

Herbicides China Monthly Report 202306

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Contents

Headline	1
Editor's note	3
Market analysis	4
2,4-D TC price keep falling in H1 2023	4
Prices of many herbicides fall continuously in June	5
Company and supply	7
Jiangsu Lanfeng to temporarily suspend some production equipment	7
Zhangye Dagong's butralin & intermediate project breaks ground	7
Gansu Yinglong plans to build capacity for amicarbazone TC & penoxsulam TC	9
Policy	10
China pushes forward "three summers" agricultural work	10
Registration	12
24 Herbicides TC approved of registration renewal in June	12
Paraquat and pyridine	16
Pyridine price still on the decline in China in early June	16
Anhui Red Sun 10kt/a diquat lines pass environmental protection acceptance check	17
Trade analysis	19
Exports of many herbicides TC from China plunge YoY in Q1 2023	19
Brief news	22
Lianhe Technology increases RMB500 million capital to Dezhou Lianhe	22
Jilin Zhongran plans to build 500 t/a capacity for herbicide intermediate	22
Iron chlorine e6 products launched in Anhui	22
ADBC issues RMB110 billion in loans to support summer grain purchase	23
Guideline on Available Techniques of Pollution Prevention and Control for Pesticide Industry takes effect	23
Tianmen Chutian plans to build 300 t/a pyrazosulfuron-ethyl capacity	23
Jiangsu Pesticide Research Institute to construct new herbicide formulation production lines	24
Shanxian Runjin plans to build capacity for PMIDA & bentazone	24
Jiangsu Yangnong's large-scale fine chemical project breaks ground in Huludao	24
Liaoning Cynda puts 1,000 t/a imazapyr lines into trial production	25
Price update	26
Ex-works prices of key herbicide raw materials in China, 8 June, 2023	26
Ex-works prices of main herbicides in China, 8 June, 2023	26
Shanghai port prices of main herbicides in China, 8 June, 2023	28
FOB Shanghai prices of main herbicides in China, 8 June, 2023	30





Headline

In China, the ex-works price of 2,4-D TC in June was more than 40% lower from the Jan. price this year. In the first half of 2023, monthly price of 2,4-D TC decreased continuously due to slack market demand and drops in raw material prices.

In June, market demand has not improved and prices of some herbicides have been set lower. In general, triazine herbicides, amide herbicides and nicosulfuron TC had stable price, while organophosphorus herbicides experienced obvious price fall.

On 31 May, Jiangsu Lanfeng announced that it would recently overhaul its 400kt/a sulphur-based sulphuric acid and cogeneration facilities. Considering the reduced steam supply and market dynamics, the company would temporarily suspend production lines for products including carbosulfan, hexazinone and thiophanate-methyl.

On 21 June, Zhangye Dagong's 2,000 t/a butralin TC and 9,000 t/a chemical intermediate project broke ground in the chemical industry cluster of Circular Economy Demonstration Park in Zhangye Economic and Technological Development Zone, Gansu Province. Construction of the project is expected to be finished in Sept. 2024.

On 25 June, the EI report of Gansu Yinglong's 800 t/a amicarbazone TC, 150 t/a penoxsulam TC and 1,000 t/a dinotefuran TC project was published by local authorities.

In China, May and June are two critical months for farmers to carry out "three summers" agricultural production tasks. To facilitate good performances of these tasks this year, MARA and other government agencies have rolled out related measures and opinion documents.

On 21 June, 2023, the Department of Agrochemical Management of MARA released a batch of products approved of registration renewal, which include 232 herbicide products, of which 24 are TC products.

In early June, the FOB price of paraquat 42% TK in China stabilised, while the ex-works price of pure pyridine in China dived 20.83% MoM.

In late May, it was announced that Anhui Red Sun's 10,000 t/a diquat lines had passed environmental protection acceptance check. These lines are the content of phase I program of its 5,000 t/a 2,2'-dipyridyl and 10,000 t/a diquat project.

In Q1 2023, China exported almost 70,000 tonnes (100% AI volume) of herbicide TC products, mainly to destinations such as the US, Russia, Brazil, etc. Top three herbicides TC exported were glyphosate, glufosinate-ammonium and 2,4-D.







Editor's note

In June, market demand has not improved and prices of some herbicides have been set lower again. In general, triazine herbicides, amide herbicides and some sulfonylurea herbicides had stable price, while organophosphorus herbicides experienced obvious price fall.

As high temperature season approaches, China's peak electricity consumption summer period is around the corner. Many local governments have rolled out policies and measures concerning industrial power consumption. Some pesticide enterprises thus have put maintenance on their agenda. For instance, Jiangsu Lanfeng has planned to overhaul its sulphur-based sulphuric acid and cogeneration facilities, and due to reduced steam supply from the overhaul, the company would temporarily suspend production lines for products including carbosulfan, hexazinone and thiophanate-methyl.

Although herbicide market has been weakening so far this year, some companies have stuck to their expansion plans. Zhangye Dagong recently broke ground for its 2,000 t/a butralin TC and 9,000 t/a chemical intermediate project in Gansu Province. Gansu Yinglong has pushed ahead with its 800 t/a amicarbazone TC, 150 t/a penoxsulam TC and 1,000 t/a dinotefuran TC project.

At the beginning of this month, the Guideline on Available Techniques of Pollution Prevention and Control for Pesticide Industry (HJ 1293—2023), issued by the Ministry of Ecology and Environment, came into force. The standard provides pesticide industry with pollution prevention techniques, pollution treatment techniques, environmental management measures and available techniques of prevention and control for reference and guidance.

It is worth noting that in late June, there were hints for the recovery of glyphosate market. Overseas orders increased for this major herbicide. It is hoped that this will become a harbinger of improvement in the herbicide market.

The USD/CNY exchange rate in this newsletter is USD1.00 = CNY7.0965 on 1 June, 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

2,4-D TC price keep falling in H1 2023

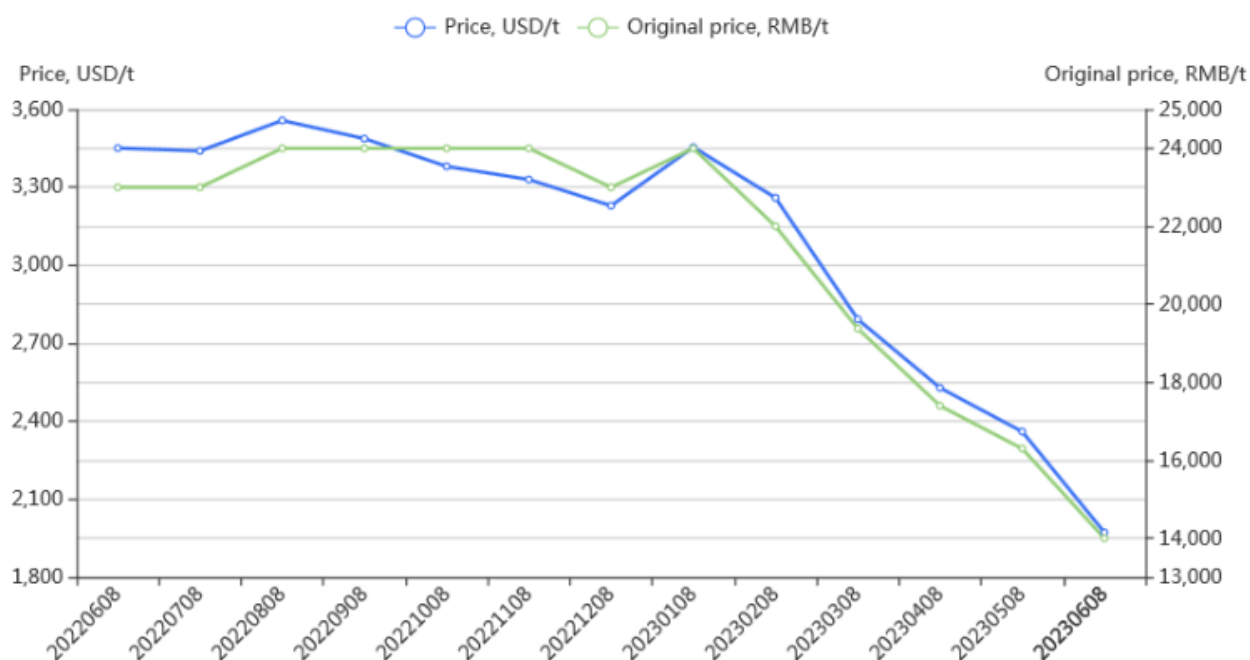
Summary: In China, the ex-works price of 2,4-D TC in June was more than 40% lower from the Jan. price this year. In the first half of 2023, monthly price of 2,4-D TC decreased continuously due to slack market demand and drops in raw material prices.

