

Insecticides China Monthly Report 202312

Issue 12 December 29 2023





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Headline

In Dec., the price of nicotinoid insecticides TC dropped MoM, the overall price of pyrethroid insecticides TC edged down slightly, and the price of organophosphorus insecticides TC had bigger decreases. For acaricides, carbamates, insect growth regulators and other insecticides, the market was weak, and the price of most TC products was steady.

In early Dec., downtrend in the ex-works price of chlorpyrifos TC continued in China and bigger fall was registered; the early-Dec. price dropped by 4.34% MoM. Domestically, the product has been in an off-season, while previous export orders have been fulfilled. The price will then be decided by the supply-demand dynamics in the near future, and it is expected the price will stay at a low level next month.

In Dec., new orders from downstream sectors have reduced and Chinese insecticide TC producers have lowered their operating rates. This month, the rate is about 5 percentage points lower than the figure in last month. In general, there have been sufficient supply of insecticides.

On 7 Dec., Hunan Haili announced that its subsidiary Guixi Haili had put the newly-built 3,000 t/a pirimiphos-methyl production line into operation.

In early Dec., safety evaluation report and environmental impact report of Shaanxi Changqing's 2,500 t/a methomyl-oxime project passed expert review. The company has planned to invest USD15.75 million (RMB112 million) to build the project in its plant in the Fengxiang High-Tech Industrial Development Zone in Shaanxi Province.

The year 2023 is close to its end. During this year, upgrades on insecticide products have been promoted in the Chinese market, supported by policies on zero growth in pesticide use, restricted use of and ban on some pesticides, as well as advancing GM crop industrialisation. The phase-out of traditional high-toxicity low-efficacy insecticidal AIs is gathering steam, and their market shares will be taken by high-efficacy low-toxicity green insecticides based upon novel AIs. Besides, these policies will also encourage greater development of bio-insecticidal AIs in the next few years.

As of 18 Dec., central supervision teams for ecological environment protection had finished the first batch of Round Three front-line inspection work, covering five provinces—Fujian, Henan, Hainan, Gansu and Qinghai.

From Jan. to Dec. 2023, altogether 370 insecticide products have been approved of pesticide registration in China. The majority of these insecticide products are of low toxicity and the three most popular forms are SC, GR and WG.

Early Dec., Guangdong Agricultural Pest Warning and Control Centre released an update on pest occurrence on vegetables in the province. In general, moderate occurrence is witnessed and relatively heavy occurrence is found in some local areas. Major pests are cabbage flea beetle, diamondback moth, thrips and vegetable leafminer.

In Oct. 2023, China's insecticide formulations were mainly exported to Brazil, Thailand, Vietnam, etc.; the export volume dropped by 7.6% MoM. However, the export volume of biological insecticide formulations jumped by 77.7% MoM. Meanwhile, the import volume of insecticide formulations to China increased by 26.9% MoM; Japan was the largest import origin during this period.







Editor's note

During 2023, the US Federal Reserve hiked multiple times the federal funds rate, while in China, the interest rate was lowered. In theory, stronger USD against RMB is conducive to China's pesticide exports, but the reality is: the overall global economic environment has been rather weak, and there has been limited overseas demand for China's pesticides. Not surprisingly, insecticide TC market remained dull for most of the time this year. In Dec., downtrend in the ex-works prices of many insecticides TC continued. As fewer orders came, the producers lowered their operating rates. The overall rate averaged at around 55%, 5 percentage points lower than last month. It is estimated that the US Federal Reserve may cut interest rate in 2024, and then stronger-going RMB may not be beneficial to China's pesticide exports. What kind of measures the Chinese government will take then? How will the pesticide industry fare? Let's wait and see.

Although the overall environment is hardly favourable, some insecticide projects have progressed steadily. This month, Guixi Haili has put its newly-built 3,000 t/a pirimiphos-methyl production line into operation, and Shaanxi Changqing has pushed ahead with its 2,500 t/a methomyl intermediate project.

Regarding government policy, recent years, China's pesticide policies have been prompting product upgrades in insecticide producers. For one thing, zero growth of pesticide use policy urges insecticide producers to orient themselves to the trend of development of high-efficacy low-toxicity novel insecticides. For another, pesticide use restriction and ban policy announces a batch of high-toxicity low-efficacy insecticides to be eliminated each year, which forces producers to step into the markets for alternatives.

In Dec., NATESC projected an overall grim situation of major pests & diseases occurrence in 2024. In particular, it is expected that there would be significant risk of large-area heavy occurrences of migratory pests like fall armyworm, cotton bollworm, beet armyworm, rice leaf roller and rice planthopper, striped rice stem borer, vegetable thrips, and tomato leafworm. Besides, based on overwintering base surveys, NATESC came to a preliminary judgment: for this winter, occurrence base of beet webworm in North China, Northeast China and Northwest China (the Three Norths region) is at the same level or slightly lower as usual, while occurrence bases of fall armyworm and rice stem borers in winter breeding areas in Southwest China are slightly larger.

The USD/CNY exchange rate in this newsletter is USD1.00 = CNY7.1104 on 1 Dec., 2023, sourced from the People's Bank of China. All the prices mentioned in this newsletter will include the VAT, unless otherwise specified.





Market analysis

Organophosphates have bigger price fall in overall weak insecticide market in Dec.

Summary: In Dec., the price of nicotinoid insecticides TC dropped MoM, the overall price of pyrethroid insecticides TC edged down slightly, and the price of organophosphorus insecticides TC had bigger decreases. For acaricides, carbamates, insect growth regulators and other insecticides, the market was weak, and the price of most TC products was steady.

In Dec., on average, insecticide TC price decreased by 1.88% on a monthly basis, and fell by 20.81% on a yearly basis.

Nicotinoid insecticides: The Dec. ex-works price of nicotinoids decreased MoM. Main intermediates nicotinoids, such as 2-nitroaminoimidazoline and 2-chloro-5-(chloromethyl)pyridine (CCMP), still witnessed downtrend in their prices, as operating rates in the producers were at a high level. The supply exceeded the demand, so the prices fell. And thus the price of nicotinoids could not be effectively supported. Meanwhile, oversupply of nicotinoids also prevented the price from going up. There have been sufficient supplies of imidacloprid TC and acetamiprid TC in the market, plus normal operation in the majority of producers. However, downstream demand was dull and mainly small orders were made to replenish stock.

Pyrethroid insecticides: The overall price of pyrethroids edged down in Dec. In particular, lambda-cyhalothrin TC had relatively larger MoM price fall against other pyrethroids TC. Compared with insecticides of other categories, pyrethroids had relatively weaker market performance in general, mainly because of low downstream demand and the bigger-than-needed supply.

Organophosphorus insecticides: Average price fall for this category was logged at 4.12% on a monthly basis, though some products like acephate TC and triazophos TC had stable price. Most of organophosphorus insecticides TC have come into an off-season. Besides a few orders to satisfy the rigid demand, new orders were not many. Approaching the year end, market competition grew more intense. In order to attract orders, there exists the possibility of further decrease in quotation.

For acaricides, carbamates, insect growth regulators and other insecticides, the market was quite dull. Ex-works prices of most TC products remained at a low level. The price of abamectin and acaricides/insecticides remained stable. Of carbamate insecticides, carbofuran TC had stable price, but methomyl TC saw its price go down 2.57% MoM. The price of emamectin benzoate TC slipped slightly; the producers lowered their operating rates, yet they were still under sales pressure.



