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Headline

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In early April, an overall downtrend has been witnessed in herbicide prices. The prices of organophosphorus herbicides kept going down, prices of some sulfonylurea and amide herbicides slipped, and the prices of diquat TK and diuron TC did not reverse previous trend. Triazine herbicides basically had stable prices.

In late April, overall demand for herbicides did not recover. Main herbicides TC saw their prices keep going down, except atrazine TC, ametryn TC, nicosulfuron TC, pretilachlor TC and diquat TK had stable price in this period.

On 7 April, Guizhou Provincial Department of Agriculture and Rural Affairs issued the Work Plan for Pesticide Regulation and Chemical Pesticide Usage Reduction & Efficacy Enhancement in Guizhou Province in 2023. The Plan aims to promote green control and large-scale control, and strengthen guidance on how to use pesticides in a scientific and safe way; it sets a 1% reduction in chemical pesticide use as the goal of this year.

On 3 April, the Department of Agrochemical Management of MARA released a batch of products granted registration approval, which include 22 herbicide products.

In early April, the FOB price of paraquat 42% TK in China kept stable, and the ex-works price of pure pyridine in China dived 19.18% MoM.

In April, MARA published the Notification on Results of Random Inspection on Pesticides in 2022. The results show that the ratio of products found with illegal paraquat addition to the total non-selective herbicides sampled is on the decline. Major contributing factors include more severe crackdown on such unlawful activities by the government and narrowing gap between the prices of paraquat TK and diquat TK.

In Jan.–Feb. 2023, China's herbicide formulations were mainly exported to Australia, Thailand, Nigeria, Ghana, the US, etc., with an export volume of over 200,000 tonnes. The volume contracted by about 12% YoY.

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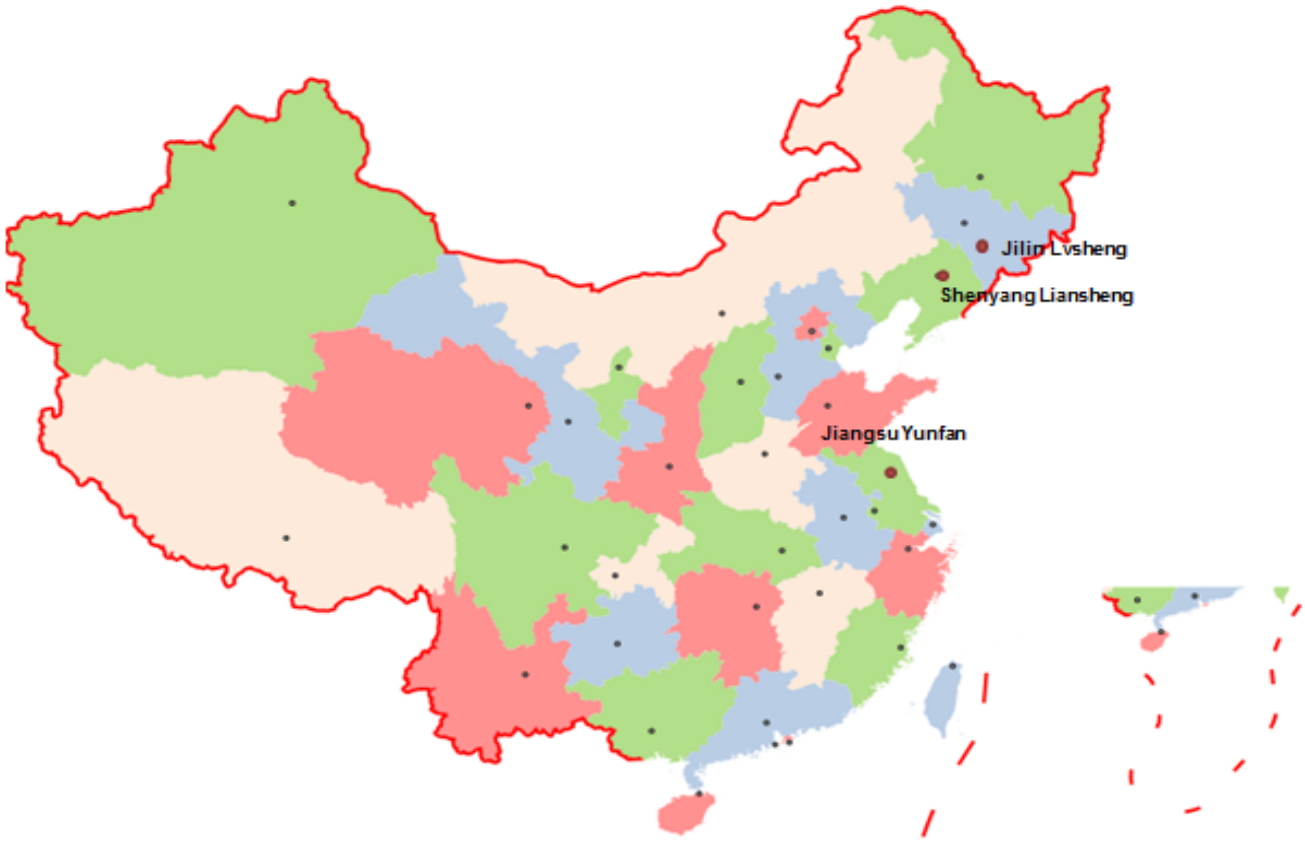

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Editor's note

In April, herbicide TC market stayed weak in China—main herbicides TC saw their prices either keep going down or remain unchanged. The ex-works prices of glyphosate TC and glufosinate-ammonium TC, in particular, were set lower and lower throughout April. The price of paraquat TK, however, stabilised this month, even though the price of its upstream material pyridine had a big drop due to sluggish demand for multiple pyridine downstream products.

Overall operating rate in herbicide TC producers was at a relatively low level this month. Yet new herbicide projects have been progressing normally; some new capacity has been put into operation. Jilin Lvsheng's 10,000 t/a 2,4-D TC production lines have been set up and gone through completion-based check and acceptance procedures. Inner Mongolia Miraculous has finished the construction of main structures of its 50,000 t/a glufosinate-ammonium project and 50,000 t/a methyldiethoxyphosphine project, trial operation is expected in late May. Guang'an Lier has started the construction of production lines for 78,000 t/a pesticides TC and 95,700 t/a fine chemical intermediates.

The majority of listed pesticide companies, Zhejiang Wynca, Hubei Xingfa and Nantong Jiangshan as representatives, projected declining business performance for Q1 2023, as the pesticide market was in a general slump in this period.

The USD/CNY exchange rate in this newsletter is USD1.00 = CNY6.8805 on 3 April, 2023, sourced from the People's Bank of China. All the prices mentioned in this newsletter will include the VAT, unless otherwise specified.

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Company dynamics

Jilin Lvsheng's 10kt/a 2,4-D TC production lines put into operation

Summary: Jilin Lvsheng's 10,000 t/a 2,4-D TC production lines have been set up and gone through completion-based check and acceptance procedures. The company thus becomes a major 2,4-D TC supplier in China.

Early April, CCM learned from Jilin Lvsheng Agrochemical Co., Ltd. (Jilin Lvsheng) that the company had built up its 10,000 t/a 2,4-D TC production lines and had finished the completion-based check and acceptance of these lines. With this new capacity put into use, Jilin Lvsheng now becomes one of the major 2,4-D TC suppliers in China.

Growing out of the established pesticide company Jihua Group Chemical Industrial Co., Ltd., Jilin Lvsheng is now based in the Chemical Industry Circular Economy Demonstration Park, Jilin City, Jilin Province. This chemical park is a suitable destination for pesticide enterprises in coastal areas to build new production bases (via establishing subsidiaries) in central, western and northeastern parts of China. This production capacity migration trend has already taken shape and grown stronger in the past few years. Jilin Lvsheng, seeing the location advantage, has been actively ramping up investment to expand its production scale.

Besides the newly-finished 2,4-D TC lines, Jilin Lvsheng has active capacity for atrazine TC, terbuthylazine TC, metamitron TC, mesotrione TC, ametryn TC, prometryn TC, simetryn TC, terbutryn TC, tebuconazole TC, metaldehyde TC, etc. It is obvious that this company mainly engages in herbicide business. And the operation of the 10,000 t/a 2,4-D TC lines will make its herbicide business grow bigger, and thus improve the company's competitiveness in the pesticide industry and promote a sustainable development in the long run.

