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Headline

On 31 Aug. 2021, prothioconazole was officially incorporated into the Management List of Import and Export of Pesticides of the People's Republic of China (2021), which has made it more attainable for Hailir Group and Anhui Jiuyi to directly expand the overseas pesticide market and has brought new opportunities for their development.

In late Sept., in terms of domestic fungicide prices, due to the rise of price of raw materials, some manufacturers stopped quotations or orders, most of the product prices continued to rise, and market supply remained tense.

In late Sept., domestic prices of many fungicide products continued to rise amid tight supply, as rising prices of raw materials drove some manufacturers to stop quoting prices or even accepting orders.

In late Aug., Zhejiang Xinnong released the semi-annual report of H1 2021. During the reporting period, Zhejiang Xinnong has actively promoted the construction of the on-going projects funded by the company's fund-raising and investment events. Among them, the four major projects are going smoothly.

In late Aug., the EIA report of Jilin Lvsheng's 2,000 t/a Tebuconazole TC Project was approved.

Wuhan Kernel is to establish capacities of its jingangmycin TC, kasugamycin TC, agricultural antibiotic 120 TC, bacillus subtilis TC, and bacillus thuringiensis TC products in the approved agricultural biological fermentation project to be set up in its new production base.

According to the import and export data sourced from Tranalysis, in H1 2021, China exported 3,096.06 tonnes (actual volume) or 2,258.67 tonnes (100% AI volume) of mancozeb to 16 main destinations including Indonesia, Vietnam and Peru.

On 27 Aug., 2021, the ICAMA publicised the 9th batch of agrochemicals to be approved in 2021 for public comments.

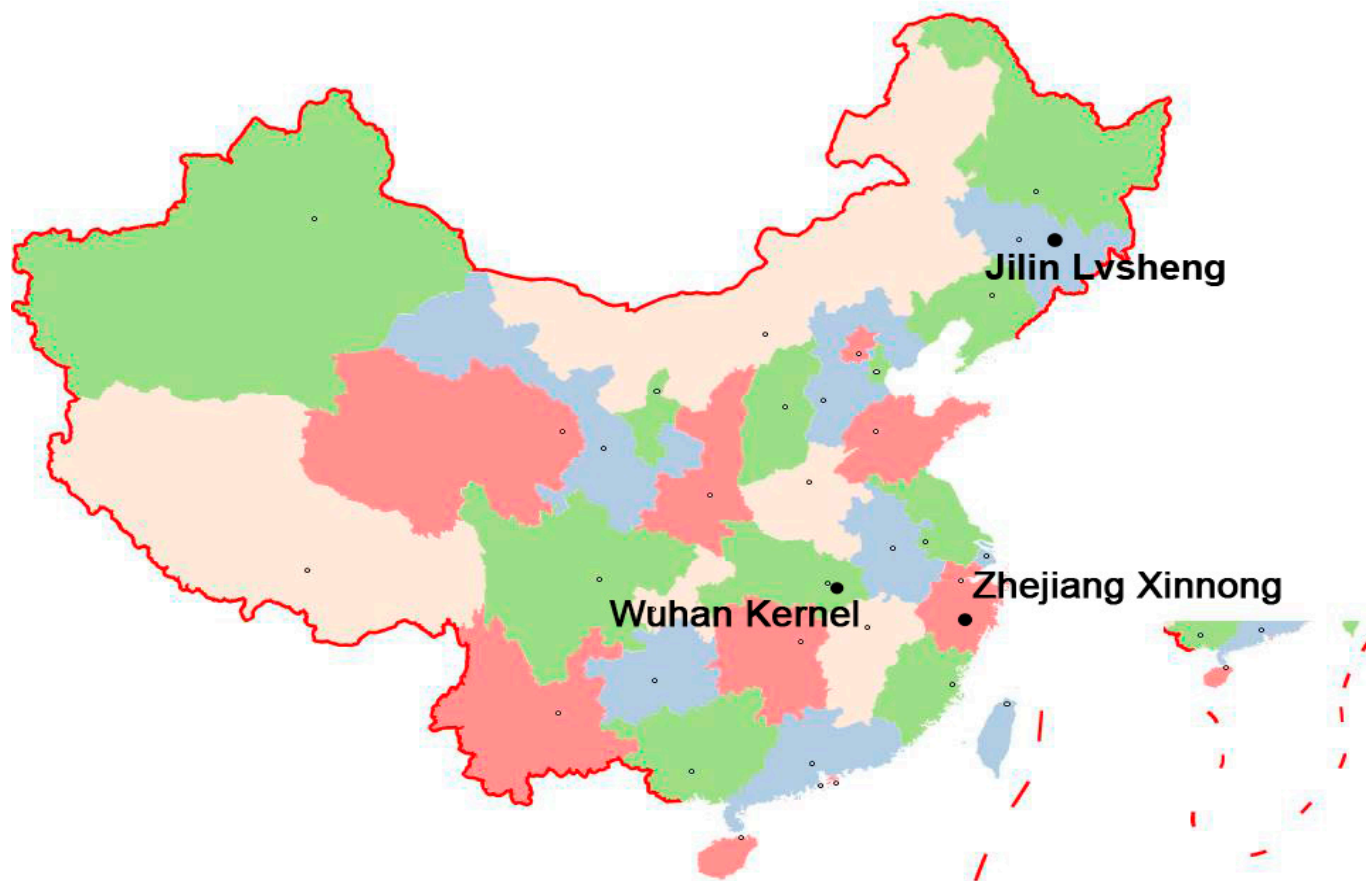
The 60% flumorph·initium WG that was developed and launched by Huizhou Yinnong has been successfully approved for registration, becoming the company's another high-quality, high-performance, cost-effective, and market-differentiated product. Huizhou Yinnong's respective cooperation with Shenyang Sciencreat and BASF, through the technical (TC) licensing agreements, was indispensable to the R&D and launch of this product. The flumorph TC, one of the components of the product, was licenced by Shenyang Sciencreat whereas another component, initium TC, was licenced by BASF.

In late Aug., Rudong Zhongyi's 280 g/L cyproconazole·azoxystrobin SC was approved for registration. It is Rudong Zhongyi's first cyproconazole formulation that was approved for registration, which can help Rudong Zhongyi enter the cyproconazole market and promote the popularisation of cyproconazole formulation products in China.

On 30 Aug., the MARA issued the MARA's Comments on the Full Implementation of the Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste (Solid Waste Law).

In early Sept., late rice in Xinjian District, Nanchang City, Jiangxi Province was in booting stage and about to enter rupturing & heading stage. It is a crucial time to guard against plant diseases.







Editor's note

In terms of market dynamics, on 31 Aug. 2021, prothioconazole was officially incorporated into the Management List of Import and Export of Pesticides of the People's Republic of China (2021), which has made it more attainable for Hailir Pesticides and Chemicals Group Co., Ltd. and Anhui Jiuyi Agricultural Co., Ltd. to directly expand the overseas pesticide market and has brought new opportunities for their development. In late Sept., domestic prices of many fungicide products continued to rise amid tight supply, as rising prices of raw materials drove some manufacturers to stop quoting prices or even stop accepting orders.

In terms of company dynamics, in late Aug., Zhejiang Xinnong Chemical Co., Ltd. released the semi-annual report of H1 2021. During the reporting period, Zhejiang Xinnong has actively promoted the construction of the on-going projects funded by the company's fund-raising and investment events. Among them, the four major projects are going smoothly. In late Aug., the Environmental Impact Assessment report (EIA report) of Jilin Lvsheng Agrochemical Co., Ltd.'s 2,000 t/a Tebuconazole TC Project was approved. On 15 Sept., 2021, Wuhan Kernel Bio-Tech Co., Ltd. announced that its Agricultural Biological Fermentation Project (phase I), invested and constructed by it at the newly-erected second production base in Xiantao High & New Technology Industrial Development Zone in Hubei Province, passed environment protection acceptance check.

In terms of registration, on 27 Aug. 2021, the Institute for the Control of Agrochemicals, Ministry of Agriculture publicised the 9th batch of agrochemicals to be approved in 2021 for public comments. The list contains an iprodione product, pyraclostrobin·iprodione SC (25% iprodione, 10% pyraclostrobin), which was submitted by Shaanxi Thompson Bio-technology Co., Ltd. and is to be registered for the prevention and control of melon gray mold disease. In late Aug. 2021, Huizhou Yinnong Technology Co., Ltd. revealed that the 60% flumorph·initium WG (30% flumorph + 30% initium) that was developed and launched by the company has been successfully approved for registration in early Aug. In late Aug., Rudong Zhongyi's 280 g/L cyproconazole·azoxystrobin SC was approved for registration. It is Rudong Zhongyi Chemical Co., Ltd.'s first cyproconazole formulation that was approved for registration.

The USD/CNY exchange rate in this newsletter is USD1.00=CNY6.4680 on 1 Sept., 2021, sourced from the People's Bank of China. All the prices mentioned in this newsletter will include the VAT, unless otherwise specified.