TABLE 1: Ex-works prices of major insecticide TC products in China in Dec. 2023

Category	Product	Ex-works price (RMB/t)	Ex-works price (USD/t)	RMB MoM change	RMB YoY change
Nicotinoid insecticide	95% Acetamiprid technical	79,300	11,152.68	-3.53%	-39.00%
	97% Imidacloprid technical	89,320	12,561.88	-3.75%	-33.84%
Pyrethroid insecticide	95% Beta-Cypermethrin technical	126,000	17,720.52	-0.35%	-19.23%
	94% Cypermethrin technical	58,000	8,157.07	0.00%	-28.83%
	98% Deltamethrin technical	388,000	54,567.96	-0.51%	-26.79%
	95% Lambda-cyhalothrin technical	113,800	16,004.73	-3.72%	-38.49%
Organophosphorus insecticide	97% Acephate technical	43,000	6,047.48	0.00%	-21.82%
	95% Chlorpyrifos technical	34,660	4,874.55	-5.66%	-27.11%
	85% Triazophos technical	69,000	9,704.10	0.00%	16.95%
	90% Phoxim technical	33,000	4,641.09	-10.81%	-26.67%
Acaricide	90% Propargite technical	60,000	8,438.34	0.00%	0.00%
	97% Spirodiclofen technical	139,000	19,548.83	0.00%	-13.13%
Carbamate insecticide	98% Carbofuran technical	100,000	14,063.91	0.00%	-13.04%
	98% Methomyl technical	72,000	10,126.01	-2.57%	-10.00%
Insect growth regulator	95% Buprofezin technical	65,000	9,141.54	0.00%	-13.91%
Others	95% Abamectin technical	380,000	53,442.84	0.00%	-29.69%
	70% Emamectin benzoate technical	363,440	51,113.86	-1.10%	-29.22%

Source: CCM

Chlorpyrifos TC price goes down at faster pace in weak market in early Dec.

Summary: In early Dec., downtrend in the ex-works price of chlorpyrifos TC continued in China and bigger fall was registered; the early Dec. price dropped by 4.34% MoM. Domestically, the product has been in an off-season, while previous export orders have been fulfilled. The price will then be decided by the supply-demand dynamics in the near future, and it is expected the price will stay at a low level next month.



In early Dec., the ex-works price of chlorpyrifos TC in China plunged by 4.34% MoM, the biggest fall in Q4. In H2 2023, although the price jumped up in July and Aug. due to increasing price of upstream raw materials as well as limited output in the producers caused by equipment maintenance, the price has been on the decline since Sept. because of sluggish demand. Domestically, the product is still in an off-season in Dec., while previous export orders have been fulfilled. Under slack demand, it is believed that the price will remain low next month.

In recent years, along with growing public attention to food hygiene and safety as well as to environmental protection, many countries have gradually phased out high-toxicity pesticides. Chlorpyrifos, one of the mainstream organophosphorus insecticides, has always been criticised for its damages to human health and the environment. Since Jan. 2023, multiple countries and regions have taken policy measures to restrict or ban the use of chlorpyrifos, a high-toxic pesticide. Chlorpyrifos has been restricted or banned in Colombia, Nigeria, Argentine, etc. The European Union even revoked registrations for chlorpyrifos products in Feb. 2020; In China, the use of chlorpyrifos on vegetables has been prohibited for quite a while. In March 2023, it was announced that chlorpyrifos would be reviewed in the 19th meeting of the Chemical Review Committee (CRC-19) of the Rotterdam Convention; and in Oct., CRC-19 recommended listing chlorpyrifos in Annex III to the Convention. Also in Oct., the 19th meeting of the Persistent Organic Pollutants Review Committee (POPRC-19) adopted the risk profile for chlorpyrifos and invited Parties and observers to submit Annex F (to the Stockholm Convention) information to prepare a draft risk management evaluation. China is a party to the Stockholm Convention, and if chlorpyrifos is listed in the Annex A, its use will be further narrowed in China.

As of Dec. 2023, there have been 1,127 valid registrations for pesticide products containing chlorpyrifos in China. Many pesticide producers still regard chlorpyrifos products as main products, considering both the amount of registrations and sales volume. Yet, it should be noted that the Article 11 of the latest amended version of *Food Safety Law of the People's Republic of China* reads: China implements a strict system of pesticide administration, and the country is accelerating the elimination of high-toxicity high-residue pesticides, promoting R&D on and application of alternatives, and encouraging the use of high-efficacy low-toxicity little-residue pesticides. Accordingly, a lot of pesticide producers have switched their orientation to pursue alternative products encouraged via adjusting current pesticide product portfolio. For instance, Jiangsu Changqing Agrochemical Co., Ltd.'s by-the-river plant relocation project broke ground in Jan. 2023; the company has decided to shed the capacity for pesticides such as chlorpyrifos, triazophos and acetamiprid.

Of the main Chinese chlorpyrifos producers, Shandong Luba Chemical Co., Ltd., Zhejiang Xinnong Chemical Co., Ltd., Jiangsu Fengshan Group Co., Ltd. and Hubei Benxing Agrochemical Co., Ltd. currently operate normally, while Inner Mongolia Miraculous Crop Science Co., Ltd. and Chongqing Huage Biochemical Co., Ltd. suspend the chlorpyrifos production lines.





FIGURE 1: Trend of the ex-works price of chlorpyrifos TC in China in H2 2023



Source:CCM





Company and supply

Insecticide TC supply further shrinks in Dec.

Summary: In Dec., new orders from downstream sectors have reduced and Chinese insecticide TC producers have lowered their operating rates. This month, the rate is about 5 percentage points lower than the figure in last month. In general, there have been sufficient supply of insecticides.

In Dec., Chinese insecticide TC producers have lowered their operating rates; the rate averages at around 55%, 5 percentage points lower than last month. For one thing, new orders have reduced as downstream demand has remained dull; for another, insecticide producers have had certain inventories. At the year end, these producers now are eager to liquidate the inventories.

Organophosphorus insecticides: There has been large chlorpyrifos TC stock in the market, yet only a few new orders; the producers could use their inventories to fulfil the orders. Investigations show that Nanjing Red Sun Biochemical Co., Ltd. have spot supply, though it has not produced chlorpyrifos TC products in Dec. Regarding malathion TC, domestic producers have run their lines at low level, too. Mainly small orders to replenish stocks have been received by these producers.

Nicotinoid insecticides: Overall operating rates of most nicotinoid insecticides TC have declined in Dec., as orders for the nicotinoids have decreased. Investigations show that orders for imidacloprid TC shrank further during the late-Nov.–mid-Dec. period. Imidacloprid TC producers have mainly depended on overseas orders; domestic orders have been rare. For producers of acetamiprid TC, clothianidin TC and thiamethoxam TC, new orders have been small, mainly orders to replenish stocks, so these producers have no need to produce many products.

Pyrethroid insecticides: There has been sufficient supply of pyrethroid insecticides. Producers of pyrethroids have lower operating rates, compared with producers of other major categories. Yet the low-level operation is enough to meet market demand, since the demand is smaller in general.



TABLE 2: Supply of main insecticides TC in China in Dec. 2023

Category	Product	Average operating rate in Dec.	Supply situation in Dec.
Organophosphorus insecticide	Chlorpyrifos TC	65%	Ample supply
	Malathion TC	50%	Normal supply
Nicotinoid insecticide	Imidacloprid TC	50%	Ample supply
	Acetamiprid TC	50%	Ample supply
	Thiamethoxam TC	50%	Ample supply
	Clothianidin TC	60%	Ample supply
	Thiacloprid TC	60%	Ample supply
Pyrethroid insecticide	Cyhalothrin TC	45%	Ample supply
	Bifenthrin TC	50%	Ample supply
Others	Abamectin TC	50%	Ample supply
	Emamectin benzoate TC	60%	Ample supply
	Propargite TC	70%	Ample supply
	Chlorfenapyr TC	50%	Normal supply

Note:1. The operating rates are the average of the rates in major producers, and the statistics are incomplete.