The ex-works price of 2,4-D TC in China has kept falling in the first half of 2023. The June price landed at USD1,973/t (RMB14,000/t), down 14.11% MoM and over 40% from the USD3,454/t (RMB24,000/t) recorded in Jan. 2023. The price fall mainly came from two factors. Prices of 2,4-D's raw materials dropped in general. Besides, the demand for 2,4-D TC remained weak in H1 2023.

The ex-works price of phenol in China has been on decline in general since Nov. 2022, even though small price recovery was seen occasionally; monthly price in Nov. 2022 was USD1,238/t (RMB8,925/t), while the price in June 2023 slipped to USD898/t (RMB 6,370/t), with nearly 29% price reduction over the period. Likewise, the ex-works price of chloroacetic acid in China dropped by some 28% over the same period. In June 2023, the price was USD380/t (RMB2,700/t).

Currently, the majority of 2,4-D manufacturers in China maintain stable operation, accept new orders and ship the goods as usual. It is expected that market demand would not change much in the short term and the price of 2,4-D TC would become steady after small downward movement, considering continued falling raw material price as well as quite balanced supply and demand.

FIGURE 1: Ex-works price of 98% 2,4-D technical in China, June 2022–June 2023



Source:CCM



**TABLE 1:** Monthly ex-works prices of phenol and chloroacetic acid in China, Nov. 2022–June 2023

Month	Ex-works price of phenol		Ex-works price of chloroacetic acid	
	USD/t	RMB/t	USD/t	RMB/t
Nov. 2022	1,238	8,925	520	3,750
Dec. 2022	1,110	7,905	515	3,670
Jan. 2023	1,072	7,450	403	2,800
Feb. 2023	1,145	7,730	449	3,030
March 2023	1,163	8,070	429	2,980
April 2023	1,083	7,450	407	2,800
May 2023	1,085	7,492	413	2,850
June 2023	898	6,370	380	2,700

Source: CCM

Prices of many herbicides fall continuously in June

Summary: In June, market demand has not improved and prices of some herbicides have been set lower. In general, triazine herbicides, amide herbicides and nicosulfuron TC had stable price, while organophosphorus herbicides experienced obvious price fall.

In June, market demand for herbicides saw little improvement and downstream buyers were quite inactive; prices of some herbicides TC kept falling. Of the 13 major herbicides TC CCM monitored, the triazines, amides and nicosulfuron had stable price this month, while the rest experienced price fall; organophosphorus herbicides, in particular, had bigger decreases in their prices.

Triazine herbicides atrazine TC and ametryn TC had stable price. Of sulfonylurea herbicides, nicosulfuron TC had a stable price, but quizalofop-P-ethyl TC and bensulfuron-methyl TC experienced slight MoM drops in their prices, down 2.46% and 3.06%, respectively.

Amide herbicides pretilachlor TC, acetochlor TC and metolachlor TC also saw little change in their prices. Considering few changes to market demand for products under this category, and low-level operating rates in some producers, supply-demand relation would basically remain stable, which would maintain prices of these products at current level.

The downtrend in the prices of organophosphorus herbicides continued. The price of glufosinate-ammonium TC decreased by 10.79% MoM to USD9,554/t (RMB67,800/t) due to a glut of the product in the market. Inventories in the producers were quite large. Glyphosate TC price went down 9.35% MoM to USD3,444/t (RMB24,440/t). At present, glyphosate producers still operate at a low level, and some of their inventories could be consumed as overseas demand grows a bit. It is expected that prices of organophosphorus herbicides would





stabilise after small fluctuations in the near future.

On a monthly basis, the June price of florasulam TC slipped by 2.12%, and the price of diuron TC dropped by 3.54%. The price of diquat TK shrank 6.31% MoM against the backdrop of decreasing pyridine price, limited number of new orders and large inventories in the market.

TABLE 2: Monthly ex-works prices of main herbicides TC in June 2023

Category	Product	Content of active ingredient	Monthly ex-works price in June, RMB/t	USD/t	MoM change (based on RMB price)
Triazine herbicide	Atrazine TC	97%	36,000	5,072.92	0.00%
	Ametryn TC	95%	44,500	6,270.70	0.00%
Sulfonylurea herbicide	Nicosulfuron TC	95%	193,000	27,196.51	0.00%
	Quizalofop-P-ethyl TC	95%	202,500	28,535.19	-2.46%
	Bensulfuron-methyl TC	96%	165,000	23,250.90	-3.06%
Amide herbicide	Pretilachlor TC	95%	33,800	4,762.91	0.00%
	Acetochlor TC	92%	30,000	4,227.44	0.00%
	Metolachlor TC	97%	50,000	7,045.73	0.00%
Organophosphorus herbicide	Glufosinate-ammonium TC	95%	67,800	9,554.01	-10.79%
	Glyphosate TC	95%	24,440	3,443.95	-9.35%
Triazolopyrimidine sulfonamide herbicide	Florasulam TC	98%	457,900	64,524.77	-2.12%
Bipyridinium herbicide	Diquat TK	40%	27,900	3,931.52	-6.31%
Substituted phenylurea herbicide	Diuron TC	97%	38,200	5,382.94	-3.54%

Source:CCM





Company and supply

Jiangsu Lanfeng to temporarily suspend some production equipment

Summary: On 31 May, Jiangsu Lanfeng announced that it would recently overhaul its 400kt/a sulphur-based sulphuric acid and cogeneration facilities. Considering the reduced steam supply and market dynamics, the company would temporarily suspend production lines for products including carbosulfan, hexazinone and thiophanate-methyl.

On 31 May, Jiangsu Lanfeng Bio-chemical Co., Ltd. (Jiangsu Lanfeng) announced that it would recently shut down its 400kt/a sulphur-based sulphuric acid and cogeneration facilities for an overhaul to ensure safe and stable operation in the future. The overhaul would take no more than 30 days. With this suspension, less waste heat could be recovered and reduced steam supply could not satisfy the demand from other equipment. Considering this, the company will temporarily suspend its production lines of 5,000 t/a thiophanate-methyl, 5,000 t/a surfactant, 2,000 t/a carbosulfan, 1,000 t/a hexazinone, etc.; suspension schedule will be worked out based on production plans for each product, market situations, as well as the remaining capacity of steam generators. The company admits that such a move would affect its overall business performance in 2023, but it would try its best to resume normal operation as early as possible and minimise the impact.

Jiangsu Lanfeng is a pesticide company based upon the raw material phosgene. It took the lead among Chinese pesticide producers in the development and production of products like thiophanate-methyl, hexazinone and benomyl. Its products cover four categories: insecticides, fungicides, herbicides and fine chemicals. Its main products are herbicides such as hexazinone TC, metazachlor TC and diuron TC.