China is a big supplier of 2,4-D TC and a series of 2,4-D downstream products in the global market. The majority of 2,4-D products produced in China are for export. This time, the 10,000 t/a capacity expansion in Jilin Lvsheng will further increase China's overall 2,4-D TC supply capability. However, it should be noted that growing 2,4-D TC capacity has pushed the competition fiercer. So far into 2023, the price of 2,4-D TC has been in a downtrend in general.

In the past few years, China's 2,4-D TC industry has developed quite healthily, with production techniques and facilities constantly upgrading. Currently, apart from Jilin Lvsheng, other domestic pesticide enterprises boasting large-scale 2,4-D TC production capacity include: Jiangxi Tianyu Chemical Co., Ltd., Jiangsu Wintafone Crop Science Co., Ltd., Jiangsu Good Harvest-Weien Agrochemical Co., Ltd., Weihai Hanfu Biochemical Medicine Co., Ltd., and Shandong Weifang Rainbow Chemical Co., Ltd. (Weifang Rainbow) and its subsidiary Ningxia Gerui Fine Chemical Co., Ltd.

New 2,4-D TC production capacity is still to be expected. Weifang Rainbow has planned to add 40,000 t/a 2,4-D TC lines in its wholly-owned subsidiary Ningxia Hanrun Biotechnology Co., Ltd. And Hubei Trisun Chemical Co., Ltd. (Hubei Trisun), in collaboration with another key pesticide enterprise Jiangsu Kaichen Chemical Co., Ltd., established a new subsidiary Hubei Xingchen Technology Co., Ltd. and has proposed to set up a 20,000 t/a 2,4-D TC production base in the Yidu Xingfa Eco Industrial Park, Yidu City, Hubei Province.

Shenyang Liansheng plans to build capacity for acetochlor & butachlor

Summary: Shenyang Liansheng has revealed its plan to launch a 8,000 t/a acetochlor TC, 2,000 t/a butachlor TC and 700 t/a tebuconazole TC project. Meanwhile, the company intends to slash its existing flutriafol TC capacity.

In late March, Shenyang Liansheng Chemical Industry Co., Ltd. (Shenyang Liansheng) revealed that it had planned to launch an acetochlor TC (methylene method), butachlor TC (methylene method) and tebuconazole TC project. According to the company's investment proposal, designed production capacity for the three products is 8,000 t/a, 2,000 t/a and 700 t/a, respectively. Both acetochlor and butachlor are amide herbicides, while tebuconazole is a triazole fungicide. Besides, along with this project, Shenyang Liansheng has decided to cut its flutriafol TC capacity from 1,200 t/a to 500 t/a, in response to changes in the market.

Shenyang Liansheng, established in 2014, has set up its production plant in the Chemical Industrial Park of Shenyang Economic and Technological Development Zone, Shenyang City, Liaoning Province. To its southwest stands the plant of Shenyang Sciencreat Chemicals Co., Ltd. At present, Shenyang Liansheng has active capacity of 1,200 t/a flutriafol TC, 1,200 t/a paclobutrazol TC, 200 t/a trifloxystrobin TC and 100 t/a 2-chloro-5-(chloromethyl)pyridine (CCMP).

Making this move to construct an industrial project, Shenyang Liansheng aims for its long-term development. Acetochlor and butachlor production equipment adopting methylene method, and tebuconazole production line have not been restricted by the latest version of *Guiding Catalogue for Industrial Restructuring* as well as other relevant industrial policies. Once the lines are built up, Shenyang Liansheng will break into new markets and have new sources for profit growth. Yet it should be noted that some unknown pressures await the company, considering existing production capacity of these three products in China and potential capacity coming in the near future.

As to flutriafol, this is also a major fungicide from triazole family. It is widely applied in agricultural production across the globe, as it is of high efficacy, broad spectrum, low toxicity, etc. Although Shenyang Liansheng plans a capacity contraction for the product, it will still be a big player in this sector thereafter. Currently, active Chinese flutriafol TC producers are mainly concentrated in Jiangsu Province, including: ADAMA Huifeng (Jiangsu) Co., Ltd. (with 2,000 t/a flutriafol TC production line), Jiangsu Sevencontinent Green Chemical Co., Ltd. (500 t/a), Jiangsu Jiannong ABA Agrochemical Co., Ltd. (200 t/a), and Jiangsu Fengdeng Crop Science Co., Ltd. (50 t/a).

In addition, Jiangsu Huanghai Pesticide Chemical Co., Ltd. and Jiangsu Sword Agrochemicals Co., Ltd. once were major flutriafol TC producers in China. Previously, the former had a 500 t/a flutriafol TC line in the Yanhai Chemical Park of Binhai Economic Development Area in Yancheng City, but it closed its production plant in the park out of environmental protection and workplace safety concerns. And the latter once had a 1,000 t/a line in the same park, but the line has been dismantled.

Jiangsu Yunfan dismantles production facilities for pesticide TC & intermediates

Summary: Jiangsu Yunfan has already dismantled the production facilities for all pesticide intermediates and TC products in its existing plant. It also set about the relocation of production lines for pesticide formulations into a new plant located in the Qidong Life and Health Industrial Park in Jiangsu Province, which stands outside the 1 km-range to the banks of the Yangtze River.

On 15 April, Jiangsu Yunfan Chemical Co., Ltd. (Jiangsu Yunfan) revealed that it had worked out a new development plan for its existing

plant in the Qidong Life and Health Industrial Park (formerly known as Qidong Binjiang Fine Chemical Park), Qidong City, Jiangsu Province. Since the plant is within the 1 km-range to the banks of the Yangtze River, and there is a change to the industry positioning of the industrial park it is located in, the company has to go through rectification procedures as required by local government. Following the new plan, Jiangsu Yunfan dismantled the production facilities for all pesticide intermediates and TC products in the old plant, and set about relocating production lines for pesticide formulations into a new plant in the same park, outside the 1 km-range though. That is to say, Jiangsu Yunfan has already demolished its production lines for oxyfluorfen TC, methoxyphenone TC, clethodim TC, tebuthiuron TC and bromacil TC.

Jiangsu Yunfan, established in April 2005, is a subsidiary of Yifan Biotechnology Group Co., Ltd. (Yifan Group). Previously, it boasted production capacity in the old plant, of 1,000 t/a 4-(2,4-dichlorophenoxy)phenol, 375 t/a 1,3-bis(2-chloro-4-(trifluoromethyl)phenoxy)benzene, 300 t/a 3-hydroxy-2-propionyl-5-(2,4,6-trimethylphenyl)-2-cyclohexen-1-one, 200 t/a 97% oxyfluorfen TC, 300 t/a 96.5% methoxyphenone TC, 200 t/a 90% clethodim TC, 200 t/a 95% tebuthiuron TC, 200 t/a 95% bromacil TC and 3,500 t/a pesticide formulations.

However, as multi-tier local governments have rolled out policy documents on the development of the Qidong Life and Health Industrial Park in recent years, such documents including the *Program for Construction and Development of Qidong Life and Health Industrial Park (2022–2035)*, the industry positioning of the park has been modified. In principle, production of pesticide intermediates and technical products is no longer allowed in this park, while production of low-toxicity green pesticide formulations can continue. Jiangsu Yunfan thus keeps a foothold in the park on the condition of production capacity dismantlement and migration.

According to the company's new plan, the old plant, which is within the 1 km-range, will be re-purposed to other uses beyond the production of chemicals, and another plant, which is out of the 1 km bound but still in the same park, will be set up. Products planned in the new plant will not go against the park's positioning and industries encouraged. Basically, Jiangsu Yunfan's new plant will focus on production of pesticide formulations.

So far, Jiangsu Yunfan has already initiated the 3,500 t/a pesticide formulation production lines relocation project. It has planned to acquire the land vacated by Nantong Yinuo Chemical Co., Ltd., which is about 1.150 km away from the Yangtze River, and build the new plant there. Jiangsu Yunfan's total pesticide formulation capacity will stay the same after the relocation, and details of product structure and design capacity are: 100 t/a abamectin·*Bacillus thuringiensis* 0.1% WP, 300 t/a thiophanate-methyl 70% WP, 200 t/a cyromazine 50% WP, 200 t/a dimethomorph 50% WG, 100 t/a emamectin benzoate 5.7% WG, 300 t/a myclobutanil 20% EW, 500 t/a abamectin·chlorpyrifos 302g/L ME, 200 t/a fenpyroximate 5% SC, 300 t/a pymetrozine·fenobucarb 50% SC, 300 t/a tebuthiuron 500g/L SC, 500 t/a glyphosate ammonium 88.8% SG and 500 t/a glufosinate-ammonium 200g/L AS.