2. Combined with information on downstream orders, the supply situation is here classified into: tight supply, normal supply and ample supply.

Source:CCM

Guixi Haili puts 3,000 t/a pirimiphos-methyl line into operation

Summary: On 7 Dec., Hunan Haili announced that its subsidiary Guixi Haili had put the newly-built 3,000 t/a pirimiphos-methyl production line into operation.

On 7 Dec., Hunan Haili Chemical Industry Co., Ltd. (Hunan Haili) announced that its subsidiary Haili Guixi New Material Technology Co., Ltd. (Guixi Haili) had built up the 3,000 t/a pirimiphos-methyl production line, and recently the equipment had run smoothly with yield and product quality in line with previous expectations. This means that the first trial operation has run successfully and produced qualified product. It was reported that Guixi Haili had planned to invest USD24.33 million (RMB172.98 million) to build the pirimiphos-methyl production capacity and supporting facilities in the Guixi Sulphur and Phosphorus Chemical Industry Base, Guixi City, Jiangxi Province.

Guixi Haili, co-founded by Hunan Haili and Guixi City Jinmao Assets Management Centre in 1997, has developed into one of the biggest production bases for insecticides and fungicides in East China. It was once located in the Baili Industrial Zone in Guixi City; the it relocated



to the current site in 2020 for better development opportunity. After relocation, it launched several industrial projects, including 3,000 t/a sulfentrazone TC project, 3,000 t/a pirimiphos-methyl TC project, carbosulfan TC technological upgrading project and 3,000 t/a pyraclostrobin TC project. Although it dropped the sulfentrazone TC project later and the pyraclostrobin project is still in preparation, its carbosulfan project has come into trial run stage; upon project completion, its carbosulfan capacity will reach 6,000 t/a.

Pirimiphos-methyl is a high-efficacy low-toxicity organophosphorus insecticide with little residue. It acts fast against pests and has persistent effect. Pirimiphos-methyl is applicable on field crops and cash crops; it is recommended by the World Health Organisation as a drug to control household pests. Besides, it is a good substitute for the grain protectant aluminium phosphide. As of early Dec. 2023, there were only three registrations for pirimiphos-methyl TC products in China, registrants being Hunan Haili, Zhejiang Funong Biotechnology Co., Ltd. and Yifan Biotechnology Group Co., Ltd.; meanwhile, there were 18 registrations for pirimiphos-methyl formulation products.

For Guixi Haili, pirimiphos-methyl will be its next main product after carbosulfan, which signifies the company has taken a concrete step towards following high quality development. Once the 3,000 t/a line goes into normal production, market demand will be better satisfied, and at the same time Guixi Haili will gain a more solid footing in the industry and thus be better positioned to pursue high-quality leapfrog development.

Shaanxi Changqing plans to build 2,500 t/a capacity for methomyl intermediate

Summary: In early Dec., safety evaluation report and environmental impact report of Shaanxi Changqing's 2,500 t/a methomyl-oxime project passed expert review. The company has planned to invest USD15.75 million (RMB112 million) to build the project in its plant in the Fengxiang High-Tech Industrial Development Zone in Shaanxi Province.

In early Dec., safety evaluation report and environmental impact report of Shaanxi Changqing Hengye Chemical Technology Co., Ltd. (Shaanxi Changqing)'s 2,500 t/a methomyl-oxime project passed expert review. The company has also gone through formalities including cultural relics exploration, social stability risk assessment and immovable property registration. Successfully obtaining approvals from city-level and provincial-level authorities, the company will soon kick off the construction in Q1 2024.

Shaanxi Changqing has planned to invest USD15.75 million (RMB112 million) in the project, which will cover an area of 2.07 ha, and be built in the Fengxiang High-Tech Industrial Development Zone in Baoji City, Shaanxi Province.

Methomyl-oxime is a key intermediate for the production of methomyl. It should be noted that market prospect of the pesticide methomyl has been overshadowed by a series of policies rolled out in 2023. On 7 Sept., the Ministry of Agriculture and Rural Affairs of the People's Republic of China (MARA) released a notice to solicit opinions on an intended ban on four high-toxicity pesticides: omethoate, carbofuran, methomyl and aldicarb. On 25 Dec., MARA issued the No. 736 Announcement, which puts a ban on the four pesticides: pesticide registrations for formulation products containing the four active ingredients (AIs) will be revoked starting from June 2024; exports by TC producers of the four AIs will be retained, and the registrations for TC products of the four AIs held by these producers could be changed to export-only registrations; methomyl TC, as a raw material for thiodicarb TC production, can be supplied by designated methomyl TC





producers to designated thiodicarb TC producers.

As of late Dec. 2023, there have been 149 valid registrations for methomyl products in China, of which eight registrations are for methomyl TC products. That is to say, registrations for methomyl formulations accounts for over 94% of the total in China. With the upcoming revocation of methomyl formulation registrations, domestic demand for methomyl will soon plummet, even though methomyl TC exports and the raw material use are still allowed. It is inevitable that high-toxicity high-risk pesticides will be banned and phased out of the market. With the elimination, improvement of product mix can be encouraged, mergers and restructuring of enterprises be promoted, larger market space for high-efficacy low-toxicity pesticides be left, and sustainable development of pesticide industry be facilitated.





Policy

China's pesticide policies push for product upgrades in insecticide producers

Summary: The year 2023 is close to its end. During this year, upgrades on insecticide products have been promoted in the Chinese market, supported by policies on zero growth in pesticide use, restricted use of and ban on some pesticides, as well as advancing GM crop industrialisation. The phase-out of traditional high-toxicity low-efficacy insecticidal AIs is gathering steam, and their market shares will be taken by high-efficacy low-toxicity green insecticides based upon novel AIs. Besides, these policies will also encourage greater development of bio-insecticidal AIs in the next few years.

Recent years, China's pesticide policies have been prompting product upgrades in insecticide producers. These policies include laws and regulations on zero growth in pesticide use, restricted use of and ban on some pesticides, and the promotion of genetically modified (GM) crop industrialisation. Supported by these policies, the quality of insecticide products on the market has been and will continue to be improved in this upgrade process. In the future, more traditional high-toxicity low-efficacy insecticidal AIs will be taken out of the market, and their market shares will be seized by high-efficacy low-toxicity green insecticides based upon novel AIs. Moreover, greater development of bio-insecticidal AIs will be facilitated in the next few years.

Zero growth of pesticide use policy urges insecticide producers to orient themselves to the trend of development of high-efficacy low-toxicity novel insecticides. Previously in Feb. 2015, the Chinese government rolled out the *Action Plan for Zero Growth in Pesticide Use by 2020*. Accordingly, zero growth in pesticide use, or even negative growth, has been found in all regions in China, and thus the total use of insecticides has been on the decline. However, it should be noted that not all insecticide products had the same fate; in general, the use of traditional low-efficacy products decreased, while the use of high-efficacy low-toxicity novel products increased. It is reported that from 2021 to 2023, in Hebei Province, the use of organophosphorus and carbamate insecticides dropped, that of pyrethroid insecticides was steady, and that of alternatives such as chlorantraniliprole and emamectin benzoate products grew. It is true that China has been pushing for the application of high-efficacy low-toxicity little-residue low-dosage single and mixed formulation products based on active ingredients (AIs) like emamectin benzoate, pymetrozine, nitenpyram and chlorantraniliprole. And the effort has effectively cut pesticide use per unit area and reduced the times of application. It is also worth mentioning that biopesticides based on AIs such as *Bacillus thuringiensis* and *Beauveria bassiana* have been widely used in recent years on vegetables, in gardening practices as well as in dealing with pests hard to control, and their use has grown significantly. This inspires more insecticide producers to exploit biopesticide market.