Hexazinone is a broad-spectrum triazine herbicide. In China, it was developed in 1994 through a scientific and technological brainstorm project jointly undertaken by Jiangsu Lanfeng and Jiangsu Pesticide Research Institute. In 1996, the hexazinone TC, hexazinone 20% AS and hexazinone 25% AS developed were accredited by the then State Economic and Trade Commission as national-level new products. In 1998, Jiangsu Lanfeng built up 500 t/a hexazinone production line, and in 2005 it constructed 1,000 t/a hexazinone TC line and supporting 2,000 t/a cyclohexyl isocyanate line. In 2008, the production lines were relocated into the Suhua Area of Xinyi Chemical Concentration Zone, Xuzhou City, Jiangsu Province. At present, the company's 1,000 t/a hexazinone TC line can operate stably.

Besides Jiangsu Lanfeng, other major hexazinone TC producers in China are Jiangsu Corechem Co., Ltd. and Anhui Guangxin Agrochemical Co., Ltd., each with 3,000 t/a capacity. And as of June 2023, 14 companies hold valid pesticide registration for hexazinone TC products in China, according to the Institute for the Control of Agrochemicals, Ministry of Agriculture and Rural Affairs (ICAMA).

Zhangye Dagong's butralin & intermediate project breaks ground

Summary: On 21 June, Zhangye Dagong's 2,000 t/a butralin TC and 9,000 t/a chemical intermediate project broke ground in the chemical industry cluster of Circular Economy Demonstration Park in Zhangye Economic and Technological Development Zone, Gansu Province. Construction of the project is expected to be finished in Sept. 2024.





On 21 June, Zhangye Dagong Pesticide Chemistry Co., Ltd. (Zhangye Dagong) broke ground for its 2,000 t/a butralin TC and 9,000 t/a chemical intermediate project. The company has planned to invest USD21.14 million (RMB150 million) in the project, which will build a workshop for the production of 2-nitro-4-methylsulfonyltoluene and 4-tert-butyl-2,6-dinitrochlorobenzene, a new workshop for the production of butralin TC, a workshop for the production of 1-methyl-4-methylsulfonylbenzene, and supporting facilities in the chemical industry cluster of Circular Economy Demonstration Park, Zhangye Economic and Technological Development Zone, Zhangye City, Gansu Province. The project will help the company stretch its presence along the industrial chain, broaden business scope and thus boost competitiveness in the market. According to its plan, the project will be completed in Sept. 2024, and once put into operation, the lines could increase its annual output value by some RMB230 million.

Zhangye Dagong, established in Jan. 2004, is a privately-owned sino-foreign joint venture. It has two production bases: Dagong Agrochemical base and Qilian Agrochemical base. It has active production capacity for 95% butralin TC, 95% flumetralin TC and 98% mesotrione TC, and has developed formulation products including butralin 48% EC, butralin 30% EW, flumetralin 480g/L EC and glyphosate 10% AS. Of them, the butralin 30% EW, a novel and environment-friendly herbicide, is a patented product. The company is among the best in China in terms of product quality and production scale of butralin TC and mesotrione TC.

Butralin is a selective pre-emergent herbicide. Currently, China's butralin capacity concentrates in producers like Jiangxi Shield Chemical Co., Ltd., Shandong Binnong Technology Co., Ltd. and Zhangye Dagong. Data from the Institute for the Control of Agrochemicals, Ministry of Agriculture and Rural Affairs (ICAMA) show that as of June 2023, only five companies hold valid registration for butralin TC in China. And once the new butralin TC workshop is added and put into use, Zhangye Dagong's position in Chinese butralin market will be strengthened.

As for mesotrione, it is a broad-spectrum selective herbicide. In China, mesotrione capacity mainly concentrates in producers like Shenyang Sciencreat Chemicals Co., Ltd., Shangyu Nutrichem Co., Ltd. and Anhui Zhongshan Chemical Co., Ltd. In addition, pesticide producers including Jiangsu Corechem Co., Ltd. and Shenyang Sciencreat Chemicals Co., Ltd. have plans to build new capacity for the product, which will increase China's total mesotrione capacity in the future.

TABLE 3: Capacity of some mesotrione TC producers (potential capacity included) in China, as of June 2023

No.	Producer	Existing capacity, t/a	Capacity to be built, t/a
1	Shenyang Sciencreat Chemicals Co., Ltd.	1,400	600
2	Shangyu Nutrichem Co., Ltd.	4,000	/
3	Zhangye Dagong Pesticide Chemistry Co., Ltd.	3,000	/
4	Anhui Zhongshan Chemical Co., Ltd.	5,000	/
5	Jiangsu Corechem Co., Ltd.	/	1,400





Source:CCM

Gansu Yinglong plans to build capacity for amicarbazone TC & penoxsulam TC

Summary: On 25 June, the EI report of Gansu Yinglong's 800 t/a amicarbazone TC, 150 t/a penoxsulam TC and 1,000 t/a dinotefuran TC project was published by local authorities.

On 25 June, the environmental impact (EI) report of Gansu Yinglong Biotechnology Co., Ltd. (Gansu Yinglong)'s 800 t/a amicarbazone TC, 150 t/a penoxsulam TC and 1,000 t/a dinotefuran TC project was published by the Administration Committee of Baiyin High-tech Industrial Development Zone.

Project overview

- Construction nature: New construction;
- Location: In the company's plant in the Yindong Industrial Park, Baiyin High-Tech Zone, Baiyin City, Gansu Province;
- Construction investment: USD14.09 million (RMB100 million);
- Projected time for operation: Oct. 2024.

On 31 Dec., 2022, first-time publication of environmental impact assessment information of the project was made, and few days before, on 26 Dec., the company obtained record certificate for the project. In fact, this project is regarded as the phase II program of its chemical pesticide and intermediate project, even though construction of the phase I program is yet to start, which is to build production lines for arylhydrazines, special purpose nitriles and some chemical intermediates, and supporting facilities. The phase I program was approved by local government on 19 Oct., 2021.

Amicarbazone is a triazolone herbicide. As of June 2023, four companies hold valid registration for amicarbazone TC. Penoxsulam, developed by Dow AgroSciences LLC, is a post-emergence triazolopyrimidine sulfonamide herbicide. Currently, major penoxsulam producers in China are Jiangsu Fuding Chemical Co., Ltd. (with 100 t/a capacity), Gansu West Xinyu Chemical Co., Ltd. (500 t/a), Huai'an Glory Chemical Co., Ltd. (600 t/a), Jiangsu Flag Chemical Industry Co., Ltd. (500 t/a), Jiangsu Repont Agrochemical Co., Ltd. (200 t/a), etc. Moreover, companies like Shaoxing Shangyu Xinyinbang Biochemical Co., Ltd. and Inner Mongolia Benxing Chemical Co., Ltd. have plans to add capacity for the product.

Gansu Yinglong's registered business scope covers promotion of technologies, and manufacture of biochemical pesticides and microbial pesticides, chemical pesticides, organic fertilisers and microbial fertilisers, and organic chemical materials, etc. The company is a wholly-owned subsidiary of Jiangsu Good Harvest-Weien Agrochemical Co., Ltd. Once this pesticide TC project is completed and put into operation, it will help boost the competitiveness as well as broaden the development space of its parent company in the pesticide TC market.





Policy

China pushes forward "three summers" agricultural work

Summary: In China, May and June are two critical months for farmers to carry out "three summers" agricultural production tasks. To facilitate good performances of these tasks this year, MARA and other government agencies have rolled out related measures and opinion documents.

In China, May and June are two critical months for farmers to carry out the "three summers" (referring to summer harvesting, summer planting and field management in summer) agricultural production tasks. Currently, it is the peak time for harvesting summer grains. It is said that as of 7 June, some 10.93 million ha of winter wheat had already been harvested, at a pace of 1 million ha per day across China, and it was 53.8% into the total harvest work. Specifically, Anhui Province has finished over 90% of its work, Henan Province over 80%, and Jiangsu Province over 30%; Shandong and Shaanxi provinces have come into the busiest time. To facilitate good performances of the "three summers" tasks this year, Ministry of Agriculture and Rural Affairs of the People's Republic of China (MARA) and other government agencies have rolled out related measures and opinion documents.

