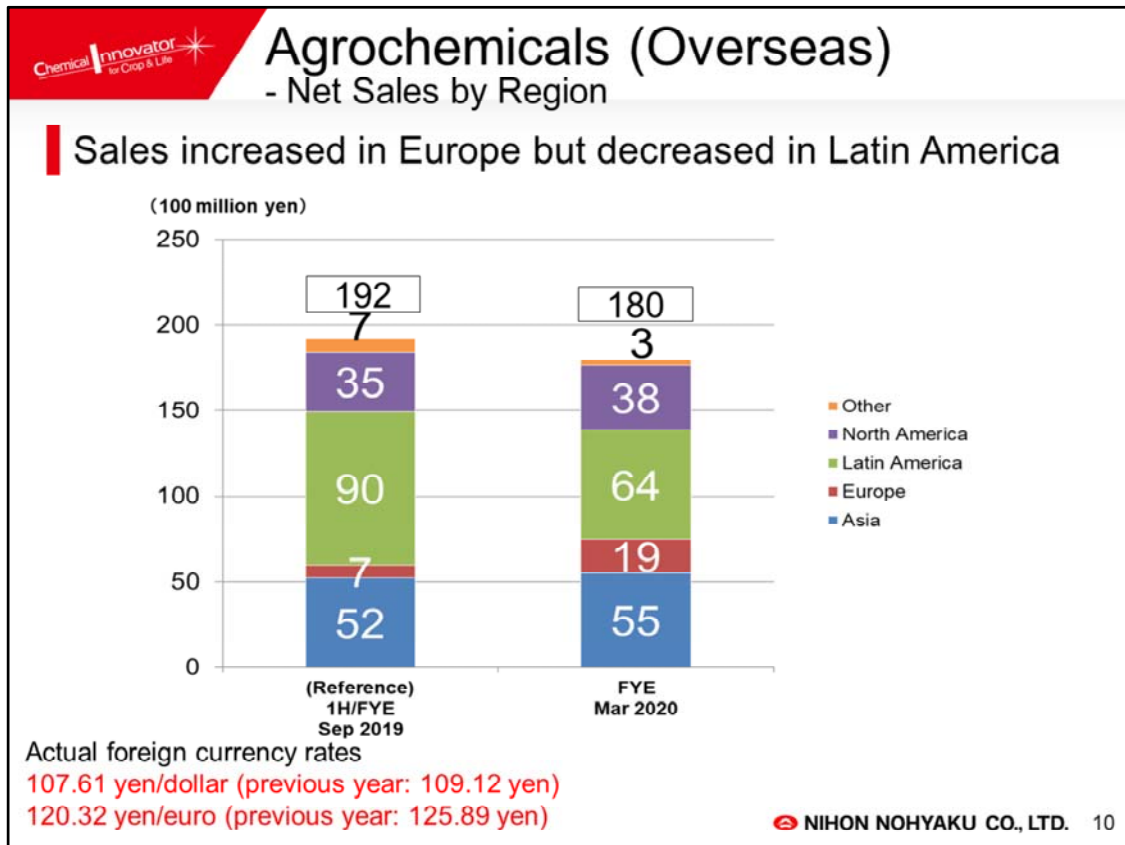
Increased income factors include ¥0.6 billion increase in know-how technical fees, contributions from the consolidation of Nichino Europe of ¥0.2 billion, and increased profit from Nichino America of ¥0.2 billion. On the other hand, decreased income factors include decreased profit from Sipcam Nichino Brasil (SNB) of ¥0.8 billion, and decreased domestic agrochemical sales due to improvements in business practices resulting in decreased profits of ¥0.2 billion.



This graph shows the transitions in net sales for domestic agrochemical sales.

During the previous fiscal year, we began selling three new products and expanded our product portfolio. We also worked to expand sales of proprietary products, including the rice paddy fungicide “V-GET”.

However, due to the focus on reducing existing inventory, net sales for domestic agrochemical sales were ¥12.8 billion, down by ¥1.0 billion, or 7.9% year on year.



This graph shows the transitions in net sales by region for overseas agrochemical sales.