Pesticide use restriction and ban policy announces a batch of high-toxicity low-efficacy insecticides to be eliminated each year, which forces producers to step into the markets for alternatives. On 23 Aug., 2021, the Ministry of Agriculture and Rural Affairs of the People's Republic of China (MARA) expressed its determination to push ahead with the phase-out of high-toxicity high-risk pesticides as well as to phase out another 10 high-toxicity pesticides at phases before the end of 2024, in a response to a suggestion made by deputies to the 13th National People's Congress. Also in 2021, multiple provincial governments started the three-year campaign to improve quality and safety of edible agricultural products to crack down on illegal use of banned and restricted pesticides and veterinary drugs, curb excess residues and bring to the market edible agricultural products up to relevant national food safety standards. Of the 10 to-be-eliminated high-toxicity pesticides—nine insecticides plus the fungicide chloropicrin—those are detected with larger residues on vegetables will be banned first.



TABLE 3: Potential alternatives to the 10 pesticides to be eliminated by the end of 2024 in China

No.	Pesticide	Status of prohibition	Potential alternative
1	Aldicarb	Use has been prohibited on vegetables, melons, tea, fungi and Chinese medicinal herbs, for prevention & control of health pests, and for prevention & control of diseases and pests threatening aquatic plants.	Clothianidin
2	Ethoprophos	The transitional period lasts till 1 Sept., 2024. Before the date, use has been prohibited on vegetables, melons, tea, fungi and Chinese medicinal herbs, for prevention & control of health pests, and for prevention & control of diseases and pests threatening aquatic plants. After the date, sale and use will be banned.	Other organophosphorus insecticides
3	Isocarbophos	The transitional period lasts till 1 Sept., 2024. Before the date, use has been prohibited on vegetables, melons, tea, fungi and Chinese medicinal herbs, for prevention & control of health pests, and for prevention & control of diseases and pests threatening aquatic plants. After the date, sale and use will be banned.	Other organophosphorus insecticides
4	Phorate	The transitional period lasts till 1 Sept., 2024. Before the date, use has been prohibited on sugarcane. After the date, sale and use will be banned.	Clothianidin, phoxim, chlorpyrifos, chlorantraniliprole, bisultap, thiamethoxam
5	Isofenphos-methyl	The transitional period lasts till 1 Sept., 2024. Before the date, use has been prohibited on sugarcane. After the date, sale and use will be banned.	Clothianidin, phoxim, chlorpyrifos, chlorantraniliprole, bisultap, thiamethoxam
6	Carbofuran	Use has been prohibited on vegetables, melons, tea, fungi and Chinese medicinal herbs, for prevention & control of health pests, and for prevention & control of diseases and pests threatening aquatic plants.	Clothianidin, phoxim, chlorpyrifos, chlorantraniliprole, bisultap, thiamethoxam
7	Omethoate	Use has been prohibited on vegetables, melons, tea, fungi and Chinese medicinal herbs, for prevention & control of health pests, and for prevention & control of diseases and pests threatening aquatic plants.	Pyrethroids, buspirone, benzoylurea, etc.
8	Methomyl	Use has been prohibited on vegetables, melons, tea, fungi and Chinese medicinal herbs, for prevention & control of health pests, and for prevention & control of diseases and pests threatening aquatic plants.	Thiodicarb
9	Aluminium phosphide	Sale and use have been prohibited in some cities and provinces.	Malathion, phoxim, spinosad, azadirachtin, deltamethrin, pirimiphos-methyl, etc.



10	Chloropicrin	Only the use for soil fumigation purpose is allowed under the instruction of technical staff. Use has been prohibited on strawberry and cucumber.	Copper fungicides
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Note: The information is updated to Dec. 2023.

Source: CCM

China will reduce the dependence on insecticide products by advancing GM crop industrial production, which will drive insecticide producers to further improve their product mix for a more solid footing in the pesticide market. Since 2021, China has been speeding up the industrialisation of GM crops. On 28 April, 2023, MARA published the *Rules for Review of Gene-Edited Plants for Agricultural Use (Trial)*, which refines safety evaluation on gene-edited plants in three aspects: molecular characteristics, environmental safety and edible safety. It also makes clear the review content and the classification criteria, so as to guide the safety management of gene-edited plants, and strengthen the practicability of the *Guidelines for Safety Evaluation of Gene-Edited Plants for Agricultural Use (Trial)* rolled out in 2022. Previously, laws and regulations like *Seed Law of the People's Republic of China*, *Food Safety Law of the People's Republic of China*, and *Regulations on Administration of Agricultural Genetically Modified Organisms Safety* have already been issued; these policies require strict supervision on GM organisms, cracking down on illegal practices in seed production and sale, planting, processing, etc., implementation of product label management system, and ensuring orderly industrial application. To protect consumers' right to know, compulsory labelling system is adopted in GM products sales. The government has made active efforts in dispelling public doubts over edibility of GM crops. In late Aug. this year, the Development Centre of Science and Technology, MARA and National Agro-Tech Extension and Service Centre briefed via *Farmers' Daily* the progress of industrialisation of biological breeding in China; exchanges with journalists covered development history of GM crops in China and the need to develop such crops, and tried to reduce concerns over the safety of GM food.

Central eco-environment protection supervision teams finish work in 5 provinces

Summary: As of 18 Dec., central supervision teams for ecological environment protection had finished the first batch of Round Three front-line inspection work, covering five provinces—Fujian, Henan, Hainan, Gansu and Qinghai.

As of 18 Dec., five central supervision teams for ecological environment protection had finished the first batch of Round Three front-line inspection work, covering five provinces—Fujian, Henan, Hainan, Gansu and Qinghai; the work started in Nov. Front-line inspection is one form of stationed supervision.

According to the *Provisions on Central Supervision for Ecological Environment Protection*, central supervision for ecological environment protection generally consists of processes including preparation for supervision, stationed supervision, supervision reporting, supervision feedback, files hand-over and case transfer, rectification and implementation, and filing and archiving. Of these mentioned processes, stationed supervision is practised in several forms; front-line inspection—sending inspectors to units, departments or local governments to carry out on-spot supervision—is one of the forms. After stationed supervision, supervision teams should then write a report within a specified time period and give feedback to the supervised once the report is ratified by the CPC Central Committee and the State Council. Therefore, completion of the first batch of Round Three front-line inspection work means results have been made at the stationed supervision phase, and the next big things are supervision reports and feedback.





Typical cases in this batch inspection reveal the following problems in chemical production enterprises:

- Delayed construction of sewage disposal works: For instance, in Puyang Industrial Park (in Henan Province), such works should have been set up in 2021; the construction work is yet to be finished up to now.
- Low management performance in sewage disposal works: For instance, in Qinzhou Sewage Disposal Plant (in Gansu Province), low-level operation efficiency forces the adoption of practices include reducing handling volume, and using large amount of sewage treatment chemicals.
- Flawed sewage pipe network: For instance, in Longyan City of Fujian Province, sewage pipelines in a total area of 14.9 square kilometres covering old districts and 40 villages inside the city have not gone through rain and sewage diversion renovation; the area makes up over 20% of the total built up area in the city.





Registration

Altogether 370 insecticide products approved of registration in 2023

Summary: From Jan. to Dec. 2023, altogether 370 insecticide products have been approved of pesticide registration in China. The majority of these insecticide products are of low toxicity and the three most popular forms are SC, GR and WG.

Data released by the Department of Agrochemical Management of the Ministry of Agriculture and Rural Affairs of the People's Republic of China (MARA) show that from Jan. to Dec. 2023, altogether 370 insecticide products have been approved of pesticide registration in China. The majority of these insecticide products are of low toxicity, which accounts for 73% of the total, and 16% of them are of mild toxicity. Over half of the products are in the SC form; other popular forms are GR and WG.