It should be noted that the dismantlement of pesticide intermediate and TC lines in Jiangsu Yunfan does not mean a termination of Yifan Group's participation in the business. In fact, another subsidiary of Yifan Group—Ningxia Yifan Biotechnology Co., Ltd. (Ningxia Yifan) has

kept expanding its production capacity for pesticide intermediates and TC products. Currently, Ningxia Yifan has already put its 3,000 t/a clethodim TC and 500 t/a bromacil TC lines into normal operation. Its 600 t/a oxyfluorfen TC line came into trial run from late Dec. 2022 and another newly-built 3,000 t/a clethodim TC line started trial production from late Jan. 2023. Other lines for pesticide intermediates and TC products planned by Ningxia Yifan will be completed and become operational in the near future.

Market analysis

Prices of organophosphorus herbicides keep falling in early April

Summary: In early April, an overall downtrend has been witnessed in herbicide prices. The prices of organophosphorus herbicides kept going down, prices of some sulfonylurea and amide herbicides slipped, and the prices of diquat TK and diuron TC did not reverse previous trend. Triazine herbicides basically had stable prices.

Compared with late March, early April witnessed continued price drop; nicosulfuron TC, acetochlor TC, glufosinate-ammonium TC, glyphosate TC and diuron TC experienced bigger price decreases, while ametryn TC, quizalofop-P-ethyl TC and diquat TK had smaller price dips. Other main herbicides like atrazine TC, bensulfuron-methyl TC, pretilachlor TC, metolachlor TC and florasulam TC reported stable price.

In early April, triazine herbicides had relatively stable price; ametryn TC price dipped slightly by 1.11% MoM to USD6,468/t (RMB44,500/t). Of sulfonylurea herbicides, nicosulfuron TC saw its ex-works price decrease by 8.49% MoM since increased capacity drove the competition fiercer and the supply outpaced the demand, and quizalofop-P-ethyl TC price slipped 3.37% MoM, while bensulfuron-methyl TC price kept stable.

Of amide herbicides, pretilachlor TC and metolachlor TC had little changes to their ex-works prices, but acetochlor TC price plummeted 12. 86% MoM to USD4,433/t (RMB30,500/t). Prices of organophosphorus herbicides were still in the downtrend—compared with the late-March level, the price of glufosinate-ammonium TC declined 6.77% to USD13,807/t (RMB95,000/t) amid stiff market competition, and that of glyphosate TC reduced 6.72% to USD5,247/t (RMB36,100/t) due to slack demand.

The ex-works price of florasulam TC stayed at USD75,576/t (RMB520,000/t). The price of diquat TK fell by 4.76% on a half-month basis to USD5,814/t (RMB40,000/t) and the price of diuron TC dwindled 6.18% on a half-month basis to USD6,395/t (RMB44,000/t).

TABLE 1: Ex-works prices of main herbicides TC in early April 2023

Category	Product	Content of active ingredient	Ex-works price in early April, RMB/t	USD/t	Change over late March (based on RMB price)
Triazine herbicides	Atrazine TC	97%	36,000	5,232.18	Basically flat
	Ametryn TC	95%	44,500	6,467.55	Down
Sulfonylurea herbicides	Nicosulfuron TC	95%	187,600	27,265.46	Down
	Quizalofop-P-ethyl TC	95%	215,000	31,247.73	Down
	Bensulfuron-methyl TC	96%	180,000	26,160.89	Basically flat
Amide herbicides	Pretilachlor TC	95%	33,800	4,912.43	Basically flat
	Acetochlor TC	92%	30,500	4,432.82	Down
	Metolachlor TC	97%	55,000	7,993.61	Basically flat
Organophosphorus herbicides	Glufosinate-ammonium TC	95%	95,000	13,807.14	Down
	Glyphosate TC	95%	36,100	5,246.71	Down
Triazolo[1,5-a]pyrimidine-2-sulfonanilide herbicides	Florasulam TC	98%	520,000	75,575.90	Basically flat
Bipyridinium herbicides	Diquat TK	40%	40,000	5,813.53	Down
Substituted phenylurea herbicides	Diuron TC	97%	44,000	6,394.88	Down

Source:CCM

Herbicides TC prices fall continuously amid slack demand in late April

Summary: In late April, overall demand for herbicides did not recover. Main herbicides TC saw their prices keep going down, except atrazine TC, ametryn TC, nicosulfuron TC, pretilachlor TC and diquat TK had stable price in this period.

In late April, overall demand for herbicides kept small; the market has come into an off-season since March. The number of orders declined, as many traders, sensing overcapacity in the industry, have held a wait-and-see attitude towards pesticides and lowered their

expectations. Of the 13 main herbicides TC investigated by CCM, atrazine TC, ametryn TC, nicosulfuron TC, pretilachlor TC and diquat TK had little change to their prices from the early-April level, other eight products saw their prices slip further. Organophosphorus herbicides, in particular, experienced the biggest price drops.

In late April, triazine herbicides atrazine TC and ametryn TC had stable price. Of sulfonylurea herbicides, nicosulfuron TC saw its ex-works price stayed at USD27,265/t (RMB187,600/t), though its supply actually surpassed the demand in the market. Compared with the prices recorded in early April, quizalofop-P-ethyl TC price slipped 2.33% and bensulfuron-methyl TC price decreased by 2.78%.

Of amide herbicides, pretilachlor TC had little change to its ex-works prices, acetochlor TC price went down by 1.64% from early April, but metolachlor TC price dived 9.09% to USD7,267/t (RMB50,000/t). Prices of organophosphorus herbicides were still in the downtrend, encouraged by lowering costs and sluggish demand—compared with the early-April level, the price of glufosinate-ammonium TC declined 8.42% to USD12,644/t (RMB87,000/t), and that of glyphosate TC plunged 13.02% to USD4,564/t (RMB31,400/t).

The ex-works price of diquat TK remained stable, though there was ample supply. The price of florasulam TC reduced 2.40% on a half-month basis and the price of diuron TC dwindled 3.41% to USD6,177/t (RMB42,500/t)

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TABLE 2: Ex-works prices of main herbicides TC in late April 2023

Category	Product	Specifications	Ex-works price in late April, RMB/t	USD/t	Change over early April (based on RMB price)
Triazine herbicides	Atrazine TC	97%	36,000	5,232.18	Basically flat
	Ametryn TC	95%	44,500	6,467.55	Basically flat
Sulfonylurea herbicides	Nicosulfuron TC	95%	187,600	27,265.46	Basically flat
	Quizalofop-P-ethyl TC	95%	210,000	30,521.04	Down
	Bensulfuron-methyl TC	96%	175,000	25,434.20	Down
Amide herbicides	Pretilachlor TC	95%	33,800	4,912.43	Basically flat
	Acetochlor TC	92%	30,000	4,360.15	Down
	Metolachlor TC	97%	50,000	7,266.91	Down
Organophosphorus herbicides	Glufosinate-ammonium TC	95%	87,000	12,644.43	Down
	Glyphosate TC	95%	31,400	4,563.62	Down
Triazolo[1,5-a]pyrimidine-2-sulfonanilide herbicides	Florasulam TC	98%	507,500	73,759.17	Down
Bipyridinium herbicides	Diquat TK	40%	40,000	5,813.53	Basically flat
Substituted phenylurea herbicides	Diuron TC	97%	42,500	6,176.88	Down

Source:CCM

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Policy

Guizhou issues work plan for pesticide regulation & chemical pesticide reduction in 2023

Summary: On 7 April, Guizhou Provincial Department of Agriculture and Rural Affairs issued the *Work Plan for Pesticide Regulation and Chemical Pesticide Usage Reduction & Efficacy Enhancement in Guizhou Province in 2023*. The Plan aims to promote green control and large-scale control, and strengthen guidance on how to use pesticides in a scientific and safe way; it sets a 1% reduction in chemical pesticide use as the goal of this year.