Last fiscal year, in India sales of Nichino India's agrochemicals for dry season crops were firm. In the USA, Nichino America accelerated shipments due to earlier products shipments out of concerns related to the impact of COVID19 on logistics.

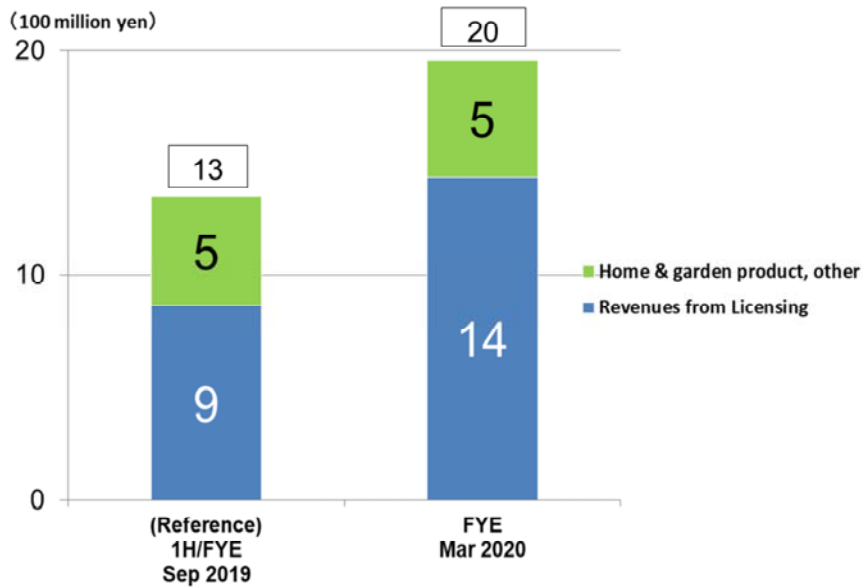
In Europe, sales of the pesticide Moncut and the herbicide Pyraflufen-ethyl were favorable, driving increased sales for Nichino Europe. On the other hand, Brazil saw a recovery in agrochemical demand but sales of Sipcam Nichino Brasil were sluggish due to intensifying competition.

As a result, previous fiscal year net sales from overseas agrochemical sales were ¥18.0 billion, a decrease of ¥1.1 billion, or 6.2%.

Furthermore, actual foreign currency rates for the previous fiscal year are as indicated here.

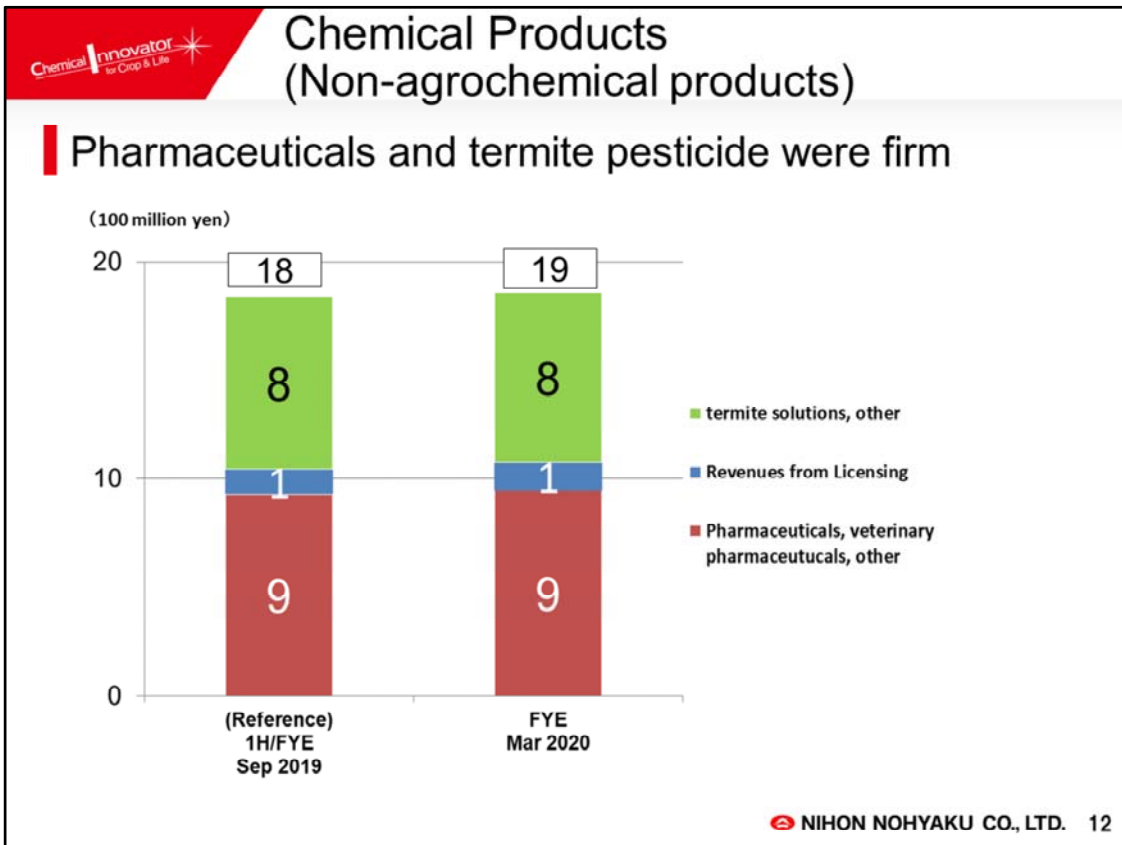
Agrochemicals (Others)