In late May, large areas in winter wheat growing regions in northern China encountered continued rainy days; some local areas suffered severe convective weather such as short-duration heavy rainfall, gale and hail, and thus in some areas lodging or flooding of wheat crops was witnessed and some mature crops germinated and got mildewed. MARA issued a notice to urge provinces and municipalities to race against the time to have the wheat harvested and dried. Opinions offered by MARA are as the following:

- Actively drain the excessively accumulated water in the fields. In North China where wheat crops are still at grain filling stage, pesticide spraying work (to guard against pests & diseases, dry-hot wind and lodging) should be carefully conducted in all the fields; foliar fertilisers, insecticides and fungicides should be applied to resume and promote growth as well as to extend the filling duration.
- Arrange for harvest machinery in a scientific manner. For wheat crops showing signs of germination, machine-aided harvesting should be immediately carried out once water content reduces to an appropriate level after rain stops.
- Pay close attention to wheat drying. Make use of various drying machines for food, and dry wheat with high water content first as long as conditions permit, so as to bring down losses caused by mildew to the minimum. Besides, it is encouraged to take advantage of squares, playgrounds and open places in front of as well as behind houses to sun cure the wheat harvested to prevent the piled grains from germination and mildew.
- Make good preparations for the treatment of germinated and mildewed wheat. Help farmers timely harvest wheat crops with signs of germination and dry the grains; organise grain collection and storage enterprises to come and strike deals with farmers based upon degrees of germination, and try hard to avoid bad selling. As regards mildewed wheat, efforts must be made to prevent them going into staple food market, but instead, lead them into feed and industrial sectors.

Other government agencies have also provided their supports and put forward related measures. Such as:

- In June, Hebei government has deployed 109,000 sets of wheat combine harvesters, 200,000 sets of maize seeders, and some 2 million sets of agricultural machines including tractors and transport machines into summer grain harvesting as well as autumn grain seeding. Currently, Hebei has started wide-range wheat harvesting, from southern parts headed for northern parts. The government estimated that the harvest work would be wrapped up around 23 June. In addition, the government set the goal of machine-aided wheat harvesting accounting for over 99.5% of the total work in general, and machine-aided maize seeding over 95%.
- Early June, USD28.18 million (RMB200 million) was appropriated for agricultural production disaster prevention and relief in Henan Province by the central government. The money will be used in supportive of remedial actions to rush-harvest damaged wheat crops with the help of machinery, and to dry moist grains harvested, in order to reduce grain losses caused by disasters to the





minimum.

- At the end of May, several government departments in Henan Province jointly issued the Measures to Help and Benefit Farmers in "Three Summers" Production in Henan Province, in order to facilitate the "three summers" agricultural production. The measures offered include the provision of agricultural machinery service, weather forecast & early warning service, toll exemption service, diesel oil discount and supply service, grain purchase service, agricultural technology service, guaranteed supply of agricultural means of production, safe and smooth transportation, strengthened market regulation, and one-off subsidies to crop-growing farmers.
- In late May, the Department of Agriculture and Rural Affairs of Shanxi Province issued a notice to promote machinery use in the "three summers" agricultural production in 2023. The document read that coordination and exchanges should be enhanced among departments of transport, emergency management, meteorological administration and petroleum and petrochemical, preparations made for maintenance, debugging and passage of agricultural machinery, the quality of machine-aided seeding lifted, subsidies granted to providers of high-quality machine seeding, workplace safety inspections launched, "three summers" popularisation campaigns carried out, and emergency plans worked out in case of unfavourable weather during the "three summers" agricultural production.





Registration

24 Herbicides TC approved of registration renewal in June

Summary: On 21 June, 2023, the Department of Agrochemical Management of MARA released a batch of products approved of registration renewal, which include 232 herbicide products, of which 24 are TC products.

On 21 June, 2023, 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 renewal, which include 232 herbicide products. The majority of these herbicides are of low toxicity. Top three forms are OD, AS and EC.

Of these herbicide products with registration renewed, 24 are TC products. Among these TC products, five are 95% glyphosate TC, registered by five companies: Anhui F&C Agrochemical Co., Ltd., Nanjing Huazhou Pharmaceutical Co., Ltd., Jiangxi Jinlong Chemical Co., Ltd., Ningxia Taiyicin Biotech Co., Ltd. and Nufarm Limited.

TABLE 4: Herbicide products approved of registration renewal by toxicity released on 21 June, 2023

No.	Toxicity	Number
1	Low	195
2	Mild	31
3	Moderate	6
Total		232

Source: Department of Agrochemical Management of MARA



TABLE 5: Herbicide products approved of registration renewal by form released on 21 June, 2023

No.	Form	Number
1	OD	50
2	AS	43
3	EC	35
4	TC	24
5	WP	21
6	SC	17
7	SE	11
8	SG	9
9	WG	8
10	EW	4
11	SP	3
12	EA	2
13	ME	2
14	GW	1
15	GG	1
16	GR	1
Total		232

Source: Department of Agrochemical Management of MARA

TABLE 6: Herbicide TC products approved of registration renewal released on 21 June, 2023

No.	Registrant	Product
1	Jiangsu Fenghua Chemical Industrial Co., Ltd.	98% Diflufenican TC
2	Jiangsu Fenghua Chemical Industrial Co., Ltd.	95% Clodinafop-propargyl TC
3	Jiangxi Jinlong Chemical Co., Ltd.	95% Glyphosate TC
4	Fuxin Qianyi Fine Chemical Industry Co., Ltd.	95% Chlorimuron-ethyl TC
5	Nufarm Limited	95% Glyphosate TC
6	BASF SE	96% Bentazone TC
7	BASF SE	97.40% Saflufenacil TC
8	BASF SE	97% Topramezone TC
9	Jiangxi Zhonghe Biotechnology Co., Ltd.	97% Amicarbazone TC
10	Jiangxi Zhonghe Biotechnology Co., Ltd.	97% Tebuthiuron TC
11	Jiangxi Zhonghe Biotechnology Co., Ltd.	98% Flufenacet TC
12	Shenyang Sciencreat Chemicals Co., Ltd.	96% Chlorimuron-ethyl TC
13	Zhejiang Changxing First Chemical Co., Ltd.	95% Simetryn TC
14	Syngenta AG	93% Prodiamine TC
15	Jiangsu Flag Chemical Industry Co., Ltd.	97.20% Isoxaflutole TC
16	Jiangsu Flag Chemical Industry Co., Ltd.	95% Glufosinate-ammonium TC
17	Shandong Jingbo Agrochemicals Technology Co., Ltd.	95% Quizalofop-P-ethyl TC
18	ADAMA Huifeng (Jiangsu) Co., Ltd.	95% Mesotrione TC
19	Ningxia Taiyicin Biotech Co., Ltd.	95% Glyphosate TC
20	Ningxia Taiyicin Biotech Co., Ltd.	95% Glufosinate-ammonium TC
21	Nanjing Huazhou Pharmaceutical Co., Ltd.	95% Glyphosate TC
22	Jiangsu Good Harvest-Weien Agrochemical Co., Ltd.	97% Mesotrione TC
23	Anhui F&C Agrochemical Co., Ltd.	95% Glyphosate TC



24	Jiangsu Reput Agrochemical Co., Ltd.	97% Metribuzin TC
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Source: Department of Agrochemical Management of MARA

TABLE 7: Registrants with at least five herbicide products approved of registration renewal released on 21 June, 2023

No.	Registrant	Number
1	Shandong Aokun Crop Science Co., Ltd.	13
2	Dalian Join King Crop Science Co., Ltd.	11
3	Shandong Yueming Biological Technology Co., Ltd.	9
4	Shanghai Hulian Biopharmaceutical (Xiayi) Co., Ltd.	7
5	Shandong Taiyang Biological Technology Co., Ltd.	5
6	BASF SE	5
7	Qiaochang Modern Agriculture Co., Ltd.	5
8	Henan Zhongtian Hengxin Biochemical Technology Co., Ltd.	5