Market analysis

Prothioconazole technical incorporated into China's new management list

Summary: On 31 Aug. 2021, prothioconazole was officially incorporated into the Management List of Import and Export of Pesticides of the People's Republic of China (2021), which has made it more attainable for Hailir Group and Anhui Jiuyi to directly expand the overseas pesticide market and has brought new opportunities for their development.

On 31 Aug. 2021, several companies in China successfully submitted the applications for the export of prothioconazole technical through the Customs Import and Export Clearance Notice Application System for Pesticides (the "Single Window" Clearance Platform), which means that prothioconazole was officially incorporated into the Management List of Import and Export of Pesticides of the People's Republic of China (2021).

Prothioconazole technical in China was previously exported as a non-hazardous chemical with a 13% of export tax rebates rate. However, prothioconazole technical is currently exported as a pesticide and its export tax rebates rate decreased to 9%. This export tax rebates rate variance of 4% has brought bad news to the companies that lack compliance with the regulations.

Now with prothioconazole being categorised as a pesticide export, all companies that export prothioconazole would have to comply with relevant regulations, including the Customs Law of the People's Republic of China and Regulations on the Management of Pesticides. Thus the export of prothioconazole has become more regulated, delivering encouraging news to the companies that lawfully registered their products.

According to the Institute for the Control of Agrochemicals, Ministry of Agriculture and Rural Affairs of the People's Republic of China (ICAMA), there are only four enterprises that obtained the pesticides registration certificate of prothioconazole in China, which were approved on Jan. 30, 2019. This is the first batch of prothioconazole products registered in China and the only batch so far. Of the four enterprises that obtained the pesticides registration certificate of prothioconazole, two obtained pesticide registration certificates of prothioconazole TC, namely Shandong Hailir Chemical Co., Ltd. (Hailir) and Anhui Jiuyi Agricultural Co., Ltd. (Anhui Jiuyi). Hailir is a subsidiary of Hailir Pesticides and Chemicals Group Co., Ltd. (Hailir Group).

Prothioconazole is a new triazolinthione fungicide with a broad control spectrum, high efficacy, low toxicity and low residual, which can help to promote development of pesticide products. Prothioconazole was introduced at the British Crop Protection Council Conference in 2002. In 2004, it was first registered and launched in Britain and Germany for prevention and control of diseases in grain and rape, and then registered in France, the United States, Argentina, Brazil, Canada, India and other countries for diseases in soybean, rye, wheat and other crops.





It is reported that prothioconazole TC project of Hailir Group was put into production in 2020, with a production capacity of 2,000 t/a, and the phase II is designed to promote the construction of an automated workshop with a production capacity of 6,000 t/a. Prothioconazole products have also been approved by the European Union, which laid a solid foundation for the company to explore the European market. Prothioconazole products will become one of the trump cards of Hailir Group.

Anhui Jiuyi has a production capacity of 1,000 t/a prothioconazole TC. After comprehensively studying and making judgements on demand for prothioconazole in the global market, the company made a decision in July 2021 to build a new production line of 5,000 t/a prothioconazole TC, which has carried out preliminary work such as safety assessment, environmental impact assessment and energy consumption assessment.

Prothioconazole was officially incorporated into the Management List of Import and Export of Pesticides of the People's Republic of China (2021), which has made it more attainable for Hailir Group and Anhui Jiuyi to directly expand the overseas pesticide market and has brought new opportunities for their development.

2.1-3 Registration of prothioconazole in China

No.	Registration certificate number	Name	Form	Content	Expire date	Certificate holder
1	PD20190004	Prothioconazole	TC	97%	2024/1/29	Anhui Jiuyi Agricultural Co., Ltd.
2	PD20190005	Prothioconazole	OD	30%	2024/1/29	Anhui Jiuyi Agricultural Co., Ltd.
3	PD20190014	Prothioconazole-tebuconazole	SC	40%	2024/1/29	Jiangsu Liyang Zhongnan Chemical Co., Ltd
4	PD20190041	Prothioconazole	TC	95%	2024/1/29	Hailir Pesticides and Chemicals Group Co., Ltd.
5	PD20190015	Prothioconazole-carbendazim	SC	28%	2024/1/29	Hailir Pesticides and Chemicals Group Co., Ltd.

Source:ICAMA

Note:The data were updated by 6 Sept.,2021





Prices of many fungicides in China continue to rise in late Sept.

Summary: In late Sept., domestic prices of many fungicide products continued to rise amid tight supply, as rising prices of raw materials drove some manufacturers to stop quoting prices or even accepting orders.

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Triazole fungicides:

Operating rates of manufacturers of triazole fungicides went down, as the price rise of triazole, an upstream material, has caused mounting cost pressure. To be more specific:

- Difenoconazole TC price continued to increase; the ex-works price went to USD28,757/t (RMB186,000/t) in late Sept., up 9.41% MoM.
- Propiconazole TC producers have been busy with fulfilling previous orders. With high production cost and low operating rate, its ex-works price rose 3.27% MoM to USD24,428/t (RMB158,000/t).
- Triadimefon TC price was stable at USD10,823/t (RMB70,000/t), but its supply was relatively tight.
- Hexaconazole TC has seen increased supply, but its ex-works price stabilised at USD19,017/t (RMB123,000/t).
- Tebuconazole TC price climbed to USD12,832/t (RMB83,000/t), up 5.73% MoM, due to increasing cost of raw materials.
- Although epoxiconazole TC producers raised operating rates, the ex-works price of the product climbed to USD58,751/t (RMB380,000/t), up 4.11% MoM.

Strobilurin fungicides:

- The operating rate of azoxystrobin TC producers has increased, but production and stocking of the intermediates have been restricted. The ex-works price of 96% azoxystrobin TC increased dramatically to USD46,846/t (RMB303,000/t), up 28.94% MoM, because prices of its raw materials rose significantly, and some azoxystrobin manufacturers stopped quoting price or accepting orders.
- Previous low operating rate of kresoxim-methyl TC has driven up its ex-works price by 3.13% MoM to USD 51,020/t (RMB 330,000/t).
- As it's in the slack season for trifloxystrobin TC, the ex-works price of the fungicide was stable at USD85,034/t (RMB550,000/t).





2.2-3 Ex-works of major fungicides in China in end-Sept.

Type	Product	Content	Ex-works price on 25 Sept. (RMB/t)	Ex-works price on 25 Sept. (USD/t)	MoM change (by RMB)	Ex-works price on 25 Aug. (RMB/t)	Ex-works price on 25 Aug. (USD/t)
Triazole fungicides	Difenoconazole	95%	186,000	28,757	9.41%	170,000	26,291
	Propiconazole	95%	158,000	24,428	3.27%	153,000	23,662
	Triadimefon	95%	70,000	10,823	0.00%	70,000	10,826
	Hexaconazole	95%	123,000	19,017	0.00%	123,000	19,023
	Tebuconazole	97%	83,000	12,832	5.73%	78,500	12,140
	Epoxiconazole	97%	380,000	58,751	4.11%	365,000	56,449
	Flusilazole	95%	390,000	60,297	0.00%	390,000	60,316
	Myclobutanil	97%	142,500	22,032	0.00%	142,500	22,038
Strobilurin fungicides	Azoxystrobin	96%	303,000	46,846	28.94%	235,000	36,344
	Kresoxim-methyl	95%	330,000	51,020	3.13%	320,000	49,490
	Trifloxystrobin	96%	550,000	85,034	0.00%	550,000	85,060

Source:CCM





Company dynamics

Zhejiang Xinnong actively promotes pyraclostrobin and other projects

Summary: In late Aug., Zhejiang Xinnong released the semi-annual report of H1 2021. During the reporting period, Zhejiang Xinnong has actively promoted the construction of the on-going projects funded by the company's fund-raising and investment events. Among them, the four major projects are going smoothly.

In late Aug., Zhejiang Xinnong Chemical Co., Ltd. (Zhejiang Xinnong) released the semi-annual report of H1 2021, which showed that in H1 2021, Zhejiang Xinnong's operating revenue was USD95.34 million (RMB616.68 million) and the net profit attributable to equity holders of the company was USD14.42 million (RMB93.25 million).

Zhejiang Xinnong specialises in the R&D of new, efficient, safe and eco-friendly green pesticide TC, formulations and intermediates. Zhejiang Xinnong has established solid school-enterprise cooperation relationships with Zhejiang University and Zhejiang University of Technology. Moreover, a series of new competitive products with market differentiation were successfully developed under the company's strategic cooperation with multinational agrochemical enterprises such as BASF and Bayer. To be more specific,

- **Thiodiazole-zinc TC and formulations:** Thiodiazole-zinc is a new high-tech product that was independently developed by the company and comes with independent intellectual property rights. Thiodiazole-zinc TC and formulations are targeted at the market of bacterial diseases and the mixed market of bacterial and fungal diseases. With their safety and miscibility, Thiodiazole-zinc TC and formulations are widely used in grain, fruit trees, vegetables and other cash crops and also act as zinc supplements. Thiodiazole-zinc is widely recognised on the market.
- **Pyraclostrobin TC and formulations:** Pyraclostrobin is a broad-spectrum fungicide that can prevent and control crop diseases caused by various fungal pathogens such as ascomycetes, basidiomycetes, deuteromycetes and oomycetes. It is also an auxin-type fungicide that enables crops to absorb more nitrogen and promotes crop growth. It not only is low in toxicity, safe to non-target organisms, but also causes no harm to users and the environment. The company has now acquired the whole production process of pyraclostrobin, ranging from TC to formulations. Thus the production costs are under control and the product quality is ensured.