Increase in know-how technical fees



The graph shown here shows transitions in domestic and overseas agrochemical business sales for non-agrochemical products categorized by know-how technical fees (blue) and horticultural products (green).

Last fiscal year, favorable sales targeting customers adopting our technology resulted in increased know-how technical fees.



This graph shows non-agrochemical chemical products divided into categories of pharmaceuticals and animal health care products (red) business, know-how technical fees (blue), and termite pesticides and other (green).

Last fiscal year, sales in the onychomycosis field of the topical antifungal agent luliconazole in the pharmaceutical field were favorable.

Major Earnings of Domestic Group Companies

(¥m. / %)

		FYE	(Reference)	YoY	Growth %
		Mar 2020	1H/FYE Sep 2019		
Nihon Nohyaku	Net sales	21,713	23,009	△ 1,295	△ 5.6
	Operating income	2,893	2,854	38	1.4
	Net profit	△ 3,590	2,483	△ 6,074	-
Nichino Service	Net sales	2,395	2,301	93	4.1
	Operating income	101	108	△ 6	△ 6.3
	Net profit	68	72	△ 4	△ 5.8
Nichino Ryokka	Net sales	1,024	864	159	18.5
	Operating income	30	29	1	3.5
	Net profit	20	16	3	19.4
Nihon Ecotech	Net sales	425	398	26	6.7
	Operating income	41	27	13	50.1
	Net profit	29	23	5	21.9
AgriMart	Net sales	817	743	74	10.0
	Operating income	76	103	△ 27	△ 26.3
	Net profit	48	67	△ 18	△ 27.7

This table shows major earnings of NNC's domestic consolidated subsidiaries during the previous fiscal year.

Nichino Ryokka, shown third from the top in the table, improved profitability and increased earnings by focusing on sales of chemicals for golf courses and practicing selective acceptance of landscaping construction.

Major Earnings of Overseas Group Companies

(¥m. / %)

