

# Herbicides China Monthly Report 202207

Issue 7 July 29 2022





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## Headline

Hebei Lansheng will invest more efforts in preparation for the 20,000 t/a clethodim TK project, which is planned to be located in its production base in Economic Development Zone of Jinzhou City, Hebei Province.

Qingdao Hansen plans a 9,000 t/a pesticide TC project to expand its overall production capability. The project, which will be undertaken by its subsidiary Binhai Hansen, involves 6,000 t/a trifluralin TC, 2,000 t/a fomesafen TC, 500 t/a cyazofamid TC and 500 t/a lufenuron TC.

Into July, ex-works prices of most herbicides TC declined due to decreased downstream demand in the off-season.

In Jan.–April 2022, major export destinations of China's 2,4-D products were Brazil, Ghana and Nigeria. Of the 14 major destinations, Ghana imported 1,783.40 tonnes (actual volume), which accounted for 19.07% of China's total 2,4-D export to major destinations, a huge jump from the same period last year when the country did not import any 2,4-D product from China.

Diquat dibromide products had become a big contributor to Nanjing Red Sun's profit growth in 2021. Besides, the company has been actively developing diquat dichloride business, and by the end of 2022, its diquat dichloride capacity is expected to reach 30,000 t/a.

Yongnong BioSciences's wholly-owned subsidiary Ningxia Yongnong has completed the construction of 40,000 t/a 40% diquat TK project and put the lines into trial run. Yongnong BioSciences already boasts 10,000 t/a 40% diquat TK capacity in its Shaoxing production base in Zhejiang Province.

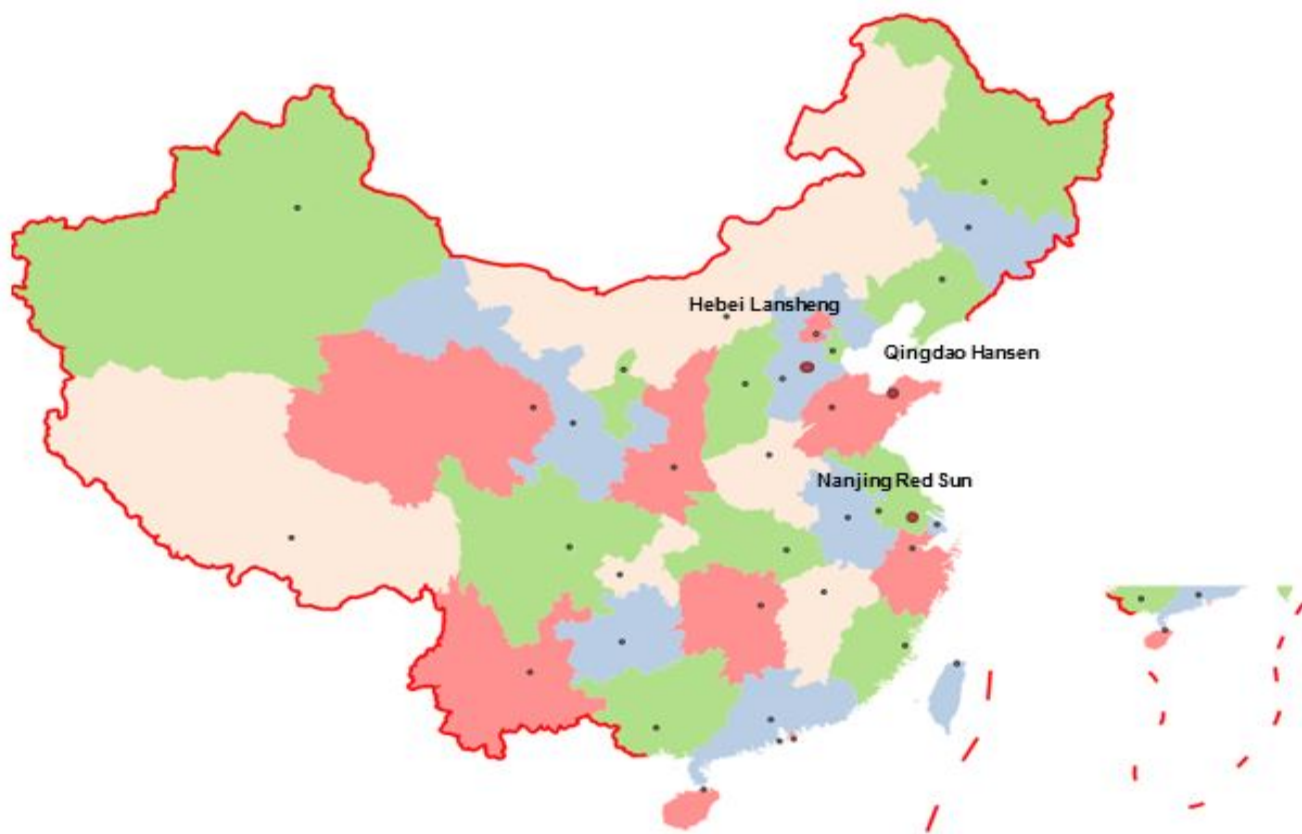
In July, supply of paraquat TK in China went relatively tight, and its FOB price jumped up quickly. In addition, the price of pyridine remained at a high level, which also played a role in the price hike of paraquat TK. It is expected that FOB price of paraquat TK will stabilise in the next month.