During the reporting period, Zhejiang Xinnong has actively promoted the construction of the projects funded by the company's fund-raising and investment events. Among them, the four major projects are going smoothly. To be more specific,

- **1000 t/a pyraclostrobin and 430 t/a sodium chloride (by-product) project:** The phase II project is currently being planned and implemented. The phase I project, the 300 t/a pyraclostrobin project, was completed and put into operation, plus the production techniques have been fully integrated into its production facilities at the end of 2020. And it started to produce qualified products since then.
- **6,600 t/a eco-friendly water-based formulations production line and its complementary logistic facilities project:** The phase II project is currently being planned and implemented. The phase I project, the project of 2,800 t/a fungicide (SC) production line and its complementary processing facilities for environmental purposes, was





completed and put into operation.

- **Marketing service system construction project:** The civil construction of the marketing training centre subproject has been completed. The interior decoration works are being done. The construction is estimated to be put into use in H2 2021.
- **Hydrogenation technical renovation project:** The concrete pouring works on the main workshops and the partial structures of the refining-drying-packing workshop have been completed. The civil construction of the complementary facilities has commenced and is estimated to be completed in H2 2021.

By the end of the reporting period, the total investment in the on-going projects amounted to USD23.89 million (RMB154.53 million), having completed 40.39% of the investment schedule.

Jilin Lvsheng to build production line for tebuconazole

Summary: In late Aug., the EIA report of Jilin Lvsheng's 2,000 t/a Tebuconazole TC Project was approved.

In late Aug., the Environmental Impact Assessment report (EIA report) of Jilin Lvsheng Agrochemical Co., Ltd. (Jilin Lvsheng)'s 2,000 t/a Tebuconazole TC Project was approved.

- Project nature: Technical renovation;
- Construction site location: Jilin Lvsheng's North Factory, Jiangbei Town Cluster Area, Jilin Chemical Industry Circular Economy Pilot Park, Jilin City, Jilin Province;
- Main construction content:
 - Renovating the existing workshops in the factory;
 - Constructing a set of production facilities for tebuconazole, which will be also used for alternate production of other products;
- Capacity once put into operation: 2,000 t/a for tebuconazole.

From the standpoint of environmental protection, the Ecology and Environment Department of Jilin Province, in principle, approved the pertinent entries in this EIA report, including project nature, production scale, production techniques, and construction site location as well as all the measures to be taken for environmental protection purposes.

Tebuconazole is an highly efficient, broad-spectrum and systemic triazole fungicide with three functions, crop protection, disease treatment and fungi eradication. Tebuconazole is mainly used for the prevention and control of a variety of diseases in wheat, rice, peanut, vegetables, bananas, apples, pears, maize and sorghum. It has been registered and widely used in more than 50 countries and for the diseases in more than 60 crop varieties.

According to the Institute for the Control of Agrochemicals, Ministry of Agriculture and Rural Affairs (ICAMA), there are 49 pesticide registration certificates of tebuconazole TC that are still within the period of validity, and Jilin Lvsheng holds the peaticide registration certificate of 96% tebuconazole TC.





In terms of production capacity, the companies that possess production lines for tebuconazole include Hubei Benxing Chemical Industry Co., Ltd., Yancheng Huihuang Chemical Co., Ltd., Jiangsu Sevencontinent Green Chemical Co., Ltd., etc. However, their production capacity for tebuconazole rarely exceeds 2,000 t/a. The 2,000 t/a tebuconazole production line that Jilin Lvsheng plans to construct will help it earn more shares in the tebuconazole market.

Jilin Chemical Group Pesticide Chemical Co., Ltd., which was Jilin Lvsheng's predecessor company, was founded in 1970; it was renamed Jilin Lvsheng after the acquisition by Zhejiang Changxing First Chemical Co., Ltd. in 2021. In its factory inside the Jilin Chemical Industry Circular Economy Pilot Park, Jilin Lvsheng owns production equipment for many kinds of pesticide TC products, including ametryn, prometryn, simetryn, terbutryn, etc. By a glance at the Jilin Lvsheng's product portfolio, it can be found that its main business is herbicide. The tebuconazole production line to be constructed will no doubt diversify the company's product portfolio and create a new profitable sector.

3.2-3 China's major tebuconazole TC manufacturers' production capacity and output in 2020

No.	Enterprise	Capacity (t/a)	Output (t/a)
1	Hubei Benxing Chemical Industry Co., Ltd.	5,000	3,000
2	Yancheng Huihuang Chemical Co., Ltd.	4,000	2,200
3	Jiangsu Sevencontinent Green Chemical Co., Ltd.	2,500	1,500
4	Shangyu Nutrichem Co., Ltd.	2,000	1,600
5	Jiangsu Sword Agrochemicals Co., Ltd.	2,000	1,200

Source:CCM

Wuhan Kernel to expand production capacity of bio-pesticide

Summary: Wuhan Kernel is to establish capacities of its jingangmycin TC, kasugamycin TC, agricultural antibiotic 120 TC, bacillus subtilis TC, and bacillus thuringiensis TC products in the approved agricultural biological fermentation project to be set up in its new production base.

On 15 Sept., 2021, Wuhan Kernel Bio-Tech Co., Ltd. (Wuhan Kernel), a leading enterprise in Chinese bio-pesticide industry, announced that its Agricultural Biological Fermentation Project (phase I), invested and constructed by it at the newly-erected second production base in Xiantao High & New Technology Industrial Development Zone in Hubei Province, passed environment protection acceptance check. The acceptance opinions of the construction project and other related reports were released to the public in 20 Aug., 2021–11 Sept., 2021.

According to the project report, Wuhan Kernel plans to expand its production capacities of jingangmycin technical





(TC), kasugamycin TC, agricultural antibiotic 120 TC, bacillus subtilis TC, and bacillus thuringiensis TC.

Founded in April 1999, Wuhan Kernel is a high-tech enterprise specialised in the R&D, production and sales of bio-pesticides and operating other businesses such as biological fertilizer and microbial feed additives. Wuhan Kernel's bio-pesticide products are widely used in domestic agricultural production, and exported to 20+ overseas markets like the US, Japan and South Korea in quantity supported by the company's independent right of export and import. It is worth noting that Wuhan Kernel has attracted investment of Mitsui & Co. Steel Ltd. (Mitsui) with its competitive edges in the industry — Mitsui now owns 4.9% shares of Wuhan Kernel.

Wuhan Kernel has formed a large-scale production capacity of bacillus thuringiensis, bacillus subtilis and agricultural antibiotics products (jingangmycin, kasugamycin, agricultural antibiotic 120, etc.) in its existing headquarters production base located in Wuhan East Lake High-tech Development Zone in Hubei Province. As for the new base in Xiantao High & New Technology Industrial Development Zone, it is the second production base built to meet the company's development needs.

Wuhan Kernel said that with the increasing concerns in recent years, the demand for bio-pesticides has been growing year by year. However, with the limited size of the original production base, Wuhan Kernel cannot improve its production scale and more its business development. Thus, in order to meet the increasing market demand and expand its product supply capacity, Wuhan Kernel made plan to build the second production base.

Scheduled capacities of the Agricultural Biological Fermentation Project (phase I):

- Totalling 1,981.2 t/a Bio-pesticide TC, comprised of:
 - 298.3 t/a Jingangmycin TC
 - 40.8 t/a Kasugamycin TC
 - 800 t/a Agricultural antibiotic 120 TC
 - 347.1 t/a Bacillus subtilis TC
 - 495 t/a Bacillus thuringiensis TC

The project started construction in Dec., 2019, completed and was put into trial production in Dec., 2020. In Aug., 2021, it passed environment protection acceptance check and acquired affirmative opinions of acceptance.

At present, China's pesticide industry is still dominated by chemical pesticides and such status is expected to stand within a short time given that bio-pesticide development requires a certain amount of time and endeavours of all kinds. However, among the overall domestic pesticide market, a low share of bio-pesticide also indicates a huge space for development.

In fact, bio-pesticide is a key focus in the development of Chinese pesticide industry with the market demand rising in





recent years at a stable and small pace. Such increase is mainly driven by the current market enthusiasm and state policies. Meanwhile, bio-pesticide shows great momentum in the international market as well.





Import and export

China's exports of mancozeb to main destinations in H1 2021

Summary: According to the import and export data sourced from Tranalysis, in H1 2021, China exported 3,096.06 tonnes (actual volume) or 2,258.67 tonnes (100% AI volume) of mancozeb to 16 main destinations including Indonesia, Vietnam and Peru.