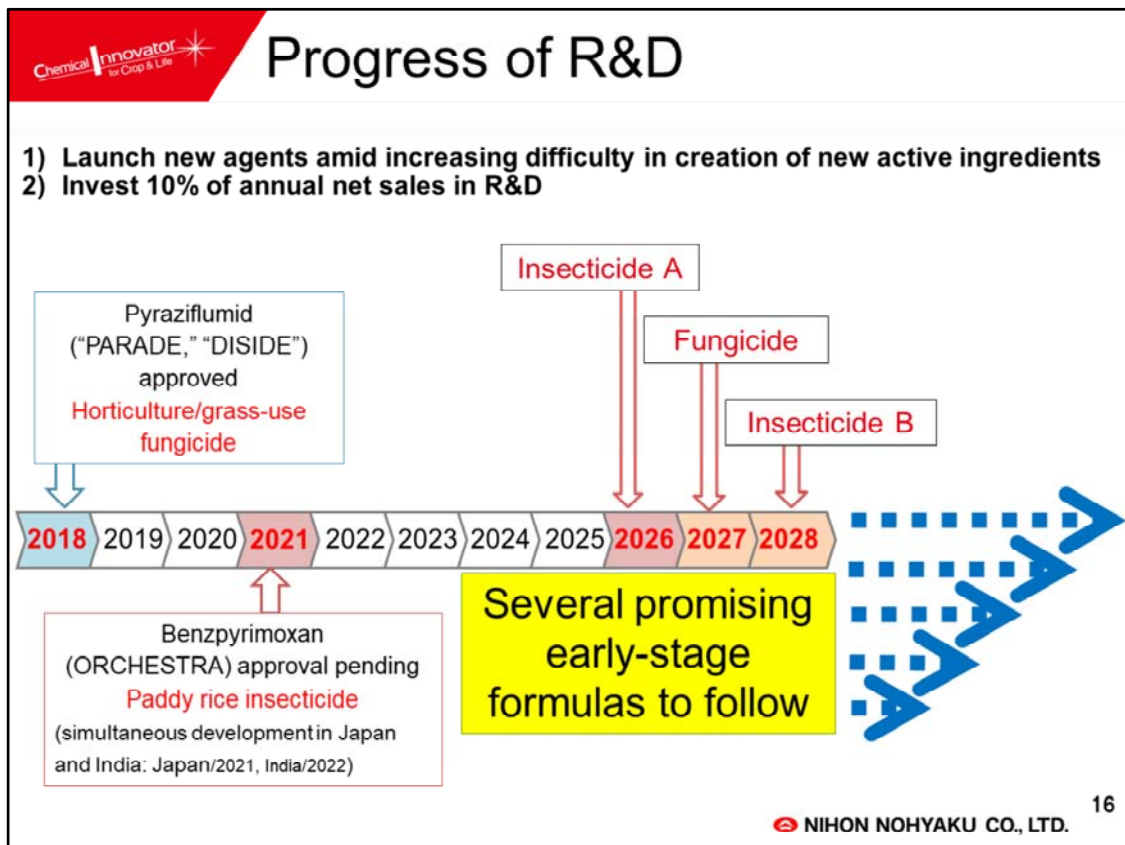
		FYE	(Reference)	YoY	Growth %
		Mar 2020	1H/FYE Sep 2019		
Nichino America	Net sales	3,821	3,512	308	8.8
	Operating income	499	335	164	49.0
	Net profit	369	249	120	48.3
Taiwan Nihon Nohyaku	Net sales	209	171	38	22.3
	Operating income	29	24	4	18.6
	Net profit	24	21	2	12.6
Nichino India	Net sales	3,672	2,767	905	32.7
	Operating income	127	△ 36	163	-
	Net profit	50	34	16	48.1
Sipcam Nichino Brasil	Net sales	5,853	8,350	△ 2,496	△ 29.9
	Operating income	186	1,003	△ 816	△ 81.4
	Net profit	△ 235	453	△ 689	-
Nichino Europe	Net sales	2,038	-	-	-
	Operating income	250	-	-	-
	Net profit	218	-	-	-

This table shows major earnings of NNC's overseas consolidated subsidiaries during the previous fiscal year.

Nichino America, shown at the top, accelerated shipments to address concerns of the impact on distribution by COVID19 in the USA.

On the other hand, Sipcam Nichino Brasil, shown second from the bottom had sluggish earnings due to intensifying competition despite a recovery in demand on the Brazil market.

IV. Progress of R&D



In recent years, discovering new bioactive compounds (creation of new AIs) has become more difficult. At the same time, safety assessment standards have risen and the cost of maintaining existing registrations has increased, resulting in a dramatic increase in research and development expenses.