Source: Department of Agrochemical Management of MARA



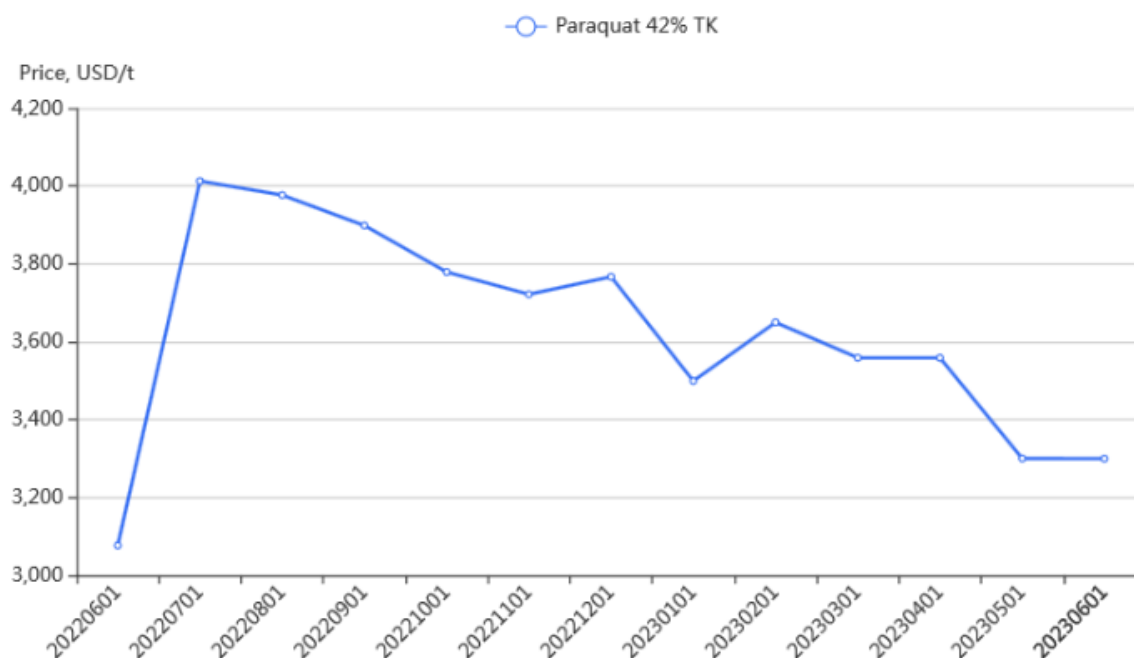
Paraquat and pyridine

Pyridine price still on the decline in China in early June

Summary: In early June, the FOB price of paraquat 42% TK in China stabilised, while the ex-works price of pure pyridine in China dived 20.83% MoM.

CCM's price monitoring data show that the FOB price of paraquat 42% TK in China stayed at USD3,300/t in early June; on a yearly basis, the price registered a 7.24% increase. The ex-works price of pure pyridine plunged further by 20.83% MoM to USD2,677/t (RMB19,000/t), which was 37.70% lower than the price in June 2022. Considering continued weak pyridine market and price fluctuations seen in paraquat raw materials, the prices of paraquat and pyridine are expected to go down in the short term.

FIGURE 2: FOB price of paraquat 42% TK in China, June 2022–June 2023



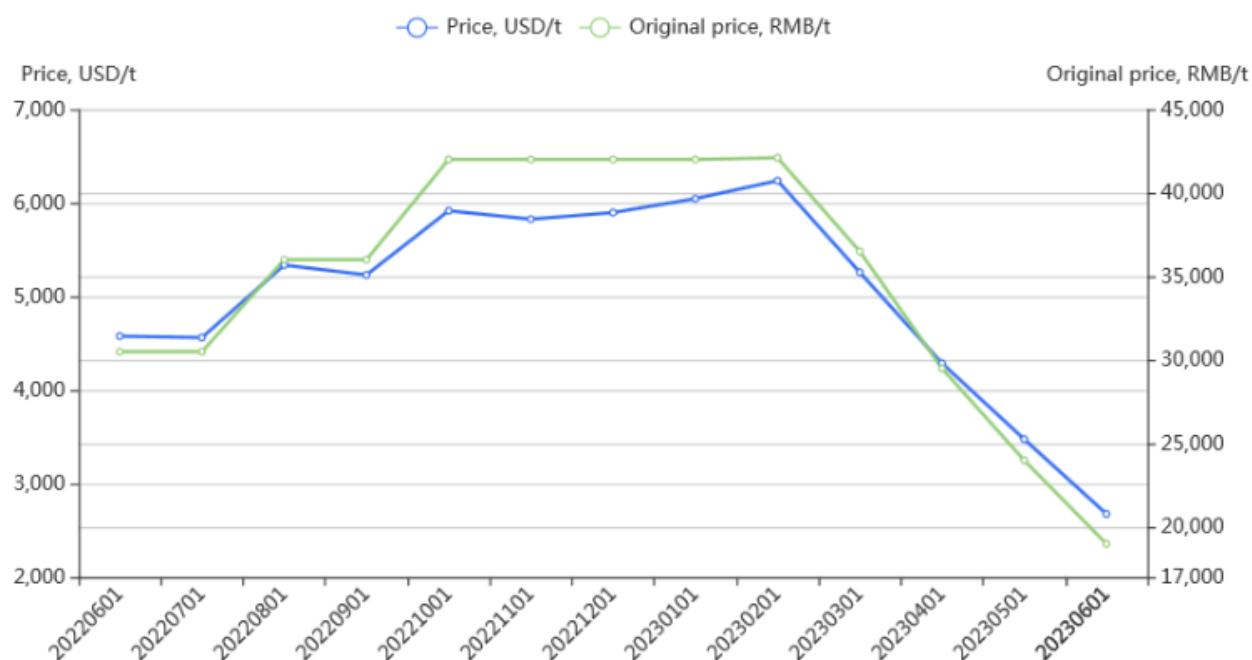
Note: The monthly prices here are the prices recorded early each month.

Source: CCM





FIGURE 3: Ex-works price of pure pyridine in China, June 2022–June 2023



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

Source: CCM

Anhui Red Sun 10kt/a diquat lines pass environmental protection acceptance check

Summary: In late May, it was announced that Anhui Red Sun's 10,000 t/a diquat lines had passed environmental protection acceptance check. These lines are the content of phase I program of its 5,000 t/a 2,2'-dipyridyl and 10,000 t/a diquat project.

In late May, it was announced that Anhui Red Sun Biochemistry Co., Ltd. (Anhui Red Sun)'s 10,000 t/a diquat lines had passed completion-based environmental protection check and acceptance of construction project, which means that the production lines and supporting facilities for transport, storage, environmental protection, etc. have all been constructed.

The company's 5,000 t/a 2,2'-dipyridyl and 10,000 t/a diquat project has been divided into two phases, and the 10,000 t/a diquat lines are the content of the phase I program. Previously in March 2020, the company filed notification of the project at the Bureau of Economy and Information Technology of Chizhou City. Construction of the project kicked off in May 2022 and related lines and equipment went into trial run on 8 Oct., 2022.

Anhui Red Sun is a holding sub-subsidiary of Nanjing Red Sun Co., Ltd. (Nanjing Red Sun). Therefore, Anhui Red Sun's new diquat lines successfully passing acceptance check will help strengthen Nanjing Red Sun's position in the diquat market. At the same time, it will drive competition in this market more intense. Currently, China's diquat capacity mainly concentrates in Nanjing Red Sun, Yongnong BioSciences Co., Ltd. and Shandong Luba Chemical Co., Ltd.