According to the import and export data sourced from Tranalysis, in H1 2021, China exported 3,096.06 tonnes (actual volume) or 2,258.67 tonnes (100% AI volume) of mancozeb to 16 main destinations including Indonesia, Vietnam and Peru. The data were updated to 2 Sept., 2021. Details are as follows:

Mancozeb formulation

- Main products for export: Mancozeb 80% WP, mancozeb 72% WP and mancozeb 30% SC;
- Main export destinations: 3,002.05 tonnes (actual volume) of mancozeb formulations were exported to main destinations at an average export price of USD3.26/kg in H1 2021. Indonesia was the largest importer of mancozeb formulation from China during this period, with the volume of 787.44 tonnes (actual volume), accounting for 26.23% of China's total export volume to main destinations;
- Main exporters: Top 3 exporters were Limin Chemical Co., Ltd., Hebei Shuangji Chemicals Co., Ltd. and Jiangsu New Energy Crop Protection Co., Ltd. They exported a total of 1,140.80 tonnes (actual volume), making up 38% of China's total export volume of mancozeb formulation.

Mancozeb TC

- Main products for export: 85% mancozeb TC and 90% mancozeb TC;
- Main export destinations: 94.02 tonnes (actual volume) of mancozeb TC were exported to main destinations at an average export price of USD2.94/kg in H1. Indonesia was the largest importer of mancozeb TC from China during this period, with the volume of 69 tonnes (actual volume), accounting for 73.39% of China's export volume to main destinations;
- Main exporters: Top 3 exporters were Jiangsu New Energy Crop Protection Co., Ltd., Limin Chemical Co., Ltd. and Hebei Shuangji Chemicals Co., Ltd. They exported a total of 77 tonnes(actual volume), making up 81.9% of China's total export volume of mancozeb TC.





4.1-3 China's export volume and average export price of mancozeb to major destinations in H1 of 2021

No.	Product	Volume (kg)	Unit price (USD/kg)
1	Mancozeb 30% SC	104,000	1.14
2	Mancozeb 50% WP	30,000	3.76
3	Mancozeb 58% WP	11,500	5.79
4	Mancozeb 69% WP	65,400	5.13
5	Mancozeb 72% WP	848,200	4.54
6	Mancozeb 75% WDG	1	150.00
7	Mancozeb 80% WP	1,942,950	2.72
8	Mancozeb 85% TC	87,015	2.94
9	Mancozeb 90% TC	7,000	2.90
Total		3,096,066	3.25

Source:Tranalysis

Note:The data, updated to H1 of 2021, were sourced from Tranalysis on 2 Sept., 2021.





4.1-4 Major export destinations of mancozeb formulations from China in H1 of 2021

No.	Destination	Volume (kg)
1	Indonesia	787,440
2	Vietnam	528,000
3	Peru	495,230
4	Philippines	365,100
5	Bangladesh	300,100
6	Pakistan	143,000
7	Uganda	132,960
8	Nigeria	56,880
9	Ecuador	47,660
10	Bolivia	44,000
11	Kenya	33,000
12	Argentina	24,000
13	Chile	20,000
14	Brazil	13,201
15	Ukraine	7,000
16	Paraguay	4,480
Total		3,002,051

Source:Tranalysis

Note:The data, updated to H1 of 2021, were sourced from Tranalysis on 2 Sept., 2021.





4.1-5 China's mancozeb formulations exporters to major destinations in H1 of 2021

No.	Exporter	Volume (kg)
1	Limin Chemical Co., Ltd.	446,800
2	Hebei Shuangji Chemicals Co., Ltd.	441,000
3	Jiangsu New Energy Crop Protection Co., Ltd.	253,000
4	Nanjing Essence Fine Chemical Co., Ltd.	239,030
5	Fortune Ag. Co., Ltd.	114,000
6	JOC Uniwell Industrial Co., Ltd.	100,000
7	Zhejiang Chemicals Import & Export Corporation	70,000
8	Agro Advanced International Ltd.	64,100
9	Ningbo Cycle Chemical Co., Ltd.	60,000
10	Wuxi Fistar Trading Corp.	52,800
11	Others	1,161,321
Total		3,002,051

Source:Tranalysis

Note:The data, updated to H1 of 2021, were sourced from Tranalysis on 2 Sept., 2021.

4.1-6 Major export destinations of mancozeb TC from China in H1 of 2021

No.	Destination	Volume(kg)
1	Indonesia	69,000
2	Vietnam	25,000
3	Brazil	15
Total		94,015

Source:Tranalysis

Note:The data, updated to H1 of 2021, were sourced from Tranalysis on 2 Sept., 2021.





4.1-7 China's mancozeb TC exporters to major destinations in H1 of 2021

No.	Exporter	Volume (kg)
1	Jiangsu New Energy Crop Protection Co., Ltd.	45,000
2	Limin Chemical Co., Ltd.	16,000
3	Hebei Shuangji Chemicals Co., Ltd.	16,000
4	Eastchem Co., Ltd.	9,000
5	Nanjing Bioagriland Crop Care Co., Ltd.	6,000
6	Shanghai E-tong Chemical Co., Ltd.	2,000
7	Others	15
Total		94,015

Source:Tranalysis

Note:The data, updated to H1 of 2021, were sourced from Tranalysis on 2 Sept., 2021.





Registration

Registration of iprodione products in China

Summary: On 27 Aug., 2021, the ICAMA publicised the 9th batch of agrochemicals to be approved in 2021 for public comments.

On 27 Aug. 2021, the Institute for the Control of Agrochemicals, Ministry of Agriculture (ICAMA) publicised the 9th batch of agrochemicals to be approved in 2021 for public comments. On the list, 701 agrochemical products are to be approved for registration, including 224 herbicides, 182 insecticides, 81 hygienic insecticides, 21 pesticides for both insects and fungi, 134 fungicides, 4 molluscicides and 55 plant-growth regulators. Among the 134 fungicides, there is an iprodione product, pyraclostrobin·iprodione SC (25% iprodione, 10% pyraclostrobin), which was submitted by Shaanxi Thompson Bio-technology Co., Ltd. and is to be registered for the prevention and control of melon gray mold disease.

Iprodione is a broad-spectrum contact type protective fungicide, which has certain therapeutic effects and can also be absorbed into roots of plants, inducing a systemic action. It is effective in the prevention and control of fungi that are resistant to benzimidazole fungicides (systemic) and can be used on vegetables crops and ornamental plants like melons, tomatoes, peppers, eggplants, garden flowers, lawn grasses. Iprodione is used in the prevention and control of the diseases induced by botrytis cinerea, thiomargarita namibiensis, alternaria alternata, such as gray mold, early blight, black spot, sclerotinia sclerotiorum, etc.

According to ICAMA, as of 2 Sept., 2021, there are 164 iprodione products that were registered in China and are still within the validity period, including 13 TC products, 85 single-agent formulations and 66 compound formulations.

In terms of active ingredients, the compound formulas of iprodione products are diversified. In China, most iprodione compound formulations registered are compounded with prochloraz, procymidone and tebuconazole. Currently, there are 10 iprodione and prochloraz compound products that were registered and are within the validity period in China. All of these 10 products are SC formulations and were registered to deal with banana crown rot, lawn leaf spot and banana leaf spot. Besides, among the 85 single-agent formulations, 48 take the form of WP.

In terms of formulation types, the registered iprodione products mainly include 7 different formulation types. Among them, SC products are in the majority, with 80 registration entries. WP products rank the second, with 63 registration entries, following TC products totalling 13 registration entries; in which there are 97% iprodione TC and 96% iprodione TC.

In terms of registration certificate holders, 103 companies have obtained iprodione registration certificates; of which four companies have obtained registration certificates of at least five pesticides containing iprodione. Notably,





Shenzhen Noposion Agrochemicals Co., Ltd., owning six registration certificates, makes up a large proportion of the iprodione registration certificate holders.