On 7 April, the notice by the Guizhou Provincial Department of Agriculture and Rural Affairs on issuing the *Work Plan for Pesticide Regulation and Chemical Pesticide Usage Reduction & Efficacy Enhancement in Guizhou Province in 2023* was released. The Plan aims to promote green control and large-scale control, and strengthen guidance on how to use pesticides in a scientific and safe way; it also sets a 1% reduction in chemical pesticide use as the goal of this year.

The work plan outlines major tasks as the following:

- **Investigate hidden dangers, and strengthen pesticide risk control**

High attention should be paid to the protection against pesticide safety risks, and pesticide-related safety risk monitoring as well as hidden danger investigation should be reinforced, so as to improve safety management in pesticide industry. As regards pesticides with restricted application, designated distribution operation, real-name purchase should be strictly followed and traceability management enhanced. Knowledge of safety risks during pesticide usage should be spread more widely and emergency response plans designed for cases like human and animal poisoning, harms to crops caused by pesticides and pesticide pollutions. Safety risks in key fields of pesticide industry should be seriously guarded against, and no efforts spared to stop safety accidents from happening.

- **Optimise management services, and improve capabilities of pesticide-related examination & approval**

First, stricter standards should be applied in examination & approval. Entry conditions for pesticide production should be satisfied; pesticide producers are urged to enter chemical industrial parks or industry clusters, and they are encouraged to build capacity for high-efficacy low-risk pesticides. As to pesticide distribution, approval of designated operation should be strictly regulated, business permit renewal be carefully reviewed, and emphases in review process be put on the changes to licensing conditions, on operators and on the implementation of electronic ledger system. Second, streamline the examination & approval services. Less document materials, fewer procedures and less time are needed for applicants to go through administrative approval process. Approval efficiency should be increased, and online, paperless approval be promoted. Third, set up corresponding withdrawal mechanisms. Production permits should not be granted to unqualified pesticide enterprises, or those fail to submit application materials in a defined period of time. Likewise, business licences should not be given to unqualified operators.

- **Do a good job on pesticide consumption survey**

Agricultural authorities at local levels should work out feasible work plans for pesticide consumption investigation and monitoring, following the spirits of policies concerning usage reduction and efficacy enhancement of pesticides in the 14th Five-Year period (2021–2025). A full-coverage investigation and monitoring network should be set up and incorporated into work routine, and sources of data be expanded.

- **Push forward with chemical pesticide reduction**

Capabilities of pests & diseases monitoring and forecasting should be strengthened, green, large-scale and professional prevention and control measures against pests & diseases be promoted. Campaigns to popularise scientific and safe pesticide use should be launched,

and relevant training sessions for millions of farmers continued, so as to lead the farmers to develop a healthier pesticide use habit. To disseminate pesticide use knowledge to a wider audience, multiple channels should be taken advantage of, such as radio, television and the internet. Moreover, technical guidance should be intensified. In regions with large pesticide consumption volume, experts should be invited to the front line at crucial times for pesticide application, and cooperation with research institutes be strengthened, to remove the bottlenecks found in agricultural production.

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Registration

22 Herbicide products approved of registration in early April

Summary: On 3 April, the Department of Agrochemical Management of MARA released a batch of products granted registration approval, which include 22 herbicide products.

On 3 April, the Department of Agrochemical Management of the Ministry of Agriculture and Rural Affairs of the People's Republic of China (MARA) released a batch of pesticide products approved of registration, which include 22 herbicide products, all of low toxicity. Popular forms of these herbicide products are OD, SL and EC. Major active ingredients include glyphosate, topramezone, glufosinate-p, fluoroglycofen-ethyl and oxadiargyl. Two registrants have two herbicide products approved—Anhui Lantian Agricultural Development Co., Ltd. and Shandong Weifang Rainbow Chemical Co., Ltd.

TABLE 3: Herbicide products approved of registration released on 3 April, 2023

No.	Active ingredient & content	Formulation	Registrant
1	10% Topramezone	OD	Bengbu Shengdan Biochemical Co., Ltd.
2	6% Benzobicyclon·18% pretilachlor	OD	Jiangsu State Farm Biochemistry Co., Ltd.
3	20% Flumetsulam	OD	Anhui Jintudi Biotechnology Co., Ltd.
4	25% Atrazine·2% topramezone	OD	Anhui Fengle Agrochemical Co., Ltd.
5	8% Tembotrione	OD	Shandong Vicome Greenland Chemical Co., Ltd.
6	30% Glyphosate	SL	Shandong Lebont Chemical Co., Ltd.
7	6% Glufosinate-ammonium·30% glyphosate	SL	Hebei Rongwei Biological Pharmaceutical Co., Ltd.
8	540g/L Glyphosate	SL	Jiangxi Huihe Chemical Co., Ltd.
9	540g/L Glyphosate	SL	Anhui Huaxing Chemical Industry Co., Ltd.
10	46% Butachlor·10% oxyfluorfen·10% prometryn	EC	Heilongjiang Punongfeng Biotechnology Development Co., Ltd.
11	10% Oxadiargyl	EC	Anhui Lantian Agricultural Development Co., Ltd.
12	19% Anilofos·12% clomazone·6% oxadiargyl	EC	Anhui Yuanjing Crop Protection Co., Ltd.
13	15% Metamifop	EC	Hunan Xinchangshan Agricultural Development Co., Ltd.
14	30% Quinclorac	SC	Anhui Lantian Agricultural Development Co., Ltd.
15	1.5% Fluoroglycofen-ethyl·14.5% glufosinate-p	SC	Sichuan Lier Crop Science Co., Ltd.
16	500g/L Diuron	SC	Shandong Weifang Rainbow Chemical Co., Ltd.
17	60% Acetochlor·3% isoxaflutole·15% prometryn	SE	Jilin Jinqiu Pesticide Co., Ltd.
18	30% Atrazine·2% topramezone·15% butachlor	SE	Qingdao Modern Agrochem Co., Ltd.
19	5% Carfentrazone-ethyl	ME	Qingdao Hansen Biologic Science Co., Ltd.
20	20% Glufosinate-ammonium·0.9% fluoroglycofen-ethyl·2.1% quizalofop-p-ethyl	ME	Shandong Guihe Biology and Technology Co., Ltd.
21	20% Bispyribac-sodium	WG	Shandong Weifang Rainbow Chemical Co., Ltd.
22	40% Glufosinate-p	TK	Jiangsu Sevencontinent Green Chemical Co., Ltd.

Note:All these registered herbicide products are of low toxicity.
Source:Department of Agrochemical Management of MARA

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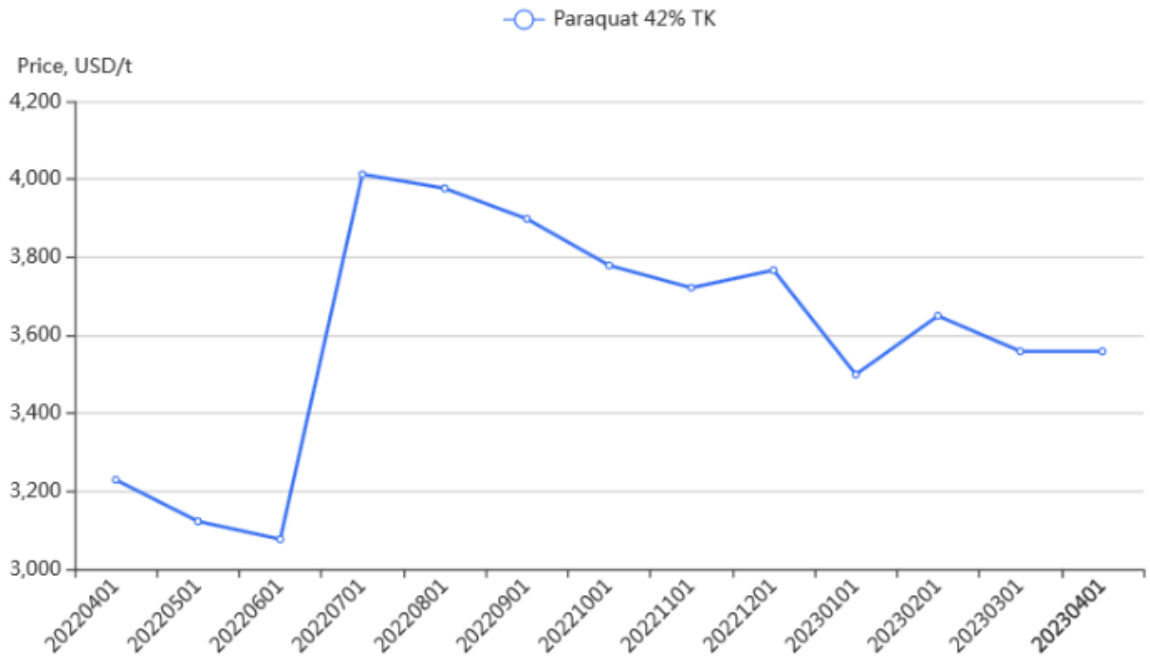
Paraquat and pyridine

Paraquat price stabilises while pyridine price dives further in China in April

Summary: In early April, the FOB price of paraquat 42% TK in China kept stable, and the ex-works price of pure pyridine in China dived 19.18% MoM.