Jiangsu Tianrong has transferred all its valid pesticide registration resources to the holding subsidiary Heilongjiang Jixiang. It is expected that Jiangsu Tianrong will reassign other resources, like technological assets, brands, to Heilongjiang Jixiang, and build the latter into a large-scale pesticide producer.

Workplace safety checks have been carried out in many provinces, as the high-temperature season has come, and to provide a pleasant environment for the upcoming 20th National Congress of the CPC. Since June, Shandong, Jiangsu, Jiangxi, etc. have launched workplace safety improvement campaigns targeting chemical enterprises. It is expected that such campaigns will last until the end of Q3 this year.

In July, Liaoning Provincial Industry and Information Technology Department, together with other six departments, released the Measures for Administration of the Accreditation of Chemical Parks in Liaoning Province. The Measures pays much attention to industrial structure, environmental protection and safe production in chemical parks. It also emphasises that new or transformation & expansion projects of chemical industry outside recognised chemical parks are not allowed.







### Editor's note

In July, herbicide market has weakened. Ex-works prices of the two mainstream products glyphosate TC and glufosinate-ammonium TC declined. The prices of some herbicides TC dropped due to decreased downstream demand.

Regarding company dynamics, Hebei Lansheng proposed to build 20,000 t/a clethodim TK production lines in late June, Qingdao Hansen planned to expand production capacity of pesticides TC, and Yongnong BioSciences completed the construction of large-scale diquat TK project. Besides, Nanjing Red Sun expressed that its diquat dichloride capacity would reach 30,000 t/a by the end of 2022.

As to latest policy, many provinces have made plans to strengthen workplace safety in chemical enterprises. Since June, Shandong, Jiangsu, Jiangxi, etc. have launched workplace safety improvement campaigns. Such campaigns will last until the end of Q3 this year. And this month, Liaoning Province released the *Measures for Administration of the Accreditation of Chemical Parks* in Liaoning Province.

The USD/CNY exchange rate in this newsletter is USD1.00=CNY6.6863 on 1 July, 2022, sourced from the People's Bank of China. All the prices mentioned in this newsletter will include the VAT, unless otherwise specified.





## Company dynamics

## Hebei Lansheng plans new capacity of 20kt/a clethodim TK

Summary: Hebei Lansheng will invest more efforts in preparation for the 20,000 t/a clethodim TK project, which is planned to be located in its production base in Economic Development Zone of Jinzhou City, Hebei Province.

In late June 2022, CCM learned from Hebei Lansheng Biotech Co., Ltd. (Hebei Lansheng) that the company would invest more efforts in preparation for the 20,000 t/a 37% clethodim TK project. According to its plan, the new production line and supporting facilities will be situated in its existing clethodim workshops in the production base in Economic Development Zone of Jinzhou City, Hebei Province.

Hebei Lansheng, headquartered in Jinzhou City, has developed into a Top100 pesticide producer (by sales volume) as well as a leading player in clethodim industry in China. It has already put into operation a 4,000 t/a clethodim TC production line in the Jinzhou base. The 4,000 t/a capacity came after an expansion of 3,000 t/a passing completion acceptance in Jan. 2022, along with an expansion of boscalid TC capacity to 500 t/a from 50 t/a. In addition, its wholly-owned subsidiary, Hebei Lanrun Plant Protection Technology Co., Ltd. (Hebei Lanrun), also puts into operation the capacity of 1,000 t/a clethodim TC and 2,000 t/a clethodim TK. Obviously, Hebei Lansheng has steadily ramped up its investment in clethodim business.