Many companies have several insecticide products approved of registration. Of these companies, Shandong Weifang Rainbow Chemical Co., Ltd. comes first with 15 insecticide products approved, followed by Hebei Veyong Bio-chemical Co., Ltd. with 14 insecticide products and Shaanxi Meibang Pharmaceutical Group Co., Ltd. with 11 insecticide products.



TABLE 4: Insecticide products approved of registration in China by form, 2023

No.	Form	Number
1	SC	206
2	GR	39
3	WG	33
4	EC	15
5	TC	14
6	ME	13
7	OD	11
8	SL	8
9	FS	6
10	EW	5
11	SG	4
12	TK	4
13	CS	4
14	DR	2
15	WP	2
16	ZC	2
17	SE	1
18	ES	1
Total		370

Note: The data are updated to 6 Dec., 2023.

Source: Department of Agrochemical Management, MARA

**TABLE 5:** Insecticide products approved of registration in China by toxicity, 2023

No.	Toxicity	Number
1	Low	269
2	Mild	58
3	Moderate	24
4	Low (TC: highly toxic)	14
5	Moderate (TC: highly toxic)	5
Total		370

Note: The data are updated to 6 Dec., 2023.

Source: Department of Agrochemical Management, MARA

TABLE 6: Major registrants of insecticide products approved of registration in China, 2023

No.	Registrant	Number
1	Shandong Weifang Rainbow Chemical Co., Ltd.	15
2	Hebei Veyong Bio-chemical Co., Ltd.	14
3	Shaanxi Meibang Pharmaceutical Group Co., Ltd.	11
4	Guangdong Kefeng Bio-Technology Co., Ltd.	7
5	Shaanxi Topsen Biological Technology Co., Ltd.	7
6	Anhui Jintudi Biotechnology Co., Ltd.	5
7	Guangdong Liwei Chemical Industry Co., Ltd.	5
8	Hunan Xinchangshan Agricultural Development Co., Ltd.	5
9	Jiangxi Bumper Biological Technology Co., Ltd.	5
10	Shandong Yuanfeng Biotechnology Co., Ltd.	5
11	Shandong Zhongxin Kenong Bio-Technology Co., Ltd.	5
12	Anhui Kewu Biotechnology Co., Ltd.	4
13	Hailir Pesticides and Chemicals Group Co., Ltd.	4
14	Henan Changjian Biotechnology Co., Ltd.	4
15	Henan Loong Boy Biotechnology Co., Ltd.	4
16	Shaanxi Yitianfeng Crop Science and Technology Co., Ltd.	4
	Others	266
	Total	370

Note: The data are updated to 6 Dec., 2023.

Source: Department of Agrochemical Management, MARA



Pest

Pests occurring moderately on vegetables in Guangdong

Summary: Early Dec., Guangdong Agricultural Pest Warning and Control Centre released an update on pest occurrence on vegetables in the province. In general, moderate occurrence is witnessed and relatively heavy occurrence is found in some local areas. Major pests are cabbage flea beetle, diamondback moth, thrips and vegetable leafminer.

Early Dec., Guangdong Agricultural Pest Warning and Control Centre released an update on pest occurrence on vegetables in the province. In general, moderate occurrence is witnessed and relatively heavy occurrence is found in some local areas, as there has been low rainfall recently and the temperature is agreeable. Cruciferous vegetables are the main winter vegetables grown in the province, plus some fields for lettuce, snow pea, chili, melons, celery, leek, cowpea, etc. Major pests on these vegetables include cabbage flea beetle, diamondback moth, thrips and vegetable leafminer.

Cabbage flea beetle is occurring relatively heavily. Lianjiang Station reported a population of 41 to 58 per hundred plants, with maximum of 120 per hundred plants, on vegetables such as leaf mustard and Chinese flowering cabbage; the percentage of crop damaged ranged from 28.3% to 45.2% on average, the highest rate reached 65%. Gaozhou Station reported a population of 40 per hundred plants, with maximum of 360 per hundred plants, on radish. Huidong Station reported a population of 15 to 32 per hundred plants, with maximum of 135 per hundred plants, on Chinese flowering cabbage.

Vegetable leafminer is occurring moderately in general, and relatively heavy occurrence is found in some local areas. Lianjiang Station reported a population of 32 to 85 per hundred leaves on vegetables such as cowpea and tomato, with 11.7% of leaf damage. Gaozhou Station reported leaf damage rate at 26.9%, with 55.5% at maximum, on vegetables such as cowpea and cucumber. Huidong Station reported a population of 10 per hundred leaves, with maximum of 55 per hundred leaves, on cowpea; leaf damage rate was 6.5% to 15% on average, the highest rate reached 33.3%. Shantou Station reported a population of 30 to 66 per hundred leaves, with maximum of 99 per hundred leaves, on cowpea; leaf damage rate reached 100%.

Diamondback moth is occurring moderately. Gaozhou Station reported 18 larvae per hundred plants, with maximum of 68 larvae per hundred plants, on cabbage. Huidong Station reported an average of 3 to 11 larvae per hundred plants, with maximum of 40 to 80 larvae per hundred plants, on Chinese flowering cabbage.

Besides, thrips are occurring moderately on cowpea in western Guangdong in general, and relatively heavy occurrence is found in some local areas. Often a population of 7 to 8 is found in each flower, with maximum of 15 to 25 per flower. To control thrips on cowpea, biopesticides like *Metarhizium anisopliae* and matrine are preferred. Moreover, times of the application of emamectin benzoate and chlorfenapyr should be restricted.



Trade analysis

In Oct., China's insecticide formulation Imp. volume ups MoM, but Exp. volume drops

Summary: In Oct. 2023, China's insecticide formulations were mainly exported to Brazil, Thailand, Vietnam, etc.; the export volume dropped by 7.6% MoM. However, the export volume of biological insecticide formulations jumped by 77.7% MoM. Meanwhile, the import volume of insecticide formulations to China increased by 26.9% MoM; Japan was the largest import origin during this period.

According to the statistics from General Administration of Customs of China (China Customs), in Oct. 2023, China exported 34,865 tonnes (actual volume, the same hereafter) of insecticide formulation products. The volume reduced by 7.63% MoM. As regards insecticide formulation imports, in the same month, China imported 373 tonnes of insecticide formulation products; the volume jumped up by 26.85% MoM.

In terms of export, export price averaged USD5.09/kg in Oct. 2023, up 12.61% MoM. Major export destinations of China's insecticide formulations were Brazil, Thailand, Vietnam, etc. Of them, Brazil was the largest export destination; the volume to the country was 10,192 tonnes, nearly 30% of the monthly total. It should be noted that in Oct., the export volume and export price of biological insecticide formulations rose by 77.70% and 5.63% MoM, respectively.

In terms of import, average import price of insecticide formulations was USD25.02/kg in Oct. 2023, up 42% MoM. Japan was the largest import origin; the volume from this origin grew by 85.71% MoM to 117 tonnes, which accounts for over 30% of the monthly total.

TABLE 7: Exports of insecticide formulations from China, Sept. and Oct. 2023

Time	Actual volume, kg	Average price, USD/kg
Oct. 2023	34,864,934	5.09
Sept. 2023	37,744,129	4.52

Note: The data are exports of both chemical insecticide formulations and biological insecticide formulations.