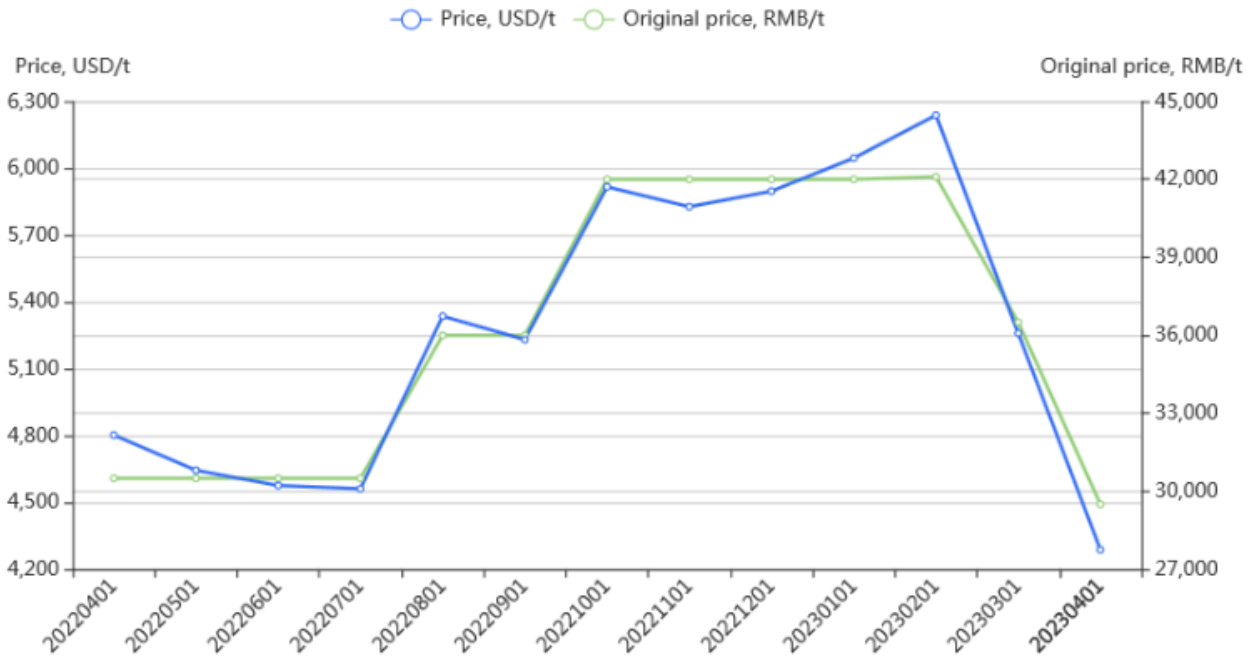
CCM's price monitoring data show that the FOB price of paraquat 42% TK in China remained stable, at USD3,559/t in April; on a yearly basis, the price rose by 10.22%. The ex-works price of pure pyridine plunged further by 19.18% MoM to USD4,287/t (RMB29,500/t), which was 3.28% lower than the price recorded in April 2022.

FIGURE 1: FOB price of paraquat 42% TK in China, April 2022–April 2023



Note:The monthly prices here are the prices recorded early each month.
Source:CCM

FIGURE 2: Ex-works price of pure pyridine in China, April 2022–April 2023



Note:The monthly prices here are the prices recorded early each month.
Source:CCM

Ratio of illegal paraquat addition in non-selective herbicide samples keep decreasing

Summary: In April, MARA published the *Notification on Results of Random Inspection on Pesticides in 2022*. The results show that the ratio of products found with illegal paraquat addition to the total non-selective herbicides sampled is on the decline. Major contributing factors include more severe crackdown on such unlawful activities by the government and narrowing gap between the prices of paraquat TK and diquat TK.

The Ministry of Agriculture and Rural Affairs of the People's Republic of China (MARA) published the *Notification on Results of Random Inspection on Pesticides in 2022* in April. The results show that the ratio of products found with illegal paraquat addition to the total non-selective herbicides sampled has kept declining since special inspection was launched in 2017; the ratio slipped from 3.8% in 2017 to 0. 8% in 2022, and specifically, the ratio of paraquat addition in diquat products sampled retreated from 19.0% in 2017 to 1.4% in 2022. In the future, all-level local agriculture and rural affairs authorities across China will strengthen their supervision and inspection on such unlawful activities, and stay alert. The authorities in places where pesticide distributors have been found selling unqualified products with paraquat addition, as well as where pesticide producers labelled on such products are located, should track down sources of these non-qualified products, in the process making good use of ledgers, logistic information, bank statement, etc. The authorities will investigate and deal with violations in accordance with the law. With cases suspected of crime, they should be referred to the judicial organs according to the law.

Some market entities take risks to produce or sell paraquat products, even under strict supervision in China, simply because the price of paraquat TK is far lower than that of diquat TK. Businesswise, such behaviours—passing paraquat products off as diquat products, can generate excess profits. Yet Chinese government has made sales and application of paraquat in China unlawful, and therefore such

counterfeit products and behaviours pose great risks to the society. This explains why government supervision should continue.

It is noteworthy that more severe government crackdown on such unlawful activities as well as narrowing gap between the prices of paraquat TK and diquat TK has brought down the ratio of illegal paraquat addition in non-selective herbicide samples. That is to say, profit margins from such acts are getting narrower, while legal risks that these violators are exposed to are growing bigger. Rational minds weighing the pros and cons know they should no longer take the risks. Moreover, diquat TK capacity in China has been expanding, and growing supply will further reduce the price gap between the two products, which will gradually make illegal paraquat addition economically unwise or even unviable.

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TABLE 4: List of products sampled with illegal addition of paraquat, released in April 2023

No.	Name of products sampled	Registration code labelled	Pesticide business operators sampled and their location	Pesticide producers labelled and their location	Production date/lot number	Quality test result					Final result	Note
						Active ingredient registered			Active ingredient unregistered			
						Active ingredient	Content	Test result	Active ingredient found out	Content		
1	Diquat 200g/L AS	PD20170069	Anyang County Xincun Town Xinnongcun Agricultural Materials & Services Centre (Henan Province)	Shandong Donghe Biological Technology Co., Ltd. (Shandong Province)	2022/4/18	Diquat dibromide	18.4%±1.1%	Not found	Paraquat	8.1%	Unqualified product	According to the labelled pesticide producer, it is a fake product.
2	Diquat 250g/L AS	PD20156378	Hezhou City Babu District Ningrongjie Agricultural Materials Centre (Guangxi Zhuang Autonomous Region)	Tianjin Xingnong Chemical Co., Ltd. (Tianjin Municipality)	2021/10/8	Diquat dibromide	250g/L±15g/L	Not found	Paraquat cation	60g/L	Unqualified product	The registration code labelled is fabricated.

3	Diquat 250g/L AS	PD20171690	Meishan City Dongpo District Yunyun Agro-tech Services Wansheng Sunguangli Outlet (Sichuan Province)	Shanxi Huihua Biochemistry Co., Ltd. (Shanxi Province)	2021.02.26	Diquat dibromide	250g/L±12g/L	Not found	Paraquat cation	3.6%	Unqualified product	The registration code labelled is used illegally.
4	Diquat 200g/L AS	PD20181257	Yibin City Nanxi District Xiewang Agricultural Materials Centre (Sichuan Province)	Shandong Harvest Mission Co., Ltd. (Shandong Province)	20211001	Diquat dibromide	200g/L±12g/L	Not found	Paraquat cation	8.1%	Unqualified product	According to the labelled pesticide producer, it is a fake product.
5	Glufosinate - ammonium 200g/L AS	PD20198584	Mouding County Taoju Village Xiwen Agricultural Materials Centre (Yunnan Province)	Guangdong Yingjingnong Biotechnology Co., Ltd. (Guangdong Province)	2021/10/8	Glufosinate-ammonium	200g/L±12g/L	Not found	Paraquat	6%	Unqualified product	The registration code labelled is fabricated.