5.1-3 Number of registered iprodione products in China (by active ingredients)

No.	Name	Number
1	Iprodione	98
2	Prochloraz·iprodione	10
3	Tebuconazole·iprodione	7
4	Iprodione·procymidone	6
5	Iprodione·thiram	5
6	Iprodione·carbendazim	5
7	Pyrimethanil·iprodione	5
8	Boscalid·iprodione	5
9	Iprodione·fluazinam	3
10	Iprodione·chlorothalonil	3
11	Thiophanate-methyl·iprodione	3
12	Dimethomorph·iprodione	2
13	Fludioxonil·iprodione	2
14	Pyraclostrobin·iprodione	2
15	Pyraclostrobin·iprodione	1
16	Iprodione·carbendazim·mancozeb	1
17	Thifluzamide·iprodione	1
18	Cyprodinil·iprodione	1
19	Mancozeb·iprodione	1
20	Epoxiconazole·iprodione	1
21	Propineb·iprodione	1
22	Abamectin·iprodione	1
Total		164



Source:ICAMA

Note:The data were updated to 2 Sept., 2021

5.1-4 Number of registered iprodione products in China (by form)

No.	Form	Number
1	SC	80
2	WP	63
3	TC	13
4	WG	4
5	FU	2
6	EC	1
7	GR	1
Total		164

Source:ICAMA

Note:The data were updated to 2 Sept., 2021

5.1-5 Number of registered iprodione TC in China (by content)

No.	Name	Number
1	Iprodione 96% TC	12
2	Iprodione 97% TC	1
Total		13

Source:ICAMA

Note:The data were updated to 2 Sept., 2021





5.1-6 Companies with at least 5 iprodione registration certificates

No.	Certificate holder	Number
1	Shenzhen Noposion Agrochemicals Co., Ltd.	6
2	Shaanxi Biaozheng Crop Science Co., Ltd.	5
3	Shangdong Heyi Chemical Co.,Ltd.	5
4	Jiangsu Kuaida Agrochemical Co., Ltd.	5

Source:ICAMA

Note:The data were updated to 2 Sept., 2021

Huizhou Yinnong's 60% flumorph initium WG approved for registration

Summary: The 60% flumorph·initium WG that was developed and launched by Huizhou Yinnong has been successfully approved for registration, becoming the company's another high-quality, high-performance, cost-effective, and market-differentiated product. Huizhou Yinnong's respective cooperation with Shenyang Sciencreat and BASF, through the technical (TC) licensing agreements, was indispensable to the R&D and launch of this product. The flumorph TC, one of the components of the product, was licenced by Shenyang Sciencreat whereas another component, initium TC, was licenced by BASF.

In late Aug. 2021, Huizhou Yinnong Technology Co., Ltd. (Huizhou Yinnong) revealed that the 60% flumorph·initium WG (30% flumorph + 30% initium) that was developed and launched by the company has been successfully approved for registration in early Aug. It was registered for the prevention and control of potato late blight and grape downy mildew disease. Notably, the R&D and launch of Huizhou Yinnong's 60% flumorph·initium WG deeply correlate with the company's respective cooperation, through technical (TC) licensing agreements, with Shenyang Sciencreat Chemicals Co., Ltd. (Shenyang Sciencreat) and BASF Europe Co., Ltd. (BASF). The flumorph TC, one of the components of the product, was licenced by Shenyang Sciencreat whereas another component, initium TC, was licenced by BASF. Such formulation product compounded of flumorph and initium, Huizhou Yinnong's 60% flumorph·initium WG, is the first to be approved for registration in China. And it has also become the company's another exemplary product with market differentiation.

Established in 2003, Huizhou Yinnong specialises in the R&D, production and sales of pesticides. Prior to the registration of the 60% flumorph·initium WG, there were 17 Huizhou Yinnong's pesticide formulation products registered and they are still within the period of validity.

Huizhou Yinnong produces only pesticide formulation products and consequently possesses no advantage over upstream companies in the production of technical (TC) and intermediates. And for now, the number of the





registration certificates it owns is not enough to empower its competitiveness. Even so, the company still achieved a certain share in China's market of pesticide formulation end products by its sharp judgement on the market and high-end branding strategy. In the list of China's Top 100 Pesticide Formulation Manufacturers in 2021 that was released by China Crop Protection Industry Association, Huizhou Yinnong ranked 74th.

Flumorph is an acryloyl morpholine fungicide and one of the outstanding and exemplary fungicides that were independently developed by Chinese enterprises. The R&D of this product was conducted by Shenyang Research Institute of Chemical Industry; while large-scale industrialization and marketing were carried out by Shenyang Sciencreat. As early as 2006, Shenyang Sciencreat obtained the pesticide registration certificate of 95% flumorph TC. Subsequently, the company obtained nine pesticide registration certificates of flumorph formulation products.

Before Huizhou Yinnong obtaining the pesticide registration certificate of 60% flumorph·initium WG, three Chinese pesticide manufacturers, licenced by Shenyang Sciencreat, had already obtained the pesticide registration certificates of flumorph formulations, so as to jointly promote flumorph in the market.

It is commonly acknowledged that over the last dozen years, the independent R&D works of new pesticides accelerated greatly in China, and the number of launched products that was yielded by such independent R&D works is increasing. However, these products awkwardly possess rather low shares in the market; some were even resultantly ruled out of the marketing scheme. With Huizhou Yinnong becoming the new promoter of flumorph, the market share of flumorph is expected to go up.

Initium is a triazolopyrimidine fungicide developed by BASF and is still within the duration of patent for chemical compounds. It is also a highly selective fungicide that can effectively prevent and control downy mildew and diseases in potatoes, tomatoes, cucumbers, grapes, litchis and peppers.

In terms of registration, BASF obtained the pesticide registration certificates of 98% initium TC and 47% dimethomorph·initium SC. The 98% initium TC was registered for the prevention and control of tomato late blight, cucumber downy mildew, pepper blight, litchi downy mildew, potato late blight and grape downy mildew. Additionally, BASF Plant Protection (Jiangsu) Co., Ltd., BASF's subsidiary in China, obtained the pesticide registration certificate of 47% dimethomorph·initium SC. It was registered for the prevention and control of tomato late blight, cucumber downy mildew, pepper blight, potato late blight and grape downy mildew.

Before initium TC is licenced to Huizhou Yinnong, BASF also licenced it to another leading pesticide formulation enterprise in China, Shenzhen Noposion Agrochemicals Co., Ltd. (Shenzhen Noposion), which was made able to conduct the R&D of initium formulation end products and apply for pesticide registration certificate. In 2017, Shenzhen Noposion obtained the pesticide registration certificate of 47% dimethomorph·initium SC. It was registered





for the prevention and control of potato late blight and grape downy mildew.

As one of the most mature markets of plant protection products in Asia, China has become the focus of competition among multinational agrochemical giants, which have all accelerated the implementation of their localization strategies in various ways, so as to expand the market share of their products in China's pesticide market. Especially in recent years, by successively reaching cooperation with Chinese counterparts in licencing, supply of TC, and franchise granting, these multinational industry magnates, along with the powerful Chinese pesticide formulation manufacturers, have jointly delivered "a great spectacle".

Apart from their cooperation involving 60% flumorph-initium WG, Huizhou Yinnong and BASF previously reached an agreement on saflufenacil, another herbicide developed by BASF. Huizhou Yinnong revealed that empowered by relevant strategic cooperation agreements with BASF, the company has developed and launched two formulation and products that both are compounded of saflufenacil and glyphosate, making the advantages of two sides, saflufenacil and glyphosate, fully complemented. The aforementioned two products are, namely, 32% saflufenacil-glyphosate OD and 75% saflufenacil-glyphosate WG. The registration of these two products was approved.





5.2-3 Registration of flumorph products in China (within the period of validity)

No.	Registration certificate number	Name	Type	Expiry date	Certificate holder
1	PD20060039	95% flumorph TC	Fungicide	2026/2/7	Shenyang Sciencreat Chemicals Co., Ltd.
2	PD20060038	60% mancozeb·flumorph WP	Fungicide	2026/2/7	Shenyang Sciencreat Chemicals Co., Ltd.
3	PD20070403	50% mancozeb·flumorph WP	Fungicide	2025/11/30	Shenyang Sciencreat Chemicals Co., Ltd.
4	PD20090493	50% flumorph·fosetyl-aluminium WP	Fungicide	2024/1/12	Shenyang Sciencreat Chemicals Co., Ltd.
5	PD20095462	50% flumorph·fosetyl-aluminium WG	Fungicide	2024/5/11	Shenyang Sciencreat Chemicals Co., Ltd.
6	PD20095953	20% flumorph WP	Fungicide	2024/6/2	Shenyang Sciencreat Chemicals Co., Ltd.
7	PD20161545	60% flumorph WG	Fungicide	2026/11/14	Shenyang Sciencreat Chemicals Co., Ltd.
8	PD20173229	30% flumorph SC	Fungicide	2022/12/19	Shenyang Sciencreat Chemicals Co., Ltd.
9	PD20180778	20% flumorph·fluazinam SC	Fungicide	2023/2/8	Shenyang Sciencreat Chemicals Co., Ltd.
10	PD20181598	25% flumorph·pyraoxystrobin SC	Fungicide	2023/4/22	Shenyang Sciencreat Chemicals Co., Ltd.
11	PD20182088	25% flumorph WP	Fungicide	2023/6/27	Jiangxi High Quality Bio-Tech Co., Ltd.
12	PD20183215	30% flumorph·cyazofamid SC	Fungicide	2023/7/23	Hailir Pesticides and Chemicals Group Co., Ltd.





13	PD20183239	15% flumorph·metalaxyl-M WP	Fungicide	2023/7/23	Shangdong Qingdao Audios Bio-technology Co.,Ltd.
14	PD20211171	60% flumorph·initium WG	Fungicide	2026/8/5	Huizhou Yinnong Technology Co., Ltd.