Source: China Customs

TABLE 8: Major destinations of insecticide formulations exported from China, Sept. and Oct. 2023

No.	Oct. 2023			Sept. 2023		
	Destination	Actual volume, tonne	Share	Destination	Actual volume, tonne	Share
1	Brazil	10,192	29.23%	Brazil	9,077	24.05%
2	Thailand	1,719	4.93%	Thailand	2,316	6.14%
3	Vietnam	1,644	4.72%	Indonesia	1,644	4.36%
4	Nigeria	1,334	3.83%	Vietnam	1,519	4.02%
5	Laos	1,315	3.77%	Nigeria	1,477	3.91%
6	Myanmar	1,263	3.62%	Russia	1,455	3.85%
7	Indonesia	1,051	3.01%	Chile	1,175	3.11%
8	Bangladesh	984	2.82%	Bangladesh	1,129	2.99%
9	Cote d'Ivoire	951	2.73%	Myanmar	1,028	2.72%
10	Chile	869	2.49%	Laos	1,014	2.69%
	Others	13,543	38.85%	Others	15,910	42.16%
	Total	34,865	100.00%	Total	37,744	100.00%

Note: The data are exports of both chemical insecticide formulations and biological insecticide formulations.

Source: China Customs

TABLE 9: Imports of insecticide formulations to China, Sept. and Oct. 2023

Time	Actual volume, kg	Average price, USD/kg
Oct. 2023	372,990	25.02
Sept. 2023	294,041	17.62

Note: The data are imports of both chemical insecticide formulations and biological insecticide formulations.

Source: China Customs

TABLE 10: Major origins of insecticide formulations to China, Sept. and Oct. 2023

No.	Oct. 2023			Sept. 2023		
	Origin	Actual volume, tonne	Share	Origin	Actual volume, tonne	Share
1	Japan	117	31.37%	Japan	63	21.43%
2	Singapore	87	23.33%	Singapore	59	20.07%
3	Indonesia	52	13.94%	Malaysia	42	14.29%
4	Australia	50	13.40%	Indonesia	41	13.95%
5	South Korea	38	10.19%	Australia	39	13.27%
6	Vietnam	15	4.02%	India	30	10.20%
	Others	14	3.76%	Others	20	6.79%
	Total	373	100.00%	Total	294	100.00%

Note: The data are imports of both chemical insecticide formulations and biological insecticide formulations.

Source: China Customs



TABLE 11: Exports of biological insecticide formulations from China by month, Nov. 2022–Oct. 2023

Month	Actual volume, kg	Average price, USD/kg
Nov. 2022	13,391	50.27
Dec. 2022	8,259	53.39
Jan. 2023	37,382	60.05
Feb. 2023	1,738	90.50
March 2023	33,642	53.78
April 2023	90,652	50.85
May 2023	16,442	42.32
June 2023	26,887	86.61
July 2023	38,718	29.62
Aug. 2023	21,076	65.70
Sept. 2023	22,436	70.52
Oct. 2023	39,868	74.49

Source: China Customs





Brief news

Insecticides TC purchase for rigid demand begins to grow at the start of Dec.

Since the beginning of Dec., a new round of stocking up on insecticides TC has been developing. Quotations for some mainstream insecticides in the Chinese market in early Dec. are as follows:

- Emamectin benzoate: 70% TC was quoted at USD51,685/t (RMB367,500/t) under the pressure of the costs;
- Chlorantraniliprole: 95% TC was quoted at USD49,224/t (RMB350,000/t). This insecticide currently draws great industry attention in China. Many domestic pesticide enterprises have had plans to join this market. As the capacity expands in China, the market competition becomes fiercer;
- Nicotinoid insecticides also attract much attention currently:
 - Imidacloprid: 97% TC was quoted at USD12,658/t (RMB90,000/t);
 - Acetamiprid: 95% TC was quoted at USD11,532/t (RMB82,000/t);
 - Clothianidin: 98% TC was quoted at USD11,251/t (RMB80,000/t) under reduced supply. Operating rates in the producers have been kept at a relatively low level, and previous inventories have been gradually consumed;
- Lufenuron and indoxacarb: 98% lufenuron TC and 95% indoxacarb TC were quoted at USD22,502/t (RMB160,000/t) and USD129,388/t (RMB920,000/t), respectively. Replenishment of such commonly used products has been in progress.

NATESC releases survey result of overwintering base of major pests & diseases

On 5 Dec., the National Agro-Tech Extension and Service Centre (NATESC) announced the result of overwintering base surveys. The centre had organised plant protection agencies at all levels to carry out such surveys, and from late Oct. to early Dec., three expert panels were dispatched to three different regions—agricultural and pastoral areas in North China and Northeast China, main occurrence areas in Northwest China of wheat stripe rust on autumn seedlings, and winter breeding areas in Southwest China—to make field investigations, in order to determine the distribution range, key areas and occurrence base of major pests and diseases including beet webworm, fall armyworm and rice stem borers.

The panels investigated three counties/districts/banners of two cities in Inner Mongolia Autonomous Region, four counties/districts in three cities/prefectures in Gansu Province, four counties/districts in two cities/prefectures in Qinghai Province, and seven counties/districts in four cities/prefectures in Yunnan Province; they survey over 100 field parcels covering a variety of host crops in diverse habitats. Combining the survey results, self-examination in other wintering areas, as well as exchanges and discussions, the centre came to a preliminary judgment: this winter, occurrence base of beet webworm in North China, Northeast China and Northwest China (the Three Norths region), and occurrence base of wheat stripe rust in Northwest China are at the same level or slightly lower as usual, while occurrence bases of fall armyworm and rice stem borers in winter breeding areas in Southwest China are slightly larger. For the major pests, details are as follows:

- Beet webworm: Area and total population of overwintering beet webworms in the Three Norths region hit the bottom in the past ten years. Cocoon density is 4–13/m², and live cocoon rate is lower than 20%;
- Fall armyworm: The pest has a wide habitat and plenty of hosts, so there usually is a large population in Southwest China. Of the 10 plus parcels of maize field surveyed in the field investigation, damages have been found in plants at seedling stage, bell-mouthed stage, tasselling stage and the overall ear development stage; rate of affected plants in parcels untreated with pesticides surpassed 80%;
- Rice stem borers: Mixed occurrence of different kinds of rice borers has been found in Southwest China. Rice borers were found in all the 10 parcels of rice field surveyed in the field investigation, main hosts being volunteer rice and rice stubble. In two villages





investigated in Yunnan Province, striped rice stem borer and pink stem borer were the main attackers, with a population of 10–20 per 100 plants.

US Federal Reserve may cut interest rate in 2024

At 2 am on 14 Dec. (Beijing time), the US Federal Reserve announced that it would maintain the target range for the federal funds rate at 5.25%–5.5%, which implies that the rate hiking cycle may come to an end. That is in line with market expectations. The range is at its highest point in 22 years. Since the Fed initiated the current rate hiking cycle in March 2022, the cumulative rate hikes have amounted to 525 basis points. According to the assessments of appropriate monetary policy made by Federal Open Market Committee participants, 2 participants projected interest rate stayed at 5.25%–5.5% in 2024, while 17 predicted the rate would fall below 5.25%, with one believing that the rate would fall below 4%. A median projection of 4.6% for 2024 implies that the Fed may cut rates three times next year.

Previous rate hikes have had mixed effects on Chinese pesticide producers. On the one hand, weaker RMB against USD has given China's pesticide products price advantage in exports. On the other hand, for companies that have to import raw materials, their production costs have increased and thus profit margins been squeezed.