Source:Ministry of Agriculture and Rural Affairs of the People's Republic of China

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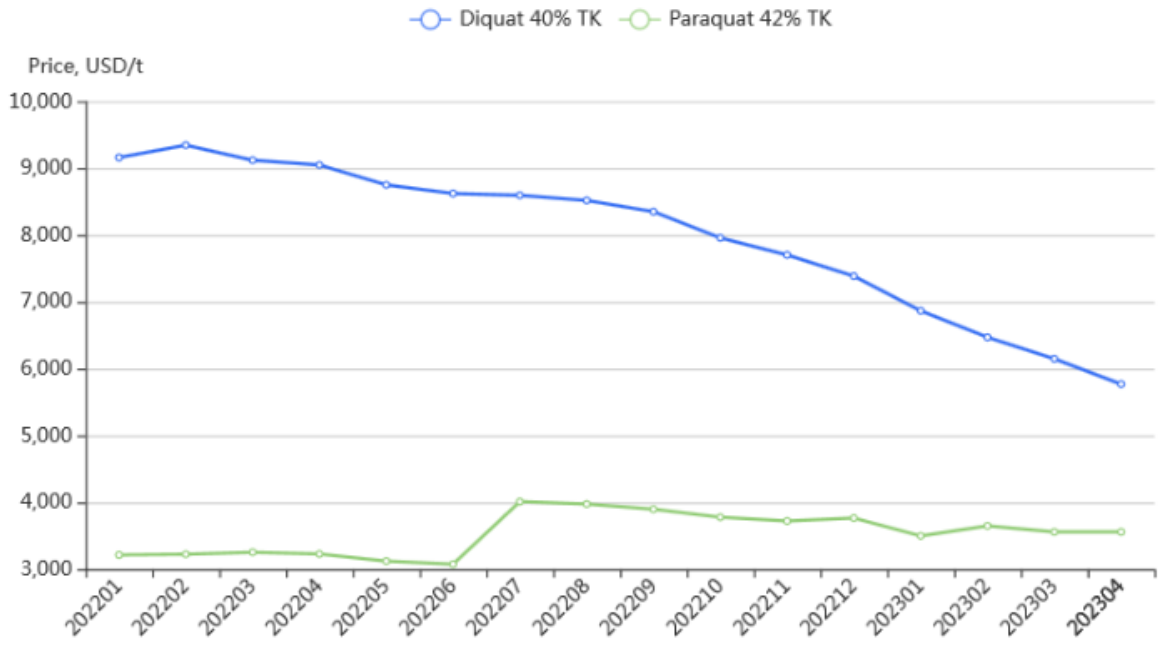
FIGURE 3: FOB prices of paraquat TK and diquat TK in China, Jan. 2022–April 2023



Source:CCM

Import and Export

China's herbicide formulation export sees over 10% drop YoY in Jan.–Feb. 2023

Summary: In Jan.–Feb. 2023, China's herbicide formulations were mainly exported to Australia, Thailand, Nigeria, Ghana, the US, etc., with an export volume of over 200,000 tonnes. The volume contracted by about 12% YoY.

According to the import and export data from China Customs and Tranalysis, in Jan.–Feb. 2023, China altogether exported 203,802.94 tonnes (actual volume, the same hereafter) of herbicide formulations with a total export value of USD810.35 million. Major export destinations were Australia, Thailand, Nigeria, Ghana, the US, etc. Compared with the volume of herbicide formulations exported from China in the same period last year, this year's figure saw a 12.07% YoY decrease.

During Jan.–Feb. 2023, the average export price of China's herbicide formulations plunged 30.51% YoY to USD3.98/kg. It is worth noting that in general, ex-works prices of herbicide formulations as well as herbicides TC in China kept falling in this period, since this is usually a slack season for herbicide trade, and markets both at home and abroad were sluggish.

Herbicide formulations from China were exported to at least 123 countries or regions in Jan.–Feb. 2023. Of major destinations, Brazil had the volume of herbicide formulations exported from China tumbled to 6,316.50 tonnes from 31,442.39 tonnes achieved in the same period last year, its position in the top 10 destination list dropping to the tenth from the first place.

TABLE 5: Jan. and Feb. exports of herbicide formulations from China, 2023 vs 2022

Month	2023		2022	
	Volume, kg	Average price, USD/kg	Volume, kg	Average price, USD/kg
Jan.	109,966,242	4.16	145,107,333	5.71
Feb.	93,836,699	3.76	86,666,285	5.74
Total	**203,802,941**	**3.98**	**231,773,618**	**5.72**

Note:1. The data sourced from Tranalysis were updated to 1 April, 2023.
2. All the data here are calculated by actual volume.
Source:China Customs & Tranalysis

TABLE 6: Top 10 destinations of herbicide formulations exported from China, Jan.–Feb. 2023 vs Jan.–Feb. 2022

No.	Jan.–Feb. 2023			Jan.–Feb. 2022		
	Destination	Volume, tonne	Share	Destination	Volume, tonne	Share
1	Australia	21,997	10.79%	Brazil	31,442	13.57%
2	Thailand	14,221	6.98%	Australia	30,606	13.20%
3	Nigeria	14,124	6.93%	Nigeria	27,975	12.07%
4	Ghana	12,156	5.96%	The US	27,184	11.73%
5	The US	12,030	5.90%	Ukraine	14,581	6.29%
6	Indonesia	9,608	4.71%	Indonesia	9,461	4.08%
7	Canada	8,318	4.08%	Russia	8,703	3.75%
8	Cameroon	6,573	3.23%	Ghana	8,536	3.68%
9	Russia	6,569	3.22%	Canada	5,887	2.54%
10	Brazil	6,317	3.10%	Cameroon	5,713	2.46%

Note:1. The data sourced from Tranalysis were updated to 1 April, 2023.
2. All the data here are calculated by actual volume.
Source:China Customs & Tranalysis

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Brief news

Hainan to advance forestry protection & construction in 2023

On 4 April, Hainan provincial ecological and environmental protection supervision and rectification leading group meeting, and 2023 provincial-level forest chief meeting were held. The two meetings called for specialised rectifications which follow key instructions pointed out by Xi Jinping, rectifications which follow instructions from the central government and province-level routine environmental inspections, and outlined major tasks in this year's forest chief scheme.

Governments at all levels in Hainan Province are urged to:

- Reinforce the protection of forest resources and strengthen the regulation on the use of forest land. Ramp up the prevention and control of forest disasters, and stay vigilant on forest fires and invasions of exotic species into local ecosystem.
- Increase efforts put into forestry-related industries. Step up the cultivation of superior seed varieties and technological supports so as to raise the quality and efficiency of related industries. Scale up the survey of carbon pools across the province and the development of carbon sinks, as well as explore value realisation mechanisms for such ecological products.
- Expand achievements made in the reforms of state-owned farms and collective forest right system. Advance digitalisation in the forestry sector.
- Hold a systemic view on the forestry construction work. Related parties should bear their due responsibilities. Improve the review mechanism for forestry chiefs and promote coordination of the forestry chief scheme with other administrative systems. Social forces should be encouraged to participate in the forestry construction cause, public awareness of eco-environmental protection aroused and a sound social atmosphere for forestry protection fostered.

Guang'an Lier starts construction of green crop protection project

On 29 March, Guang'an Lier Chemical Co., Ltd. (Guang'an Lier) started the construction of the green crop protection project, which plans to build production lines for 78,000 t/a pesticides TC and 95,700 t/a fine chemical intermediates, along with relevant supporting utilities and environmental treatment facilities, in the Xinqiao Industrial Park of Guang'an Economic and Technological Development Zone, Guang'an City, Sichuan Province.

Specifically, planned lines for pesticides TC include 30,000 t/a L-glufosinate (L-homoserine route), 10,000 t/a L-glufosinate (enzyme route), 2,000 t/a thiabendazole, 5,000 t/a chlorantraniliprole, 1,000 t/a cyantraniliprole, 2,000 t/a pinoxaden, 10,000 t/a triclopyr-butotyl, 2,000 t/a flumioxazin, 5,000 t/a fluroxypyr-meptyl, 1,000 t/a clodinafop-propargyl, 3,000 t/a clopyralid, 5,000 t/a picloram and 2,000 t/a aminopyralid. Meanwhile, by-product salts produced in the project would be recycled via a comprehensive utilisation project.