Amid such conditions, we are investing over 10% of annual net sales into research and development (R&D) in order to further enhance our R&D capabilities.

Details on new agent development and respective launch schedules are as shown. We are developing the new paddy rice insecticide "ORCHESTRA" (benzpyrimoxan), in Japan and India with the goal of launching to market in 2021 and 2022, respectively.

In addition, as a result of our efforts to quickly expand our pipeline with the goal of launching one agent every three years, we are currently developing three new products, two insecticides and fungicide, with the goal of launching sales at the site.

Additionally, we will have multiple promising early-stage formulas following the pipeline. We are working diligently on R&D to accelerate development.

Progress in FYE March 2020

Newly developed products

- Completion of agrochemical registration of new pesticide “ORCHESTRA” (benzpyrimoxan)
 - ✓ Effective against hoppers and leafhoppers
 - ✓ In February 2019, agrochemical registration in Japan and India was completed
 - ✓ Peak sales: Japan: ¥1 billion, India: ¥6 billion
 - ✓ In Japan, we plan to start sales in 2021
 - ✓ Working to advance sales in India ahead of schedule (Initial plan: 2023 ⇒ 2022)
 - ✓ Mixtures with various pesticides and fungicide are under development
 - ✓ Registration is under consideration in Southeast Asian countries, etc.

Next, the results of our R&D in previous year.

In February 2019, we completed the agrochemical registration for the previously mentioned paddy rice insecticide against hoppers and leafhoppers “ORCHESTRA” in Japan and India.

We expect peak sales in Japan of ¥1.0 billion and in India of ¥6.0 billion.

In Japan, we are diligently engaged in development with the goal of launching sales in 2021. Sales in India were scheduled to begin in 2023 but we are working diligently to contribute to earnings at an early stage by moving forward this plan to 2022.

We are also developing a mixture product of “ORCHESTRA” with various insecticides and fungicides. In addition to Japan and India, we are also considering acquiring registrations in Southeast Asian countries and other countries, and we will cultivate this product as one of our key global products in the field of paddy rice.

Progress in FYE March 2020

Promoting development of existing products

Wide spectrum fungicide "PARADE" (pyraziflumid)

- ✓ Advancing development of cell seedling irrigation treatment that will enable new spraying methods
⇒ Approved in August 2019 for lettuce, in January 2020 for cabbage and nappa cabbage (Hakusai)
- ✓ Formulation approved in Korea in February 2019, started sales in March 2020
- ✓ In the USA, we filed for registration in November 2019
- ✓ Evaluating possibility for development in Europe and Brazil

Next, I will explain initiatives related to promoting development of existing products.

For the wide spectrum fungicide "PARADE" (pyraziflumid), we are advancing the development of a cell seedling irrigation treatment that will enable new spraying methods in Japan and received approval for lettuce in August 2019, and cabbage and nappa cabbage in January of this year.

Overseas, we received formulation approval in Korea in February 2019 and launched sales in March of this year.

In addition to completed registration filing in November 2019 in the USA, we are evaluating possibilities for development in Europe and Brazil.

Progress in FYE March 2020

Advancing development of existing products

Horticulture insecticide "PHOENIX" (flubendiamide)

- ✓ Registered the technical grade in Brazil in October 2019 and planning to launch sales in 2021
⇒ Peak sales of ¥1.4 billion

Horticulture insecticide "COLT" (pyrifluquinazon)

- ✓ Acquired U.S. Food Registration in November 2018, launched sales via Nichino America Inc. (NAI)
- ✓ Peak sales in the USA of ¥0.5 billion to ¥1 billion

New business projects

Evaluating products for frost damage control

- ✓ Developing for turfgrass, apples, and tea
(Collaboration with Kansai University, KUREi, Goshogawara Agriculture and Forestry High School, and Nichino Ryokka)

In October 2019, we registered the technical grade for the horticulture insecticide "PHOENIX" (flubendiamide) and are aiming to launch sales in 2021. We are driving development with the aim of ¥1.4 billion in net sales during peak season.