Gansu announced 2nd-batch reviewed or newly-accredited chemical parks

On 15 Dec., the Department of Industry and Information Technology of Gansu Province released the 2023 2nd-batch list of approved chemical industrial parks, which include two reviewed chemical parks and a newly-accredited chemical park. Previously in April, the department announced the 1st-batch list for this year; twelve reviewed chemical parks and a newly-accredited chemical park were on the list. The approved chemical industrial parks in these two batches are:

- 1st-Batch: Guazhou Industrial Concentration Zone Liugou Coal Chemical Industrial Park, Yumen Economic Development Zone Old Downtown Area Chemical Industrial Park, Jinta Industrial Concentration Zone Beihewan Circular Economy Industrial Park Chemical Park, Yumen Economic Development Zone Yumendong Building Materials Chemical Industrial Park Chemical Zone, Baiyin High-Tech Zone Chemical Industrial Park, Gansu Gaotai Industrial Area Nanhua Industrial Park Chemical Industrial Concentration Area, Gansu Gaotai Industrial Area Yanchi Industrial Park, Jinchang Economic and Technological Development Zone Chemical Industrial Concentration Area, Zhangye Economic and Technological Development Zone Circular Economy Demonstration Park Chemical Industrial Concentration Area, Wuwei Minqin Hongshagang Energy and Chemical Industrial Concentration Area Fine Chemical Park, Minle Industrial Park Chemical Park, and Jinchang Economic and Technological Development Zone Hexipu Industrial Park passed review; Gansu Qingyang Xifeng Industrial Park newly passed accreditation process;
- 2nd-Batch: Lanzhou New Area Chemical Park and Baiyin Xiqu Economic Development Zone (Yinxi Industrial Park) Biomedical Park Chemical Industrial Concentration Area passed review, and Baiyin Liuchuan Industrial Concentration Area Chemical Park newly passed accreditation process.

Weifang Nuchlor proposes to expand capacity for pyridine series

On 12 Dec., basic environmental impact assessment information on Weifang Nuchlor Chemical Co., Ltd. (Weifang Nuchlor)'s 30,000 t/a pyridine series expansion project was published. Based upon existing equipment and facilities for 24,000 t/a pyridine series in its plant in the Weifang Binhai Chemical Industrial Park, Weifang City, Shandong Province, the company now plans to add some new equipment, mainly including a 100m³ storage tank for propanal and unloading and conveying auxiliary devices, to partially substitute propanal for formaldehyde and acetaldehyde to lower raw material costs, and to optimise reaction conditions to bring the capacity to 30,000 t/a.





NATESC projects significant risk of major pests & diseases occurrence in 2024

From 12 to 13 Dec., the consultation meeting for major pests and diseases occurrence trend on crops in China in 2024 was held in Hangzhou City of Zhejiang Province. In this meeting, which was organised by the National Agro-Tech Extension and Service Centre (NATESC), occurrence characteristics of major pests & diseases as well as effectiveness of forecasts in 2023 were summed up, and occurrence trend in 2024 was analysed. The participating experts projected an overall grim situation of major pests & diseases occurrence in 2024, after studying factors such as pre-winter population bases of pests & diseases, growth situation of host crops, and meteorological conditions. In particular, it is expected that there would be significant risk of large-area heavy occurrences of migratory pests like fall armyworm, cotton bollworm, beet armyworm, rice leaf roller and rice planthopper, striped rice stem borer, vegetable thrips, and tomato leafworm.

Four high-toxicity insecticides to be banned in China

On 25 Dec., the Ministry of Agriculture and Rural Affairs of the People's Republic of China (MARA) issued the No. 736 Announcement, which reads that the ministry has decided to take prohibitive measures on four pesticides: methoate, carbofuran, methomyl and aldicarb.

Specifically:

- Pesticide registrations for formulation products containing the four active ingredients (AIs) will be revoked, and production be prohibited, starting from 1 June 2024; sales and use of pesticides containing the four AIs will be prohibited starting from 1 June 2026;
- Production and exports by TC producers of the four AIs could be retained, and the registrations for TC products of the four AIs held by producers will be changed to export-only registrations; closed-loop operation and supervision should be carried out;
- Carbofuran TC, as a raw material for the production of carbosulfan TC and benfuracarb TC, can be supplied by designated carbofuran TC producers to designated carbosulfan TC and benfuracarb TC producers, with closed-loop operation; methomyl TC, as a raw material for thiodicarb TC production, can be supplied by designated methomyl TC producers to designated thiodicarb TC producers, with closed-loop operation.

MARA plans to strengthen administration on pesticides in GR form

On 27 Dec., the Ministry of Agriculture and Rural Affairs of the People's Republic of China (MARA) announced to solicit opinions on management measures for pesticide products in GR form and proposed to strengthen the management of risks involved in registration and use of pesticides in this form. Specifically,

- Implement control target classification management: In principle, new GR products only for the control of soil-borne diseases & pests and underground pests will be approved of registration, while new GR products with soil application to control aboveground diseases & pests will not be approved;
- Formulate applicable guidance catalogue: An applicable guidance catalogue will be formulated, and GR products for the control targets listed in the catalogue could be registered. However, GR products for the control of paddy weeds, special targets and applied in certain specific sites listed in the catalogue should go through stricter examination;
- Comb through registered products within a time limit: For GR products already registered yet not in line with the guidance catalogue, and listed as needed modification or registration to be revoked, registration certificate holders could apply for expansion of application scope. Materials submitted by the certificate holders should be in accord with the Requirements on Pesticide Application Materials. Registrations for GR products outside the guidance catalogue will not be retained starting from 1 Jan., 2026, and sale and use of these products will be banned starting from 1 Jan., 2028.

Lanzhou Senyang plans to build large-scale pesticide intermediate project





On 12 Dec., the acceptance of the environmental impact report of Lanzhou Senyang Longtai Chemical Co., Ltd. (Lanzhou Senyang)'s 70,000 t/a pesticide intermediates and by-products project (Phase I) was announced. With investment of USD16.88 million (RMB120 million), of which USD0.66 million (RMB4.71 million) is for environmental protection, Lanzhou Senyang has planned to build the new construction project. The Phase I will build a 20,000 t/a triphosgene line, a 3,000 t/a chloroacetone line and a 20,000 t/a 3-pyridinecarboxaldehyde solution line, along with other supporting facilities.

Guangdong solicits opinions on action plan for air quality improvement

On 21 Dec., the Department of Ecology and Environment of Guangdong Province published the *Action Plan for Improvements in Air Quality in Guangdong Province (Exposure Draft)*, which sets controlling the annual mean concentration of PM_{2.5} across the Province at a level below 22 µg/m³ as one of the goals by 2025. To improve air quality, the plan calls for actions including:

- Upgrade existing production capacity: Focus should be put on industries such as building materials, chemical, petrochemical, nonferrous metals, industrial coating, and packaging and printing. Requirements on cleaner production audit should be implemented, and overall cleaner production audit models be piloted in key industries, industrial parks and enterprise clusters;
- Slash industrial use of coal: In principle, new coal-fired boilers will not be allowed in the core area of the Pearl River Delta; new coal-fired boilers below 35 t/h will not be allowed in built-up areas at county level and above in the east and west wings of the coastal economic belt and in the ecological development region in the northern parts of the province, as well as within the coverage of natural gas pipelines. Before the end of 2025, coal-fired facilities including 35 t/h boilers, ranges used for business purpose, grain storage drying devices and agricultural produce processing devices should be basically eliminated in built-up areas at county level and above.