Zhejiang approves expansion of two chemical parks

On 6 April, the Economy and Information Technology Department of Zhejiang Province, in collaboration with other five departments, jointly released the review result regarding chemical industrial park expansion and accreditation for the year 2022. Two chemical parks are on the second-batch list of parks that are approved of expansion and two cultivation parks are recognised as chemical industrial parks.

The nod was given to the expansions of Wuyi Economic Development Zone New Material Industrial Park and of Rui'an Economic Development Zone Chemical Industrial Park. And Jiaxing Nanhu High-tech Zone Chemical Industrial Park and Zhejiang Nanxun

Economic Development Zone Hefu Chemical Industrial Park have been cultivated into accredited chemical parks.

Previously on 17 Jan., 2023, Zhejiang released the first-batch list of approved expansion in chemical industrial parks. Three parks were on the list, including Sanmen County Coastal Industrial City Chemical Industry Cluster, Zhejiang Xianju Economic Development Zone and Suichang County Chemical Industrial Park.

EI report of Weifang Nuchlor's haloxyfop-R-methyl line transformation project accepted

On 31 March, acceptance of the environmental impact (EI) report of the 3,000 t/a haloxyfop-R-methyl TC technological transformation project of Weifang Nuchlor Chemical Co., Ltd. (Weifang Nuchlor) was announced by local government.

The company plans to carry out technology upgrade on its existing 3,000 t/a haloxyfop-R-methyl TC line in the Weifang Binhai Chemical Industrial Park, Weifang City, Shandong Province. Once the upgrade done, conditions for reaction will be improved and reaction time slashed, and thus Weifang Nuchlor can maintain haloxyfop-R-methyl TC capacity at the same level while use the time saved to produce fluazifop-P-butyl TC with capacity of 500 t/a. Haloxyfop-R-methyl and fluazifop-P-butyl, both are high-efficacy, low-toxicity and safe pesticides.

EI report of Gansu Liankai's 4.2kt/a pesticide and intermediate project approved

On 3 April, the Ecology and Environment Bureau of Jinchang City approved environmental impact (EI) report of the 4,200 t/a pesticide and intermediate production line construction project of Gansu Liankai Biotechnology Co., Ltd. (Gansu Liankai). The project is planned to be constructed in the Jinchang Economic and Technological Development Zone Hexipu Industrial Park. It will build production lines of 800 t/a fenoxaprop-P-ethyl, 500 t/a isoxaflutole, 500 t/a prothioconazole, 600 t/a 2,3,6-trichloropyridine, 800 t/a pentachloropyridine and 1,000 t/a (R)-(+)-2-(4-hydroxy phenoxy)propionic acid.

Founded in Oct. 2018 and located in No.3 Chuanghe Road, Hexipu Circular Economy Chemical Industrial Park, Yongchang County, Jinchang City, Gansu Province, Gansu Liankai mainly engages in R&D, production and sale of pesticide and pharmaceutical intermediates. It has teamed up with scientific research institutes like Beijing University of Chemical Technology, Guangxi University and Shenyang Research Institute of Chemical Industry, to foster cooperation and integration of industry, education, research and application.

Inner Mongolia Zhonggao to build two herbicide-related projects

On 10 April, official website of Alxa League Administrative Office revealed that energy conservation report of the 30,000 t/a high-efficacy herbicide project of Inner Mongolia Zhonggao Chemical Co., Ltd. (Inner Mongolia Zhonggao) had recently passed expert review. The company has planned to build 15,000 t/a S-metolachlor and 15,000 t/a metolachlor production capacity at three phases, with 5,000 t/a lines for both products at each phase, in the Bayin Aobao Industrial Park, Alxa Left Banner Economic and Technological Development Zone, Alxa League, Inner Mongolia Autonomous Region.

Days before, energy conservation report of the company's 20,000 t/a capacity construction project also passed expert review, planned

products covering 2-methyl-6-ethylaniline (MEA) and some other intermediates. MEA is an intermediate for the production of acetochlor, metolachlor, propisochlor, etc. Construction of the main structure of this intermediate project completed in mid-April, and trial operation is expected to kick start in late May.

SZSE resumes review on CAC Nantong's IPO

On 6 April, the Shenzhen Stock Exchange (SZSE) resumed the review of CAC Nantong Chemical Co., Ltd. (CAC Nantong)'s IPO in accordance with the Article 61 of the *Rules for the Examination of the Issuance and Listing of Stocks on Shenzhen Stock Exchange*, after the company updated its financial information. With Everbright Securities Co., Ltd. serving as the sponsor, CAC Nantong plans to raise funds of USD255 million (RMB1.75 billion).

Engaging in R&D, production and sale of pesticides and functional chemicals, CAC Nantong boasts a leading position in chlorothalonil, azoxystrobin and 2,4-D businesses, supported by its production scale and comprehensive technology. The company has production bases in Jiangsu and Jiangxi provinces. The company has been focusing on pesticide-related business since its foundation; most of its revenue comes from this sector. After long-term exploration and practices, it has developed diverse applications of certain products, and some representative products, such as 1,1,2,3-tetrachloropropene, 1,4-BAC and carbonyl sulfide (COS), have been launched into the market. In particular, CAC Nantong has achieved large-scale, continuous COS production; the equipment adopts leading technology in China. COS is a common intermediate for the production of thiocarbamate herbicides including prosulfocarb, thiobencarb, triallate and EPTC.

Anhui Jiuyi plans to add capacity for pyroxasulfone and tembotrione

On 11 April, the Ecology and Environment Bureau of Hefei City publicised some brief information of the 1,200 t/a intelligent pesticide TC synthesis technological transformation project of Anhui Jiuyi Agriculture Co., Ltd. (Anhui Jiuyi). The company plans to transform its No.2 and No.4 workshops in the Hefei Circular Economy Demonstration Park in Anhui Province. It will cancel the 1,000 t/a prothioconazole TC line in the No.4 workshop and replace it with 600 t/a production capacity for pyroxasulfone TC, a novel herbicide. At the same time, Anhui Jiuyi will expand tembotrione TC capacity in the No.2 workshop to 600 t/a from the previous 200 t/a.

Anhui Jiuyi obtained the first pesticide registrations for tembotrione TC and formulation products in China on 30 Dec., 2021. Tembotrione products can effectively resolve problems caused by long-term use of traditional herbicides in maize fields, such as changes in prevalent weed species, weakening prevention and control effects, and pesticide resistance.

EI report of Jinan Tianbang's 5kt/a herbicide formulation project accepted

On 6 April, the Ecology and Environment Bureau of Jinan City accepted the environmental impact (EI) report of the product inspection centre and 5,000 t/a herbicide formulation workshop construction project of Jinan Tianbang Chemical Co., Ltd. (Jinan Tianbang). The company plans to set up 5,000 t/a mixing and subpackaging lines in its existing plant in the Shanghe Economic Development Zone, Jinan City, Shandong Province, to produce herbicide formulation products, using materials including tribenuron-methyl, mefenacet, tristyrylphenol ethoxylates, pyrazosulfuron-ethyl and mefenpyr-diethyl.

Founded in Jan. 2002, Jinan Tianbang is a high-tech enterprise engaging in R&D, production and sale of new environment-friendly pesticides and offering crop protection technology and services. It can produce over 1,000 chemical and biological pesticide formulations, ranging from herbicides to insecticides, from fungicides to plant growth regulators. These products are sold across China.

Inner Mongolia Miraculous completes main structure of 50kt/a glufosinate-ammonium project

On 18 April, Alxa League Administrative Office revealed that Inner Mongolia Miraculous Crop Science Co., Ltd. (Inner Mongolia Miraculous)'s 50,000 t/a glufosinate-ammonium project and 50,000 t/a methyldiethoxyphosphine project had finished the construction of main structures, and trial operation was scheduled to start in late May. Methyldiethoxyphosphine is an important intermediate for the production of glufosinate-ammonium. Once the lines come into normal production, some USD1.45 billion (RMB10 billion) annual output value may be generated, and Inner Mongolia Miraculous will become the world largest glufosinate-ammonium supplier, supported with self-produced raw materials.