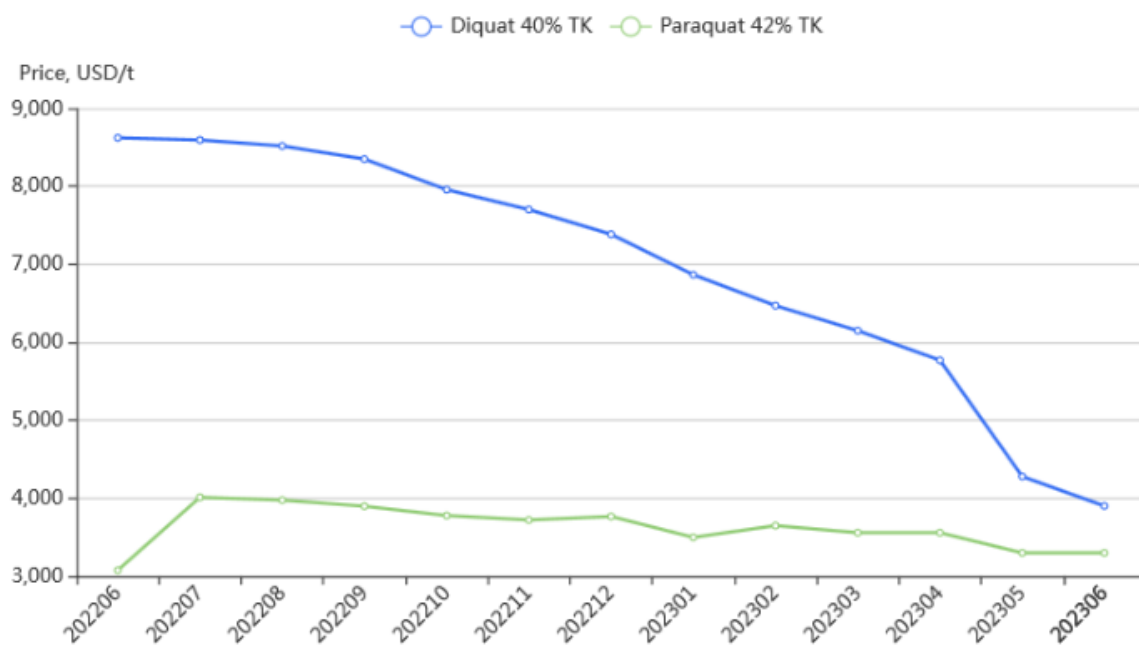
Diquat is regarded as a valid alternative to paraquat. It is worth noting that diquat capacity has been growing quickly and the application of diquat has been promoted at a fast pace, along with expanding ban on paraquat in some countries. The price of diquat TK has kept going





down, and the price gap between diquat TK and paraquat TK has been narrowed continuously; in June 2023, the difference between FOB prices of the two products reduced to some USD600/t in China.

FIGURE 4: Monthly FOB prices of paraquat TK and diquat TK in China, June 2022–June 2023



Source:CCM





Trade analysis

Exports of many herbicides TC from China plunge YoY in Q1 2023

Summary: In Q1 2023, China exported almost 70,000 tonnes (100% AI volume) of herbicide TC products, mainly to destinations such as the US, Russia, Brazil, etc. Top three herbicides TC exported were glyphosate, glufosinate-ammonium and 2,4-D.

According to the import and export data from Tranalysis, in Q1 2023, China altogether exported 69,547.53 tonnes (100% AI volume, the same hereafter) of herbicide TC products, down nearly 100,000 tonnes from the same period last year. The March figure, in particular, shrank to at most half of the levels of the previous two months, let alone compared on a yearly basis. The plunge was mainly brought about by an overall slack herbicide demand and relatively big inventories in overseas market. Besides, the majority of herbicide products saw their prices go down, which discouraged herbicide producers in China from maintaining operation at previous level.

A total of 52 kinds of herbicides TC were exported from China in Q1 2023; the top three exported were glyphosate TC, glufosinate-ammonium TC and 2,4-D TC. Specifically, the most popular ones—glyphosate TC products, accounted for slightly over 50% of the total TC exports in the first quarter. It is worth noting that in general, most of these herbicides TC witnessed decreases in export volume compared with Q1 2022; atrazine TC products experienced the greatest export contraction, the export in Q1 2023 left only with some 7% of the figure achieved in Q1 2022.

The largest glyphosate TC exporter in this period was Fuhua Tongda Chemical Co., Ltd.; the company's glyphosate TC products mainly went to the US, Russia and Brazil. These three countries were also top destinations for China's glufosinate-ammonium TC products.

Herbicide TCs from China were exported to some 47 countries or regions in Q1 2023, the US, Russia and Brazil being the three largest ones. Of major destinations, the US received the most herbicides TC exports from China, the amount making up some 37% of the total. Moreover, glyphosate TC products took the largest share in the herbicides TC exports to the US, at around 40%.

TABLE 8: Herbicide technical exports from China, Q1 2023 vs Q1 2022, tonne

Month	2023 Volume	2022 Volume
Jan.	26,404.284	52,124.013
Feb.	29,934.821	54,538.580
March	13,208.431	61,658.878
Total	69,547.535	168,321.471

Note: All the data here are calculated by 100% AI volume.

Source: Tranalysis



TABLE 9: Top 10 herbicides technical exported from China, Q1 2023 vs Q1 2022, tonne

No.	Herbicide	Q1 2023 Volume	Q1 2022 Volume
1	Glyphosate	35,970.776	83,549.768
2	Glufosinate-ammonium	5,772.515	4,934.672
3	2,4-D	4,187.379	11,612.092
4	Prosulfocarb	1,938.016	1,607.435
5	S-Metolachlor	1,775.509	1,901.124
6	Metolachlor	1,715.730	2,846.312
7	Atrazine	1,558.496	22,431.714
8	Mesotrione	1,512.801	1,535.833
9	Dicamba	1,399.970	5,468.341
10	Paraquat	1,199.510	7,626.221
	Others	12,516.832	24,807.959
	Total	69,547.535	168,321.471

Note: All the data here are calculated by 100% AI volume.

Source: Tranalysis

TABLE 10: Top 10 destinations of herbicides technical exported from China, Q1 2023, tonne

No.	Destination	Q1 2023 Volume
1	The US	26,019.622
2	Russia	9,010.773
3	Brazil	7,898.856
4	Argentina	6,238.962
5	India	4,627.193
6	Nigeria	2,085.117
7	Australia	1,452.451
8	Hungary	1,273.120
9	Turkiye	1,211.903
10	Paraguay	1,138.357
	Others	8,591.180
	Total	69,547.535

Note: All the data here are calculated by 100% AI volume.

Source: Tranalysis



Brief news

Lianhe Technology increases RMB500 million capital to Dezhou Lianhe

On 30 May, Lianhe Chemical Technology Co., Ltd. (Lianhe Technology) announced that it planned to increase the registered capital of its wholly-owned subsidiary, Lianhe Chemical Technology (Dezhou) Co., Ltd. (Dezhou Lianhe) by USD70.46 million (RMB500 million), which would bring registered capital of the subsidiary to USD215.44 million (RMB1.53 billion) from USD144.98 million (RMB1.03 billion). The move aims at pushing forward the operation and development of Dezhou Lianhe. And on 1 June, Lianhe Technology made another announcement, notifying that Dezhou Lianhe had gone through the industrial and commercial change registration procedures and obtained the renewed business licence. There is only one change made to the entry of registered capital, and the other entries in the business licence remain unchanged. Dezhou Lianhe is still a 100% owned subsidiary of Lianhe Technology.

Dezhou Lianhe, located in Pingyuan County Economic Development Zone, Dezhou City, Shandong Province, has a registered business scope covering production of hazardous chemicals and pesticides, wholesale of pesticides, import & export of toxic chemicals, production and sale of specialty chemicals, production of basic chemical raw materials, sale of chemical products, etc. The company boasts production lines for 2,6-dichlorobenzonitrile, (3-chloropyridin-2-yl)hydrazine and some other pesticide intermediates.