Source:ICAMA

Note:The data were updated to 7 Sept., 2021

5.2-4 Registration of initium products in China (within the period of validity)

No.	Registration certificate number	Name	Type	Expiry date	Certificate holder
1	PD20142265	98% initium TC	Fungicide	2024/10/20	BASF Europe Co., Ltd.
2	PD20142264	47% dimethomorph·initium SC	Fungicide	2024/10/20	BASF Europe Co., Ltd.
3	PD20170168	47% dimethomorph·initium SC	Fungicide	2022/1/7	BASF Plant Protection (Jiangsu) Co.,Ltd.
4	PD20172326	47% dimethomorph·initium SC	Fungicide	2022/10/17	Shenzhen Noposion Agrochemicals Co., Ltd.
5	PD20211171	60% flumorph·initium WG	Fungicide	2026/8/5	Huizhou Yinnong Technology Co., Ltd.

Source:ICAMA

Note:The data were updated to 7 Sept., 2021

Rudong Zhongyi's first cyproconazole formulation approved for registration

Summary: In late Aug., Rudong Zhongyi's 280 g/L cyproconazole·azoxystrobin SC was approved for registration. It is Rudong Zhongyi's first cyproconazole formulation that was approved for registration, which can help Rudong Zhongyi enter the cyproconazole market and promote the popularisation of cyproconazole formulation products in China.

On 15 Sept., 2021, Rudong Zhongyi Chemical Co., Ltd. (Rudong Zhongyi) revealed that following the registration of its 95% cyproconazole TC in 2017, the company's 280g/L cyproconazole·azoxystrobin SC was approved for registration in late Aug. 2021, which marks the first registration of its cyproconazole formulation products and the 7th cyproconazole formulation product that was registered in China.

According to Regulations on the Management of Pesticides, companies that intend to enter the pesticide market must possess registration certificates. The successful registration of 280g/L cyproconazole·azoxystrobin SC, Rudong Zhongyi's first cyproconazole formulation that was approved, can help Rudong Zhongyi enter the cyproconazole market and promote the popularisation of cyproconazole formulation products in China.





Cyproconazole is a triazole fungicide with high performance, which has protective, therapeutic and fungi-eradication effects. Cyproconazole also features wide suitability, broad fungi spectrum, lasting effect, etc. It can be used in the prevention and control of diseases in cereal crops, corn, rice, soybean, rape, cotton, sugar beet and other fruit and vegetable crops.

Boasting superiority in worldwide triazole fungicide market, cyproconazole is among those fungicides whose market shares and sales volume continue to grow. However, attempts to launch cyproconazole in China were mostly fruitless; its market shares are yet to be improved. In fact, the patent for cyproconazole compounds in China expired a long time ago. Moreover, due to the fact that it degrades slowly in the environment and is highly toxic to aquatic organisms, no cyproconazole product was approved for distribution until 18 Sept. 2016, except for few TC and formulation products that were specially approved for exporting.

But thanks to joint efforts made by Chinese pesticide authorities and relevant pesticide manufacturers, cyproconazole products debuted in China's domestic pesticide market on 18 Sept. 2016, which were, namely, Jiangsu Fengdeng Crop Science Co., Ltd. (Jiangsu Fengdeng)'s 95% cyproconazole TC and 40% cyproconazole SC. And Chinese pesticide manufacturers' pursuits of registration of their cyproconazole products were witnessed afterwards, which led to the successful registration of several cyproconazole products that were respectively submitted by Rudong Zhongyi, Jiangsu Agrochem Laboratory Co., Ltd, etc. As of 15 Sept., 2021, there are 17 cyproconazole products that were registered in China, including 10 cyproconazole TC products and seven cyproconazole formulation products.

As of 15 Sept., 2021, apart from the two products mentioned above, Rudong Zhongyi obtained 11 pesticide registration certificates, including 97% tebuconazole TC, 98% pyriproxyfen TC, 98% famoxadone TC, 98% pyraclostrobin TC and 94% cyazofamid TC.

Located in Rudong Coastal Economic Development Zone, Nantong City, Jiangsu Province, Rudong Zhongyi is one of the leading manufacturers in China's pesticide industry and specialises in the R&D, production and sales of pesticides. As one of the small minority of companies that obtained registration certificate of and production capacity for cyproconazole TC, Rudong Zhongyi enjoys the unique competitive edge in the cyproconazole formulation market.

Rudong Zhongyi's current production capacity is specified as follows:

- 200 t/a for cyproconazole TC;
- 1,000 t/a for tebuconazole TC;
- 500 t/a for thiacloprid TC;
- 200 t/a for pyriproxyfen TC;
- 200 t/a for famoxadone TC;
- 500 t/a for thiamethoxam TC;





- 200 t/a for cyazofamid TC.

5.3-3 Registration of cyproconazole products in China (within the period of validity)

No.	Registration certificate number	Name	Expiry date	Certificate holder
1	PD20172064	98% cyproconazole TC	2022/9/18	Jiangsu Sevencontinent Green Chemical Co., Ltd.
2	PD20171937	95% cyproconazole TC	2022/9/18	Jiangsu Sword Agrochemicals Co., Ltd.
3	PD20180948	95% cyproconazole TC	2023/3/15	Xiangshui Zhongshan Biological Technology Co., Ltd.
4	PD20172001	95% cyproconazole TC	2022/9/18	Honhok Bio-technology Co.,Ltd.
5	PD20172201	95% cyproconazole TC	2022/10/17	Rudong Zhongyi Chemical Co., Ltd.
6	PD20172222	95% cyproconazole TC	2022/10/17	Jiangsu Chengyang Crop Science Co., Ltd.
7	PD20172122	95% cyproconazole TC	2022/9/18	Jiangsu Agrochem Laboratory Co., Ltd.
8	PD20182818	95% cyproconazole TC	2023/7/23	Hangzhou Udragon Chemical Co., Ltd.
9	PD20161262	95% cyproconazole TC	2026/9/18	Jiangsu Fengdeng Crop Science Co., Ltd.
10	PD20171864	95% cyproconazole TC	2022/9/18	Huai'an Guorui Chemical Co., Ltd.
11	PD20172351	40% cyproconazole SC	2022/10/17	Jiangsu Flag Chemical Industry Co., Ltd.
12	PD20172799	40% cyproconazole SC	2022/11/20	Jiangsu Sword Agrochemicals Co., Ltd.
13	PD20161263	40% cyproconazole SC	2026/9/18	Jiangsu Fengdeng Crop Science Co., Ltd.
14	PD20182068	40% cyproconazole SC	2023/6/27	Yancheng Limin Chemical Co., Ltd.
15	PD20172106	40% cyproconazole SC	2022/9/18	Jiangsu Sevencontinent Green Chemical Co., Ltd.
16	PD20211448	280g/L cyproconazole·azoxystrobin SC	2026/8/24	Rudong Zhongyi Chemical Co., Ltd.
17	PD20183817	280g/L cyproconazole·azoxystrobin SC	2023/8/20	Jiangsu Sevencontinent Green Chemical Co., Ltd.





Source:ICAMA

Note:The data were updated by 15 Sept., 2021

5.3-4 Pesticide registration certificates held by Rudong Zhongyi (within the period of validity)

No.	Registration certificate number	Name	Type	Expiry date
1	WP20180071	100g/L pyriproxyfen EC	Hygienic insecticide	2023/4/17
2	WP20120091	98% pyriproxyfen TC	Hygienic insecticide	2022/5/11
3	PD20211448	280g/L cyproconazole-azoxystrobin SC	Fungicide	2026/8/24
4	PD20170062	250g/L tebuconazole EW	Fungicide	2027/1/7
5	PD20152097	98% pyraclostrobin TC	Fungicide	2025/9/22
6	PD20161527	430g/L tebuconazole SC	Fungicide	2026/11/14
7	PD20172201	95% cyproconazole TC	Fungicide	2022/10/17
8	PD20130705	98% famoxadone TC	Fungicide	2023/4/11
9	PD20184272	35% cyazofamid SC	Fungicide	2023/9/25
10	PD20120463	97% tebuconazole TC	Fungicide	2022/3/16
11	PD20132218	94% cyazofamid TC	Fungicide	2023/11/5
12	PD20131826	98% thiamethoxam TC	Insecticide	2023/9/17
13	PD20170729	98% thiacloprid TC	Insecticide	2022/4/10

Source:ICAMA

Note:The data were updated by 15 Sept., 2021





Policy

MARA instructs agricultural authorities at all levels to fully implement Solid Waste Law

Summary: On 30 Aug., the MARA issued the MARA's Comments on the Full Implementation of the Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste (Solid Waste Law).

On 30 Aug., the Ministry of Agriculture and Rural Affairs of the People's Republic of China (MARA) issued the MARA's Comments on the Full Implementation of the Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste (Solid Waste Law), which provides instructions on fully implementing the Solid Waste Law and lawfully promoting prevention and control works on agricultural solid waste pollution. The instructions are specified as follows:

The overall goal of fully implementing of the Solid Waste Law:

By the end of the 14th Five-Year Plan period (2021-2025), China's prevention and control works on agricultural solid waste pollution, and the ability to turn waste into resources by recycling and reutilization, will reach a new level. Comprehensively, the utilization rate of livestock and poultry excrement will be over 80%; the utilization rate of straw will be over 86%; the recycling rate of agricultural films will be over 85%; and the recycling rate of pesticide packaging waste will be over 80%.