Founded in 2017, Inner Mongolia Miraculous, a high-tech enterprise integrating scientific research, product development, production and sales activities, mainly engages in R&D, production and promotion of high-end pharmaceutical intermediates, agrochemicals and high-efficiency & low-toxicity pesticides, feed additives and other fine chemicals. The company boasts tight upstream-downstream connection between its products and considerable potential to improve as well as supplement the industrial chain. Moreover, to date, Inner Mongolia Miraculous has fostered stable upstream and downstream relations with more than 20 enterprises in the same chemical industrial park.

Price update

Ex-works prices of key herbicide raw materials in China, 8 April, 2023

TABLE 7: Ex-works prices of key herbicide raw materials in China, 8 April, 2023

Raw Materials	20230308		20230408	
	Original Price (RMB/t)	Price (USD/t)	Original Price (RMB/t)	Price (USD/t)
98% Glycine	13,000	1,873.2	12,850	1,867.6
92% Iminodiacetonitrile	9,300	1,340.06	9,300	1,351.65
99% Isopropylamine	9,550	1,376.08	9,550	1,387.98
98% N-(Phosphonmethyl) Iminodiacetic acid	25,000	3,602.31	21,000	3,052.1
99% Phosphorus trichloride	7,690	1,108.07	6,938	1,008.36
99.9% Pyridine	36,500	5,259.37	29,500	4,287.48

Note:Ex-works price includes VAT.
Source:CCM

Ex-works prices of main herbicides in China, 8 April, 2023

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TABLE 8: Ex-works prices of main herbicides in China, 8 April, 2023

Product	20230308		20230408	
	Original Price (RMB/t)	Price (USD/t)	Original Price (RMB/t)	Price (USD/t)
98% 2,4-D technical	19,380	2,792.51	17,400	2,528.89
92% Acetochlor technical	35,000	5,043.23	30,500	4,432.82
97% Atrazine technical	36,000	5,187.32	36,000	5,232.18
96% Bensulfuron-methyl technical	183,000	26,368.88	180,000	26,160.89
92% Butachlor technical	26,000	3,746.4	26,000	3,778.8
95% Clomazone technical	113,000	16,282.42	113,000	16,423.23
95% Cyhalofop-butyl technical	165,000	23,775.22	150,000	21,800.74
97% Diuron technical	48,000	6,916.43	44,000	6,394.88
98% Fenclorim technical	119,000	17,146.97	118,000	17,149.92
95% Fenoxaprop-P-ethyl technical	172,000	24,783.86	172,000	24,998.18
96% Fluroxypyr technical	155,000	22,334.29	145,000	21,074.05
95% Fomesafen technical	135,000	19,452.45	135,000	19,620.67
95% Glufosinate ammonium technical	130,700	18,832.85	95,000	13,807.14
95% Glyphosate technical	41,700	6,008.65	36,100	5,246.71
95% Haloxyfop-P-methyl technical	176,000	25,360.23	164,000	23,835.48
97% Metolachlor technical	56,400	8,126.8	55,000	7,993.61
95% Metsulfuron-methyl technical	135,000	19,452.45	135,000	19,620.67
95% Nicosulfuron technical	205,000	29,538.9	187,600	27,265.46
97% Oxyfluorfen technical	185,000	26,657.06	170,000	24,707.51
95% Pendimethalin technical	63,500	9,149.86	61,500	8,938.3
95% Pretilachlor technical	33,800	4,870.32	33,800	4,912.43
97% Pyrazosulfuron-ethyl technical	255,000	36,743.52	235,000	34,154.49

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80% Quinclorac technical	149,000	21,469.74	149,700	21,757.14
95% Quizalofop-P-ethyl technical	222,500	32,060.52	215,000	31,247.73
95% Tribenuron-methyl technical	135,000	19,452.45	117,500	17,077.25
95% Trifluralin technical	42,000	6,051.87	40,500	5,886.2

Note:Ex-works price includes VAT.
Source:CCM

Shanghai port prices of main herbicides in China, 8 April, 2023

TABLE 9: Shanghai port prices of main herbicides in China, 8 April, 2023

Product	20230308		20230408	
	Original Price (RMB/t)	Price (USD/t)	Original Price (RMB/t)	Price (USD/t)
98% 2,4-D technical	19,880	2,864.55	17,900	2,601.56
92% Acetochlor technical	35,500	5,115.27	31,000	4,505.49
97% Atrazine technical	36,500	5,259.37	36,500	5,304.85
96% Bensulfuron-methyl technical	183,500	26,440.92	180,500	26,233.56
92% Butachlor technical	26,500	3,818.44	26,500	3,851.46
95% Clomazone technical	113,500	16,354.47	113,500	16,495.89
95% Cyhalofop-butyl technical	165,500	23,847.26	150,500	21,873.41
97% Diuron technical	48,500	6,988.47	44,500	6,467.55
98% Fenclorim technical	119,500	17,219.02	118,500	17,222.59
95% Fenoxaprop-P-ethyl technical	172,500	24,855.91	172,500	25,070.85
96% Fluroxypyr technical	155,500	22,406.34	145,500	21,146.72
95% Fomesafen technical	135,500	19,524.5	135,500	19,693.34
95% Glufosinate ammonium technical	131,200	18,904.9	95,500	13,879.81
95% Glyphosate technical	42,200	6,080.69	36,600	5,319.38
95% Haloxyfop-P-methyl technical	176,500	25,432.28	164,500	23,908.15
97% Metolachlor technical	56,900	8,198.85	55,500	8,066.27
95% Metsulfuron-methyl technical	135,500	19,524.5	135,500	19,693.34
95% Nicosulfuron technical	205,500	29,610.95	188,100	27,338.13
97% Oxyfluorfen technical	185,500	26,729.11	170,500	24,780.18
95% Pendimethalin technical	64,000	9,221.9	62,000	9,010.97
95% Pretilachlor technical	34,300	4,942.36	34,300	4,985.1
97% Pyrazosulfuron-ethyl technical	255,500	36,815.56	235,500	34,227.16

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80% Quinclorac technical	149,500	21,541.79	150,200	21,829.81
95% Quizalofop-P-ethyl technical	223,000	32,132.56	215,500	31,320.4
95% Tribenuron-methyl technical	135,500	19,524.5	118,000	17,149.92
95% Trifluralin technical	42,500	6,123.92	41,000	5,958.87

Note:Port price equals the ex-works price plus the transport fee from the factory to the port, and the ex-works price includes VAT.
Source:CCM

FOB Shanghai prices of main herbicides in China, 8 April, 2023

TABLE 10: FOB Shanghai prices of main herbicides in China, 8 April, 2023, USD/t

Product	20230308	20230408
98% 2,4-D technical	2,844.35	2,575.83
92% Acetochlor technical	5,031.7	4,422.69
97% Atrazine technical	5,023.08	5,066.52
96% Bensulfuron-methyl technical	25,788.71	25,585.29
92% Butachlor technical	3,796.02	3,828.85
95% Clomazone technical	15,987.02	16,125.27
95% Cyhalofop-butyl technical	22,446.43	20,582.3
97% Diuron technical	6,872.69	6,354.45
98% Fenclorim technical	16,820.45	16,823.33
95% Fenoxaprop-P-ethyl technical	24,247.69	24,457.37
96% Fluroxypyr technical	21,856.43	20,623.15
95% Fomesafen technical	19,065.4	19,230.27
95% Glufosinate ammonium technical	17,780.29	13,035.46
95% Glyphosate technical	6,501.86	5,677.38
95% Haloxyfop-P-methyl technical	24,805.23	23,313.85
97% Metolachlor technical	8,078.6	7,946.19
95% Metsulfuron-methyl technical	19,069.8	19,234.71
95% Nicosulfuron technical	28,859.15	26,638.02
97% Oxyfluorfen technical	25,140.29	23,301.67
Paraquat 42% TK	3,559	3,558.86
95% Pendimethalin technical	9,050.76	8,841.5
95% Pretilachlor technical	4,888.11	4,930.38
97% Pyrazosulfuron-ethyl technical	35,884.96	33,356.44

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80% Quinclorac technical	21,033.54	21,315.1
95% Quizalofop-P-ethyl technical	31,322.73	30,528.65
95% Tribenuron-methyl technical	19,059.27	16,732.07
95% Trifluralin technical	5,845.79	5,685.76

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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