Jilin Zhongran plans to build 500 t/a capacity for herbicide intermediate

Early June, the environmental impact report (exposure draft) of the 5,000 t/a environmental-friendly disperse dye and 500 t/a pesticide intermediate project of Jilin Zhongran Technology Co., Ltd. (Jilin Zhongran) was publicised.

Overview of the project

- Total investment: USD18.51 million (RMB131.32 million);
- Construction nature: New construction;
- Location: No.91, Kangtai Road, Jilin Economic Development Zone, Jilin City, Jilin Province;
- Construction content: Production lines for several disperse dyes and the pesticide intermediate 2-amino-4-methoxy-6-methyl-1,3,5-triazine. Of the planned products, the intermediate is a key material for the production of sulfonylurea herbicides including metsulfuron-methyl, thifensulfuron-methyl, triasulfuron and prosulfuron.

Iron chlorine e6 products launched in Anhui

On 30 May, Anhui Huilong Agricultural Means of Production Co., Ltd. announced that its subsidiary Anhui Huilong Group RMF Agrochemical Co., Ltd. had jointly rolled out iron chlorine e6 products with Nanjing Bostec Bioengineering Co., Ltd. in Chizhou City of Anhui Province. The two companies are currently in strategic cooperation and their next step is to advance product distribution in Jiangsu and Heilongjiang markets.

Iron chlorine e6 is a patented novel compound independently developed by a Chinese research institute; to date, two patents for invention concerning the compound (certificate number: ZL201110176570.2 and ZL201110176433.9) have been granted. It has a wide application range and is applicable on a variety of crops; so far, it has been registered applicable on 11 crops in China—rice, wheat, soybean, rape, peanut, cotton, tobacco, pepper, ginger, garlic and grape. Iron chlorine e6 enjoys advantages in stress and disease resistance, quality and





yield improvement, and herbicide phytotoxicity alleviation over other products.

ADBC issues RMB110 billion in loans to support summer grain purchase

On 6 June, the Agricultural Development Bank of China (ADBC) revealed that it had already prepared credit funds of USD15.50 billion (RMB110 billion) for the purchase of summer grains. As of 5 June, a total of USD972.31 million (RMB6.90 billion) of the loans had been delivered in support of the purchase of grain and edible oil. ADBC also expressed that timely allocation of the funds is the foundation for smooth operation of policy-based grain purchase and storage, as well as market-based purchase. The RMB110 billion is not the set ceiling on the amount. In fact, more funds could be added based on the actual needs in the purchase and thus it is ensured that no fund gap is left.

This year's summer grain purchase will become a tough task. It is estimated that the yield and quality of summer grains will be much affected, and certain areas may suffer from low-quality grain, difficulty in selling grains, etc., given the continuous rainy weather in Henan and other major grain-producing provinces during the summer grain ripening period, which has led to large-scale seed germination and pre-harvest sprouting.

Guideline on Available Techniques of Pollution Prevention and Control for Pesticide Industry takes effect

On 1 June, the Guideline on Available Techniques of Pollution Prevention and Control for Pesticide Industry (HJ 1293—2023) issued by the Ministry of Ecology and Environment of the People's Republic of China came into force. The standard provides pesticide industry with pollution prevention techniques, pollution treatment techniques, environmental management measures and available techniques of prevention and control for reference and guidance.

The scope of application of the standard:

- It gives available techniques of prevention and control of wastewater, waste gas, solid waste and noise for pesticide industry.
- It can serve as a reference for environmental impact assessment of construction projects launched by pesticide manufacturers as well as of concentrated wastewater treatment facilities for pesticide industry, for establishment and revision of national-level pollutant emission standards, for administration of pollutant discharge permitting and for selection of appropriate pollution prevention and control techniques.
- Pollution prevention and control proposed in this standard is applicable for enterprises producing pesticide intermediates.

Tianmen Chutian plans to build 300 t/a pyrazosulfuron-ethyl capacity

On 30 May, the environmental impact report of the 80 t/a 2-chloro-1,4-naphthoquinone, 50 t/a 6-methoxy-1-tetralone, 15 t/a 2-ethyl-1,3-cyclopentanedione, 35 t/a ethyl condensate (an intermediate for levonorgestrel) and 300 t/a pyrazosulfuron-ethyl project of Tianmen Chutian Fine Chemical Co., Ltd. (Tianmen Chutian) was publicised by the Bureau of Ecology and Environment of Tianmen City. The company plans to invest USD6.34 million (RMB45 million) to construct the project in its existing plant located in the Tianmen Yuekou Industrial Park, Tianmen City, Hubei Province.

Pyrazosulfuron-ethyl is a new-generation sulfonylurea herbicide. Currently, domestic pesticide producers like Shandong Binnong Technology Co., Ltd., Jiangsu Report Agrochemical Co., Ltd. and Jiangsu Kuaida Agrochemical Co., Ltd. have built up production





capacity for this herbicide.

Jiangsu Pesticide Research Institute to construct new herbicide formulation production lines

On 9 June, the Bureau of Administrative Examination and Approval of Jiangbei New Area announced that it was to approve the environmental impact (EI) report of Jiangsu Pesticide Research Institute Co., Ltd. (Jiangsu Pesticide Research Institute)'s 6,000 t/a pesticide formulation project. The company has planned to invest USD7.05 million (RMB50 million) to build the project in its existing plant in three months. Production lines for 11 herbicide formulations will be constructed.

TABLE 11: Herbicide formulations planned in Jiangsu Pesticide Research Institute's 6,000 t/a pesticide formulation project

No.	Product	Capacity, t/a
1	Benazolin-ethyl 30% SC	100
2	Pyraclonil 15% SC	100
3	Pyroxasulfone 30% SC	50
4	Florasulam·fluroxypyr 15% SC	50
5	Bensulfuron-methyl·mefenacet 53% WP	100
6	Oxadiazon·butachlor 40% EC	100
7	Quizalofop-P-ethyl·benazolin-ethyl 17.50% EC	100
8	Fluoroglycofen-ethyl 10% EC	100
9	Glyphosate potassium salt 35% AS	200
10	Glufosinate-ammonium 18% AS	200
11	Glyphosate potassium salt 63% SG	100

Source: EI report of the 6,000 t/a pesticide formulation project

Shanxian Runjin plans to build capacity for PMIDA & bentazone

On 31 May, the Shanxian County Government publicised the environmental impact report of Shanxian Runjin Biological Technology Co., Ltd. (Shanxian Runjin)'s 1,000 t/a bentazone, 3,000 t/a PMIDA and 600 t/a sodium phosphate project (phase I). The whole project is divided into two phases; the phase I program will build 3,000 t/a production lines for PMIDA in the company's existing plant. Total investment for the project is USD70.46 million (RMB500 million), of which USD42.27 million (RMB300 million) is for the phase I.

Jiangsu Yangnong's large-scale fine chemical project breaks ground in Huludao

On 9 June, the groundbreaking ceremony for Jiangsu Yangnong Chemical Co., Ltd. (Jiangsu Yangnong)'s large-scale fine chemical





project was held in the Huludao City, Liaoning Province. Total investment for this mega project totals USD1.41 billion (RMB10 billion), of which USD590 million (RMB4.20 billion) is for the phase I. The project covers products including advanced fungicides, insecticides, herbicides and plant growth regulators. Once the lines built up and run at full steam, it is estimated that an annual output value of USD2.11 billion (RMB15 billion) could be generated.

As the construction kicks off, a high-level, large-scale agrochemical production base with advanced production capability is expected to stand in northern China. Such a base could boost local socio-economic development, improve local employment rate, lift Liaoning's status and let it play a bigger role in China's agrochemical industry.

Liaoning Cynda puts 1,000 t/a imazapyr lines into trial production

On 7 June, Shandong Cynda Chemical Co., Ltd. (Shandong Cynda) announced that its wholly-owned subsidiary, Liaoning Cynda Chemical Co., Ltd. (Liaoning Cynda), had completed the construction of main body and equipment installation and testing of the 1,000 t/a imazapyr and 3,000 t/a pesticide intermediate project, and put the lines into trial production.