Key tasks of fully implementing the Solid Waste Law (excerpted):

The resource-oriented utilization of livestock and poultry excrement will be popularised in an accelerated way. Striving for green circular development of the animal husbandry industry, improved quality of farmlands and enhanced prevention and control of non-point source (NPS) pollution in the agricultural sector, the goal will be mainly achieved through scientifically utilizing the nearby excrement in fields. China will balance production and environmental protection, foster coordinated development between crop planting and animal husbandry, implement policies accordingly, and make use of market forces and government regulations, so as to fully promote the utilization of livestock and poultry excrement.

Comprehensive utilization of straw will be promoted. This includes sticking to the principles of "carrying out works according to local conditions, giving priority to agricultural needs, providing governmental guidance, solving problems with advanced technologies, and highlighting market operation". Utilization of straw as fertilizer, feed and fuel should be given priority. China will cultivate at least 200 key counties annually that can make good use of straw during the 14th Five-Year Plan period. In order to promote "returning straw to the fields" (Straw Return) in a scientific way, aid Northeast black soil conservation and improve the carbon sequestration capacity of the farmland, China will advocate different modes of Straw Return, like the deep loosening & deep rotary tillage mode, the "straw mulching" mode, and "the decomposition of straw" mode.





Strengthen harmless disposal of pesticide packaging waste. By the principle of "the one who manufactures, distributes or applies pesticides shall carry out the recycling work", China will urge pesticide manufacturers, distributors, and users to fulfill their recycling duties. A group of pesticide packaging waste recycling pilot projects will be initiated to scale up recycling, storage, transportation, disposal and resource utilization work. Governments of provinces, autonomous regions and municipalities shall collectively promote the construction of recycling facilities, and continue to improve the recycling and disposal system. Market-oriented recycling will be encouraged if financially possible and properly equipped.





Diseases

Suggestions on diseases control for late rice in Nanchang

Summary: In early Sept., late rice in Xinjian District, Nanchang City, Jiangxi Province was in booting stage and about to enter rupturing & heading stage. It is a crucial time to guard against plant diseases.

In early Sept., late rice in Xinjian District, Nanchang City, Jiangxi Province was in booting stage and about to enter rupturing & heading stage. Weather forecasts showed that there would be more rainy days in mid and late Sept., which provides favourable conditions for occurrence and prevalence of rice blast, rice false smut and sheath blight, as well as the occurrence of rice leaf roller and rice planthopper.

Survey in multiple observation points in Xinjian District show:

- Sheath blight: Diseased leaf rate was 20.80% in single-cropping late rice, and 10.40% in double-cropping late rice.
- Rice blast: Has not been found yet.
- Bacterial leaf streak: Disease leaf rate ranged from 0.1% to 20% in part of single-cropping and double-cropping late rice fields.

Prevention and control suggestions:

- Rice false smut and sheath blight: once 5 to 7 days before heading stage and in full heading stage. Twice in total.
- Rice blast: once when 5% into rupturing & heading stage, or in concurrence with the prevention and control of rice false smut. Twice in total.
- Bacterial leaf streak: once it occurs, the affected field should be dealt with immediately; and second-time control in 7 days. Prevention measures should also be taken in surrounding fields. This disease needs to be controlled separately, with time interval of 2 to 3 days with other pest and disease control methods.





News in Brief

Hailir Group to establish wholly-owned subsidiary

On 28 Aug., Hailir Pesticides and Chemicals Group Co., Ltd. (Hailir Group) announced its plan to build a wholly-owned subsidiary by making direct investment. Hailir Group revealed that in order to push its business development, the company plans to establish its wholly-owned subsidiary, Qingdao Haikangfeng Biotechnology Co., Ltd., which will specialise in:

- Wholesale and retail business of pesticides;
- Import & export of goods and technologies;
- The sales of fertilizers;
- The R&D of bio-organic fertilizers, compound microbial fertilizers, biological pesticide technologies and bio-chemical product technologies;
- Crop seeds distribution (Only for packaged seeds that need no further classified packaging);
- Prevention and control services for crop pests & diseases;
- Providing or carrying out services, research & development, consultancy, exchange, transfer and promotion of agricultural technologies.

Jingbo Agrochem's three technicals approved for production

From 20 to 26 Aug., the appraisal result from the third meeting of Shandong Expert Committee on the Management and Assessment of Pesticides in 2021 was publicised on the official website of Shandong Provincial Department of Agricultural and Rural Affairs. The appraisal result showed that Jingbo Agrochemicals Technology Co., Ltd. (Jingbo Agrochem)'s applications for the production of three technicals were approved. These three technicals are prothioconazole, topramezone, and amino oligosaccharide. Prothioconazole is a new triazolinthione fungicide and is mainly used for the prevention and control of pests and diseases of cereal crops, triticeae crops and legume crops. As of 20 Aug., China has approved the registration of five prothioconazole products, including two technicals from Anhui Jiuyi Agriculture Co., Ltd. and Shandong Hailir Chemicals Co., Ltd. and three preparations. (Only the registration entries that are still valid are taken into account.) According to the registration information released by the Institute for the Control of Agrochemicals (ICAMA), in China, all of these five prothioconazole products can only be applied to wheat.

Promotion of nano-pesticides in China

With the intensification of global competition, scientific and technological problems that hinder China's development are exceedingly prominent. In agriculture sector, there are still many technological weak spots in seed, pesticide, and other fields. Thankfully, the nano-pesticide technology that was developed by a team of Chinese experts has been applied industrially and commercially, which features the first in the world and means that China took the lead in agrotechnology and set an exemplary record on agrotechnology development and breaking through on the strategic level. Data showed that for five consecutive years, the pesticide residue testing results of the rice that used the nano-pesticide through the whole production process all showed "not detected". The nano-pesticides have popularised in





numerous places in China. With the same effect, the nano-pesticide usage reduced by 20%–30%, compared with the traditional pesticide usage. And it boosted production output to a certain degree.

Nantong Jiangshan to retrofit production facilities

The week of 23 to 29 Aug. was the National Energy Efficiency Promotion Week in China. Addressing the theme of "Energy-saving, Carbon Reduction, and Green Development", Nantong Jiangshan Agrochemical & Chemicals Co., Ltd. (Nantong Jiangshan) outlined several forthcoming projects of retrofitting production facilities. By upgrading the online pulse jet bag filters, hermetic ash conveying system, water-cooled wall active anti-wear technology and high-efficiency denitration technology, Nantong Jiangshan can significantly extend the longevity of its production facilities, reduce energy consumption and further reduce flue gas emission, thus improving the ecological environment.

Meanwhile, Nantong Jiangshan has also made proactive plans to:

- establish green factories to promote energy recycling;
- continue to increase investment in energy conservation, ecological environment protection and science and technology;
- push the R&D and application of new technologies, new products and new production techniques;
- achieve the intensive, intelligent and high-efficiency production of eco-friendly pesticides;

Weifang Sino-Agri to build new production line

In late Aug., Weifang Sino-Agri United Chemical Co., Ltd. (Weifang Sino-Agri) publicised its 5,000 t/a of 35% metam-sodium AS project for the first time. Weifang Sino-Agri plans to construct a new 35% metam-sodium AS production line, whose capacity to produce 35% metam-sodium AS will be 5,000 t/a once it is put into operation.

Famoxadone to be withdrawn from EU market

On 19 Aug. 2021, the European Union (EU) issued a regulation, revealing the non-renewal of approval of the active substance famoxadone. According to the renewal assessment report released by the European Food Safety Authority (EFSA), during hand-harvesting of crops, all assessed representative uses may exceed the acceptable operator exposure level (AOEL) for workers, even when using personal protective equipment (PPE). Additionally, the use of famoxadone is severe long-term risk to mammals and aquatic organisms. EFSA stated that available data is not sufficient enough to draw conclusions on the long-term risk assessment for birds.

Hailir Group obtains four utility model patents

For a long time, Hailir Pesticides & Chemicals Group Co., Ltd. (Hailir Group) has been dedicating to the R&D and innovation, adhering to the idea of "Continuous Iteration and Excelsior", improving the product performance to increase customer satisfaction and creating value for customers. In Aug., Hailir Group obtained four utility model patents, including a condensing equipment with the insulation layer, a continuous manufacturing equipment for difenoconazole bromides, a liquid-liquid heterogeneous separation apparatus and an oil-water separator for





prothioconazole intermediates.

Syngenta to promote rural vitalization in Huantai County

On 3 Sept., Syngenta Group China signed a strategic cooperation agreement with the People's Government of Huantai County. Located in the central region of Shandong Province, Huantai County is the first county with the grain production capacity of 10,000 t/a in the areas north of the Yangtze River, and its output per unit area of wheat remains to be the highest in Shandong Province for 10 consecutive years.

According to the agreement, both parties will carry out cooperation in:

- constructing the Modern Agriculture Platform (MAP) and comprehensive service centre for rural vitalization in Huantai County;
- establishing the global digital agriculture system;
- promoting the development of modern agriculture;
- improving socialized agricultural service system;
- commencing cultivated land protection and quality improvement.