Price update

Ex-works prices of major insecticides in China, 8 Dec., 2023

TABLE 12: Ex-works prices of major insecticides in China, 8 Dec., 2023

Product	20231108		20231208	
	Original Price (RMB/t)	Price (USD/t)	Original Price (RMB/t)	Price (USD/t)
95% Abamectin technical	380,000	52,941.01	380,000	53,442.84
97% Acephate technical	43,000	5,990.69	43,000	6,047.48
95% Acetamiprid technical	83,000	11,563.43	80,500	11,321.44
95% Azocyclotin technical	220,000	30,650.06	220,000	30,940.59
95% Beta-Cypermethrin technical	128,200	17,860.63	126,000	17,720.52
97% Bifenthrin technical	154,000	21,455.04	151,500	21,306.82
95% Buprofezin technical	65,000	9,055.7	65,000	9,141.54
98% Carbofuran technical	100,000	13,931.85	100,000	14,063.91
98% Chlorfenapyr technical	170,000	23,684.14	168,000	23,627.36
95% Chlorfluazuron technical	400,000	55,727.38	400,000	56,255.63
95% Chlorpyrifos technical	36,900	5,140.85	35,300	4,964.56
94% Cypermethrin technical	58,000	8,080.47	58,000	8,157.07
99% Cyromazine technical	123,000	17,136.17	120,000	16,876.69
98% Deltamethrin technical	390,000	54,334.2	380,000	53,442.84
95% Diafenthiuron technical	112,000	15,603.67	112,000	15,751.58
98% Dimethoate technical	47,600	6,631.56	47,600	6,694.42
70% Emamectin benzoate technical	367,500	51,199.53	364,000	51,192.62
92% Fenvalerate technical	145,000	20,201.18	145,000	20,392.66
95% Fipronil technical	430,000	59,906.94	415,000	58,365.21
98% Hexaflumuron technical	460,000	64,086.49	460,000	64,693.97



97% Imidacloprid technical	92,800	12,928.75	90,600	12,741.9
98% Isoprocarb technical	45,500	6,338.99	45,500	6,399.08
95% Lambda-cyhalothrin technical	119,000	16,578.9	117,000	16,454.77
90% Malathion technical	35,000	4,876.15	35,000	4,922.37
95% Methidathion technical	90,000	12,538.66	90,000	12,657.52
90% Methomyl SP	65,000	9,055.7	63,000	8,860.26
98% Methomyl technical	73,900	10,295.63	72,000	10,126.01
75% Omethoate technical	52,000	7,244.56	52,000	7,313.23
90% Phoxim technical	37,000	5,154.78	33,000	4,641.09
90% Profenofos technical	68,000	9,473.65	68,000	9,563.46
90% Propargite technical	60,000	8,359.11	60,000	8,438.34
95% Pymetrozine technical	112,500	15,673.33	103,800	14,598.33
95% Pyridaben technical	100,000	13,931.85	102,000	14,345.18
97% Spirodiclofen technical	139,000	19,365.27	139,000	19,548.83
85% Triazophos technical	69,000	9,612.97	69,000	9,704.1

Note: Ex-works price includes VAT.

Source: CCM

Shanghai Port prices of major insecticides in China, 8 Dec., 2023





TABLE 13: Shanghai Port prices of major insecticides in China, 8 Dec., 2023

Product	20231108		20231208	
	Original Price (RMB/t)	Price (USD/t)	Original Price (RMB/t)	Price (USD/t)
95% Abamectin technical	380,500	53,010.67	380,500	53,513.16
97% Acephate technical	43,500	6,060.35	43,500	6,117.8
95% Acetamiprid technical	83,500	11,633.09	81,000	11,391.76
95% Azocyclotin technical	220,500	30,719.72	220,500	31,010.91
95% Beta-Cypermethrin technical	128,700	17,930.29	126,500	17,790.84
97% Bifenthrin technical	154,500	21,524.7	152,000	21,377.14
95% Buprofezin technical	65,500	9,125.36	65,500	9,211.86
98% Carbofuran technical	100,500	14,001.5	100,500	14,134.23
98% Chlorfenapyr technical	170,500	23,753.8	168,500	23,697.68
95% Chlorfluazuron technical	400,500	55,797.04	400,500	56,325.95
95% Chlorpyrifos technical	37,400	5,210.51	35,800	5,034.88
94% Cypermethrin technical	58,500	8,150.13	58,500	8,227.39
99% Cyromazine technical	123,500	17,205.83	120,500	16,947.01
98% Deltamethrin technical	390,500	54,403.86	380,500	53,513.16
95% Diafenthiuron technical	112,500	15,673.33	112,500	15,821.89
98% Dimethoate technical	48,100	6,701.22	48,100	6,764.74
70% Emamectin benzoate technical	368,000	51,269.19	364,500	51,262.94
92% Fenvalerate technical	145,500	20,270.84	145,500	20,462.98
95% Fipronil technical	430,500	59,976.59	415,500	58,435.53
98% Hexaflumuron technical	460,500	64,156.15	460,500	64,764.29
97% Imidacloprid technical	93,300	12,998.41	91,100	12,812.22
98% Isoprocarb technical	46,000	6,408.65	46,000	6,469.4





95% Lambda-cyhalothrin technical	119,500	16,648.56	117,500	16,525.09
90% Malathion technical	35,500	4,945.81	35,500	4,992.69
95% Methidathion technical	90,500	12,608.32	90,500	12,727.84
90% Methomyl SP	65,500	9,125.36	63,500	8,930.58
98% Methomyl technical	74,400	10,365.29	72,500	10,196.33
75% Omethoate technical	52,500	7,314.22	52,500	7,383.55
90% Phoxim technical	37,500	5,224.44	33,500	4,711.41
90% Profenofos technical	68,500	9,543.31	68,500	9,633.78
90% Propargite technical	60,500	8,428.77	60,500	8,508.66
95% Pymetrozine technical	113,000	15,742.99	104,300	14,668.65
95% Pyridaben technical	100,500	14,001.5	102,500	14,415.5
97% Spirodiclofen technical	139,500	19,434.92	139,500	19,619.15
85% Triazophos technical	69,500	9,682.63	69,500	9,774.41

Note: Shanghai port price = ex-works price + transportation fee from warehouse to Shanghai port, and the ex-works price includes VAT
Source: CCM

FOB Shanghai prices of major insecticides in China, 8 Dec., 2023





TABLE 14: FOB Shanghai prices of major insecticides in China, 8 Dec., 2023, USD/t

Product	20231108	20231208
95% Abamectin technical	51,587.84	52,076.85
97% Acephate technical	5,735.05	5,789.41
95% Acetamiprid technical	11,339.46	11,102.16
95% Azocyclotin technical	29,986.98	30,271.22
95% Beta-Cypermethrin technical	16,875.58	16,743.2
97% Bifenthrin technical	20,215.15	20,075.5
95% Buprofezin technical	8,932.76	9,017.44
98% Carbofuran technical	13,676.82	13,806.46
98% Chlorfenapyr technical	23,149.05	23,093.56
95% Chlorfluazuron technical	54,327.85	54,842.83
95% Chlorpyrifos technical	5,115.3	4,939.89
94% Cypermethrin technical	7,685.01	7,757.85
99% Cyromazine technical	16,191.83	15,946.64
98% Deltamethrin technical	51,077.03	50,239.11
95% Diafenthiuron technical	14,759.59	14,899.49
98% Dimethoate technical	6,368.43	6,428.8
70% Emamectin benzoate technical	49,896.58	49,889.84
92% Fenvalerate technical	19,108.39	19,289.52
95% Fipronil technical	58,372.95	56,870.71
98% Hexaflumuron technical	62,458.5	63,050.55
97% Imidacloprid technical	12,674.43	12,491.25
98% Isoprocarb technical	6,093.99	6,151.75
95% Lambda-cyhalothrin technical	15,646.88	15,529.73





90% Malathion technical	4,710.1	4,754.75
95% Methidathion technical	12,341.24	12,458.22
90% Methomyl SP	8,936.18	8,743.32
98% Methomyl technical	11,049.79	10,867.74
75% Omethoate technical	6,945.18	7,011.02
90% Phoxim technical	5,101.95	4,593.52
90% Profenofos technical	9,006.34	9,091.71
90% Propargite technical	8,276.72	8,355.17
95% Pymetrozine technical	14,830.21	13,813.05
95% Pyridaben technical	13,689.05	14,095.18
97% Spirodiclofen technical	18,293.94	18,467.35
85% Triazophos technical	9,521.1	9,611.35

Note: FOB price is calculated mainly based on ex-works price, tax refund, value added tax rate, exchange rate, etc.

Source: CCM



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Publisher : Kcomber Inc.

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