According to Shandong Cynda, completion of this project will raise the company's total production capacity for imazapyr, optimise its regional production layout, ramp up its advantage of scale in the product, and consolidate and improve its share and position in the imidazolinone herbicide market. However, since the project is still in trial run, production equipment and product quality is not stabilised for sure, and the full release of the capacity takes time.





Price update

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

TABLE 12: Ex-works prices of key herbicide raw materials in China, 8 June, 2023

Raw Materials	20230508		20230608	
	Original Price (RMB/t)	Price (USD/t)	Original Price (RMB/t)	Price (USD/t)
98% Glycine	12,000	1,737.77	11,250	1,585.29
92% Iminodiacetonitrile	8,600	1,245.4	8,600	1,211.87
99% Isopropylamine	9,550	1,382.98	9,550	1,345.73
98% N-(Phosphonmethyl) Iminodiacetic acid	19,000	2,751.47	16,300	2,296.91
99% Phosphorus trichloride	5,933	859.18	5,460	769.39
99.9% Pyridine	24,000	3,475.54	19,000	2,677.38

Note: Ex-works price includes VAT.

Source: CCM

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





TABLE 13: Ex-works prices of main herbicides in China, 8 June, 2023

Product	20230508		20230608	
	Original Price (RMB/t)	Price (USD/t)	Original Price (RMB/t)	Price (USD/t)
98% 2,4-D technical	16,300	2,360.47	14,000	1,972.8
92% Acetochlor technical	30,000	4,344.43	30,000	4,227.44
97% Atrazine technical	36,000	5,213.31	36,000	5,072.92
96% Bensulfuron-methyl technical	175,000	25,342.49	165,000	23,250.9
92% Butachlor technical	24,500	3,547.95	22,000	3,100.12
95% Clomazone technical	108,600	15,726.82	105,800	14,908.76
95% Cyhalofop-butyl technical	137,000	19,839.55	131,700	18,558.44
97% Diuron technical	42,000	6,082.2	39,000	5,495.67
98% Fenclorim technical	116,000	16,798.45	112,000	15,782.43
95% Fenoxaprop-P-ethyl technical	170,000	24,618.41	170,000	23,955.47
96% Fluroxypyr technical	138,000	19,984.36	138,000	19,446.21
95% Fomesafen technical	133,900	19,390.62	133,900	18,868.46
95% Glufosinate ammonium technical	80,000	11,585.14	71,000	10,004.93
95% Glyphosate technical	28,800	4,170.65	24,200	3,410.13
95% Haloxyfop-P-methyl technical	160,000	23,170.27	154,000	21,700.84
97% Metolachlor technical	50,000	7,240.71	50,000	7,045.73
95% Metsulfuron-methyl technical	135,000	19,549.92	135,000	19,023.46
95% Nicosulfuron technical	193,000	27,949.14	193,000	27,196.51
97% Oxyfluorfen technical	160,000	23,170.27	157,000	22,123.58
95% Pendimethalin technical	62,000	8,978.48	62,000	8,736.7
95% Pretilachlor technical	33,800	4,894.72	33,800	4,762.91
97% Pyrazosulfuron-ethyl technical	235,000	34,031.34	231,800	32,663.99





80% Quinclorac technical	144,300	20,896.69	142,500	20,080.32
95% Quizalofop-P-ethyl technical	210,000	30,410.98	202,500	28,535.19
95% Tribenuron-methyl technical	117,500	17,015.67	102,000	14,373.28
95% Trifluralin technical	40,500	5,864.98	40,500	5,707.04

Note: Ex-works price includes VAT.

Source: CCM

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

TABLE 14: Shanghai port prices of main herbicides in China, 8 June, 2023

Product	20230508		20230608	
	Original Price (RMB/t)	Price (USD/t)	Original Price (RMB/t)	Price (USD/t)
98% 2,4-D technical	16,800	2,432.88	14,500	2,043.26
92% Acetochlor technical	30,500	4,416.83	30,500	4,297.89
97% Atrazine technical	36,500	5,285.72	36,500	5,143.38
96% Bensulfuron-methyl technical	175,500	25,414.89	165,500	23,321.36
92% Butachlor technical	25,000	3,620.36	22,500	3,170.58
95% Clomazone technical	109,100	15,799.23	106,300	14,979.22
95% Cyhalofop-butyl technical	137,500	19,911.95	132,200	18,628.9
97% Diuron technical	42,500	6,154.6	39,500	5,566.12
98% Fenclorim technical	116,500	16,870.85	112,500	15,852.89
95% Fenoxaprop-P-ethyl technical	170,500	24,690.82	170,500	24,025.93
96% Fluroxypyr technical	138,500	20,056.77	138,500	19,516.66
95% Fomesafen technical	134,400	19,463.03	134,400	18,938.91
95% Glufosinate ammonium technical	80,500	11,657.54	71,500	10,075.39
95% Glyphosate technical	29,300	4,243.06	24,700	3,480.59
95% Haloxyfop-P-methyl technical	160,500	23,242.68	154,500	21,771.3
97% Metolachlor technical	50,500	7,313.12	50,500	7,116.18
95% Metsulfuron-methyl technical	135,500	19,622.32	135,500	19,093.92
95% Nicosulfuron technical	193,500	28,021.55	193,500	27,266.96
97% Oxyfluorfen technical	160,500	23,242.68	157,500	22,194.04
95% Pendimethalin technical	62,500	9,050.89	62,500	8,807.16
95% Pretilachlor technical	34,300	4,967.13	34,300	4,833.37
97% Pyrazosulfuron-ethyl technical	235,500	34,103.74	232,300	32,734.45



80% Quinclorac technical	144,800	20,969.1	143,000	20,150.78
95% Quizalofop-P-ethyl technical	210,500	30,483.39	203,000	28,605.65
95% Tribenuron-methyl technical	118,000	17,088.08	102,500	14,443.74
95% Trifluralin technical	41,000	5,937.38	41,000	5,777.5

*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 June, 2023





TABLE 15: FOB Shanghai prices of main herbicides in China, 8 June, 2023, USD/t

Product	20230508	20230608
98% 2,4-D technical	2,404.29	2,009.43
92% Acetochlor technical	4,334.5	4,217.78
97% Atrazine technical	5,048.25	4,912.31
96% Bensulfuron-methyl technical	24,784.9	22,739.33
92% Butachlor technical	3,594.95	3,141.18
95% Clomazone technical	15,441.5	14,638.28
95% Cyhalofop-butyl technical	18,730.72	17,521.22
97% Diuron technical	6,043.74	5,460.92
98% Fenclorim technical	16,478.56	15,481.88
95% Fenoxaprop-P-ethyl technical	24,085.82	23,437.22
96% Fluroxypyr technical	19,556.78	19,030.14
95% Fomesafen technical	19,004.81	18,493.03
95% Glufosinate ammonium technical	10,937.65	9,445.76
95% Glyphosate technical	4,512.99	3,690.05
95% Haloxyfop-P-methyl technical	22,663.2	21,225.92
97% Metolachlor technical	7,197.76	7,003.94
95% Metsulfuron-methyl technical	19,165.35	18,649.25
95% Nicosulfuron technical	27,305.97	26,570.65
97% Oxyfluorfen technical	21,851.9	20,864.77
Paraquat 42% TK	3,300.44	3,300
95% Pendimethalin technical	8,881.24	8,642.08
95% Pretilachlor technical	4,912.6	4,780.31
97% Pyrazosulfuron-ethyl technical	33,236.16	31,900.76





80% Quinclorac technical	20,472.13	19,672.35
95% Quizalofop-P-ethyl technical	29,711.16	27,878.53
95% Tribenuron-methyl technical	16,671.74	14,082.76
95% Trifluralin technical	5,665.26	5,512.7

*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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