In conclusion, these measures can facilitate the modernization of agriculture and rural areas in Huantai County and thoroughly promote rural vitalization.

Shaanxi Meibang's IPO at SSE Main Board

On 16 Sept., Shaanxi Meibang Pharmaceutical Group Co., Ltd. (Shaanxi Meibang) was officially listed on the Main Board of the Shanghai Stock Exchange (SSE), with the stock name of "Meibang Holdings" and stock code of 605033. Shaanxi Meibang specialises in the R&D, production and sales of pesticide formulation products and mainly engages in fungicides and insecticides. Additionally, Shaanxi Meibang led the drafting of industry standard for clothianidin WG and is one of the companies that co-drafted the national standard for mancozeb products and industry standards for azoxystrobin SC, azoxystrobin WG and cyazofamid SC.

Update on Hailir Group's two prothioconazole projects

As of late Sept., the 8,000t/a prothioconazole TC project of Qingdao Hengning Biotechnology Co., Ltd. (Qingdao Hengning), the wholly-owned subsidiary of Hailir Pesticides & Chemicals Group Co., Ltd. (Hailir Group), was still undergoing relevant administrative examination and approval procedures, which means the project has not yet met the requirements for construction initiation. Notably, another wholly-owned subsidiary of Hailir Group, Shandong Hailir Chemicals Co., Ltd., has finished the main construction work of its 2,000t/a prothioconazole TC production line, which is ready to be put into operation. These two projects can improve Hailir Group's influence and competitiveness in the prothioconazole market.





Price Update

Ex-works prices of main fungicides in China, 8 Sept., 2021

9.1-1 Ex-works prices of main fungicides in China, 8 Sept., 2021

Product	20210808		20210908	
	RMB/t	USD/t	RMB/t	USD/t
96% Azoxystrobin Technical	235,000	36,343.95	275,000	42,517.01
98% Carbendazim technical (White color)	38,000	5,876.89	39,000	6,029.68
98% Chlorothalonil technical	20,000	3,093.1	20,000	3,092.15
98% Cymoxanil technical	108,000	16,702.75	105,000	16,233.77
95% Difenconazole technical	170,000	26,291.37	175,000	27,056.28
98% Dimethomorph technical	88,000	13,609.65	86,500	13,373.53
97% Epoxiconazole technical	366,000	56,603.77	365,000	56,431.66
95% Flusilazole technical	390,000	60,315.5	390,000	60,296.85
95% Hexaconazole technical	123,000	19,022.58	123,000	19,016.7
97% Hymexazol technical	125,000	19,331.89	130,000	20,098.95
95% Iprodione technical	197,000	30,467.06	197,000	30,457.64
97% Isoprothiolane technical	33,000	5,103.62	33,000	5,102.04
95% Kresoxim-methyl technical	320,000	49,489.64	320,000	49,474.34
Mancozeb 80% WP	18,000	2,783.79	18,500	2,860.24
90% Mancozeb technical	21,500	3,325.09	21,800	3,370.44
98% Metalaxyl technical	92,500	14,305.6	92,500	14,301.18
97% Myclobutanil technical	142,500	22,038.35	142,500	22,031.54
97% Phosethyl Al technical	21,300	3,294.15	21,300	3,293.14
97% Prochloraz technical	65,000	10,052.58	65,000	10,049.47
98% Propamocarb technical	47,500	7,346.12	47,500	7,343.85





95% Propiconazole technical	153,000	23,662.23	153,000	23,654.92
85% Propineb technical	29,500	4,562.33	29,500	4,560.92
97% Tebuconazole technical	78,500	12,140.43	79,000	12,213.98
96% Thiophanate-methyl technical (White color)	38,500	5,954.22	39,000	6,029.68
97% Thiram technical	15,000	2,319.83	18,000	2,782.93
95% Triadimefon technical	67,500	10,439.22	70,000	10,822.51
95% Tricyclazole technical	65,000	10,052.58	64,500	9,972.17
96% Trifloxystrobin technical	550,000	85,060.32	550,000	85,034.01

Source:CCM

Note:The content of hexamethylbenzene in 98% chlorothalonil technical is 40 ppm.

Ex-works price includes VAT.



Shanghai Port prices of main fungicides in China, 8 Sept., 2021

9.2-1 Shanghai Port prices of main fungicides in China, 8 Sept., 2021

Product	20210808		20210908	
	Original Price (RMB/t)	Price (USD/t)	Original Price (RMB/t)	Price (USD/t)
96% Azoxystrobin Technical	235,500	36,421.28	275,500	42,594.31
98% Carbendazim technical (White color)	38,500	5,954.22	39,500	6,106.99
98% Chlorothalonil technical	20,500	3,170.43	20,500	3,169.45
98% Cymoxanil technical	108,500	16,780.08	105,500	16,311.07
95% Difenconazole technical	170,500	26,368.7	175,500	27,133.58
98% Dimethomorph technical	88,500	13,686.98	87,000	13,450.83
97% Epoxiconazole technical	366,500	56,681.1	365,500	56,508.97
95% Flusilazole technical	390,500	60,392.82	390,500	60,374.15
95% Hexaconazole technical	123,500	19,099.91	123,500	19,094
97% Hymexazol technical	125,500	19,409.22	130,500	20,176.25
95% Iprodione technical	197,500	30,544.39	197,500	30,534.94
97% Isoprothiolane technical	33,500	5,180.95	33,500	5,179.34
95% Kresoxim-methyl technical	320,500	49,566.97	320,500	49,551.64
Mancozeb 80% WP	18,500	2,861.12	19,000	2,937.54
90% Mancozeb technical	22,000	3,402.41	22,300	3,447.74
98% Metalaxyl technical	93,000	14,382.93	93,000	14,378.48
97% Myclobutanil technical	143,000	22,115.68	143,000	22,108.84
97% Phosethyl AI technical	21,800	3,371.48	21,800	3,370.44
97% Prochloraz technical	65,500	10,129.91	65,500	10,126.78
98% Propamocarb technical	48,000	7,423.45	48,000	7,421.15



95% Propiconazole technical	153,500	23,739.56	153,500	23,732.22
85% Propineb technical	30,000	4,639.65	30,000	4,638.22
97% Tebuconazole technical	79,000	12,217.75	79,500	12,291.28
96% Thiophanate-methyl technical (White color)	39,000	6,031.55	39,500	6,106.99
97% Thiram technical	15,500	2,397.15	18,500	2,860.24
95% Triadimefon technical	68,000	10,516.55	70,500	10,899.81
95% Tricyclazole technical	65,500	10,129.91	65,000	10,049.47
96% Trifloxystrobin technical	550,500	85,137.64	550,500	85,111.32

Source:CCM

Note:Shanghai Port price = ex-works price + transportation fee from warehouse to Shanghai Port, and the ex-works price includes VAT.





FOB Shanghai prices of main fungicides in China, 8 Sept., 2021

9.3-1 FOB Shanghai prices of main fungicides in China, 8 Sept., 2021, USD/t

Product	20210808	20210908
96% Azoxystrobin Technical	35,507.6	41,510.7
98% Carbendazim technical (White color)	5,879.08	6,027.61
98% Chlorothalonil technical	3,065.43	3,064.48
98% Cymoxanil technical	15,832	15,392.02
95% Difenoconazole technical	25,731.69	26,475.49
98% Dimethomorph technical	13,399.01	13,169.34
97% Epoxiconazole technical	55,209.81	55,042.38
95% Flusilazole technical	58,819.37	58,801.18
95% Hexaconazole technical	18,662.96	18,657.19
97% Hymexazol technical	18,963.75	19,709.65
95% Iprodione technical	29,792.45	29,783.24
97% Isoprothiolane technical	5,127.09	5,125.5
95% Kresoxim-methyl technical	46,587.84	46,573.44
Mancozeb 80% WP	2,775.28	2,846.94
90% Mancozeb technical	3,283.04	3,325.53
98% Metalaxyl technical	14,075.8	14,071.45
97% Myclobutanil technical	21,595.73	21,589.05
97% Phosethyl Al technical	3,254.03	3,253.02
97% Prochloraz technical	9,939.84	9,936.77
98% Propamocarb technical	7,054.98	7,052.8
95% Propiconazole technical	23,174.91	23,167.75
85% Propineb technical	4,443.64	4,442.26





97% Tebuconazole technical	11,970.22	12,041.7
96% Thiophanate-methyl technical (White color)	5,722.67	5,793.06
97% Thiram technical	2,340.06	2,774.42
95% Triadimefon technical	10,315.84	10,688.53
95% Tricyclazole technical	9,939.84	9,861.59
96% Trifloxystrobin technical	79,955.03	79,930.3

Source:CCM

Note:FOB Shanghai price considers factors of Shanghai port price, port sur-charges, loading charges, traders' profits and export tax refund. And the shipment cost shall be paid by the buyer. This FOB price is the average of quotations offered by enterprises and it may be lower than the one reported in customs data which is the actual purchase price.



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