In November 2018, we acquired a U.S. food registration for "COLT" (pyrifluquinazon), a horticulture insecticide, and began selling it in this field from Nichino America. We expect peak sales in the USA of ¥0.5 billion to ¥1 billion.

Additionally, as a new business project, we are evaluating development of a product for frost damage control for turfgrass, apples, and tea.

V. Smart Agriculture Initiatives

Rapid Population Decline and the Advent of a Super-aging Society

- Accelerating decline in the labor force.
- In all industries, there is a need to switch to super-labor-saving and high-quality production by using robotics technology, remote sensing technology using artificial satellites, and ICT, including cloud systems.
- Even in agriculture, labor shortages due to aging and a decline in new farmers are prominent.
⇒ Labor saving and technical support for new farmers is necessary.

The labor force population in Japan continues to decline at an accelerating pace due to the declining birthrate, aging population, and population decline.

Therefore, in all industries, there is a need for a shift change to super-labor-saving and high-quality production by utilizing robotic technology, remote sensing technology utilizing artificial satellites, and ICT, including cloud systems.

In agriculture, labor shortages due to the aging of the population and the reduction in new farmers are conspicuous. Furthermore, it is difficult to acquire experience-backed cultivation technology and work such as planting and harvesting is labor intensive. Compared to other industries, the agriculture industry is in need of technology to support labor-savings, labor reduction, and the development of new farmers.

Domestic Agricultural Policies

I Rapid Population Decline and the Advent of a Super-aging Society
Establishment and diffusion of smart agriculture

- ① Realize super-labor saving and large-scale production
(Agriculture automation)
- ② Maximizing crop capabilities
(Precision farming, utilizing sensing technologies and big-data)
- ③ Liberation from hard and dangerous work
(Robots, assist suits, etc.)
- ④ Realizing agriculture that is easy for everyone
(Data compilation of agricultural machinery operation assisting equipment and cultivation know-how)
- ⑤ Providing peace of mind and trust to consumers

Interim report of "Study Group for Realization of Smart Agriculture"

The policies of the Ministry of Agriculture, Forestry and Fisheries (MAFF) are to achieve super-labor-saving and large-scale production through agriculture automation, to maximize the capacity of crops through precision farming using sensing technology and big-data, and to liberate from hard and dangerous work by utilizing robots, assisted suits, etc., in order to secure labor and improve productivity.



Smartphone app
Leime AI Disease, Pest & Weed Analysis

Over 10,000 users!

Supports iOS/Android



Google Play



As part of our initiatives related to smart agriculture and address issue facing society, in April 2020 we released Leime AI Disease, Pest & Weed Analysis, a smartphone app capable of diagnosing paddy rice pests and weeds.

This app is available for free download by anyone on iOS and Android.

Over 10,000 users have already installed the app and we continue to see a rapid increase in users.

Issues related to using agrochemicals

What are destructive diseases, pests and weeds?
What to use?
How to use?
When to use?



Accurate diagnosis
and control information

Use a smartphone to receive a useful expert guidance
on disease, pest and weed control.

Planning to expand applicable crops (leafy vegetables)
(Release scheduled for 2020)

This app aims to be a solution for various issues related to use of agrochemicals by providing accurate diagnosis and control guidance.

We view the release of the version for paddy rice analysis as a first step.

We will continue to incorporate feedback from users and farmers towards making enhancements to convenience, efficacy, and functionality.

We also will gradually expand applicable crops with a focus on leafy vegetables with plans for release in 2020.

Real-time occurrence data for destructive diseases, pests and weeds throughout Japan



雑草 Weeds
害虫 Pests
病害・食害 Disease/corrosion

Linked



Climate data
Farmland management data
Pest control history

⋮

Creating new smart agriculture solutions

As the number of farmers using our app increases, we will be able to accumulate big data about where and what diseases, pests and weeds are occurring or settled.

In the future, we will link real-time disease, pest and weed data to climate data and farm management data to provide early recommendations on disease, pest and weed control as we aim to create new smart agriculture solutions.