**TABLE 1:** Product and capacity of Hebei Lansheng and Hebei Lanrun

Producer	Location	Product and capacity
Hebei Lansheng	Economic Development Zone of Jinzhou City, Shijiazhuang City, Hebei Province	4,000 t/a Clethodim TC, 500 t/a boscalid TC, and etc.
Hebei Lanrun	Lingang Economic & Technological Development Zone of Cangzhou City, Hebei Province	1,000 t/a Clethodim TC, 2,000 t/a clethodim TK, 100 t/a sethoxydim TC, 2,000 t/a metribuzin TC, 500 t/a spirotetramat TC, 300 t/a haloxyfop-methyl TC, 200 t/a cyazofamid TC, 100 t/a picoxystrobin TC, 100 t/a flonicamid TC, 300 t/a isoxadifen-ethyl, 500 t/a clethodim 120g/L EC and 900 t/a clethodim 240g/L EC

Source: CCM

Echoing the latest development planning in its parent company, Hebei Lanrun has planned a pesticide TC & adjuvant production line transformation and environmental protection facilities upgrading project, to optimise its product mix and improve waste treatment. It proposes:

- Keep the capacity unchanged and conduct technological upgrading to the lines of 1,000 t/a clethodim TC, 2,000 t/a clethodim TK, 100 t/a sethoxydim TC, 300 t/a isoxadifen-ethyl, 500 t/a clethodim 120g/L EC and 900 t/a clethodim 240g/L EC;
- Keep the capacity unchanged and conduct technological upgrading to the line of 500 t/a spirotetramat TC, and repurpose old equipment to produce 2,5-dimethylphenylacetyl chloride, an intermediate of spirotetramat;
- Phase out the lines of 2,000 t/a metribuzin TC, 300 t/a haloxyfop-methyl TC, 200 t/a cyazofamid TC, 100 t/a picoxystrobin TC and 100 t/a flonicamid TC;
- Upgrade environmental protection facilities.





Originally, Hebei Lanrun wanted to expand spirotetramat TC capacity, but in the end it came to a final decision of maintaining the total capacity while upgrading production technology. From its proposed product plan, it is concluded that holding large-scale production capacity of clethodim products is still the focus of the company's development.

### **Qingdao Hansen to expand pesticide TC capacity**

Summary: Qingdao Hansen plans a 9,000 t/a pesticide TC project to expand its overall production capability. The project, which will be undertaken by its subsidiary Binhai Hansen, involves 6,000 t/a trifluralin TC, 2,000 t/a fomesafen TC, 500 t/a cyazofamid TC and 500 t/a lufenuron TC.

On 11 July, Qingdao Hansen Biologic Science Co., Ltd. (Qingdao Hansen) revealed that it had planned in its subsidiary Shandong Binhai Hansen Biologic Science Co., Ltd. (Binhai Hansen) a 9,000 t/a pesticide TC project, which involves 6,000 t/a trifluralin TC, 2,000 t/a fomesafen TC, 500 t/a cyazofamid TC and 500 t/a lufenuron TC.

Qingdao Hansen is one of China's backbone enterprises in pesticide industry, with quite strong competitiveness and influence in the market. For many years, the company was listed as a member of Top100 pesticide enterprises (by sales value) and it ranks 46th in the list of 2022 version.

Binhai Hansen, established in 2008, is located in Lingang Industrial Park of Weifang Binhai Economic and Technological Development Zone, Weifang City, Shandong Province. It is an important production base for Qingdao Hansen. Currently, it mainly produces intermediates, boasting production capacity of 4,000 t/a 4-chlorobenzotrifluoride and 5,000 t/a 4-chloro-3,5-dinitrobenzotrifluoride. 4-Chlorobenzotrifluoride is a key raw material for 4-chloro-3,5-dinitrobenzotrifluoride, and the latter is an important upstream material for the production of trifluralin.

According to Qingdao Hansen, its existing pesticide capacity would soon place a restriction on its overall development, so it should expand its total pesticide capacity, and at same time seize new opportunities and brave new challenges coming along with the ongoing evolution in pesticide industry. The 9,000 t/a pesticide TC project, came after comprehensive market researches, will boost the company's long-term growth. The four technical products proposed in this project, production technologies of which have been well mastered by Qingdao Hansen, are all pesticide products encouraged and supported by national industrial policies, and having bright market prospects.

Qingdao Hansen chooses Binhai Hansen for the project mainly because of the latter's location, spare land space and upstream-downstream connection. The industrial park Binhai Hansen resides in is a recognised chemical park in Shandong Province, positioned to serve pesticide industry. The park also accommodates many other pesticide enterprises with certain influence.

In the future, Qingdao Hansen will continue to develop Binhai Hansen, and expand production capacity of pesticide intermediates and technical products there. It is planned that once the 6,000 t/a trifluralin TC lines put into operation, Binhai Hansen's 4-chloro-3,5-dinitrobenzotrifluoride will not be sold out any more.





Although the 9,000 t/a pesticide TC project is in accordance with policies and documents rolled out by authorities at state, provincial, municipal and district levels, and its planned construction site is in line with layout planning of the Lingang Industrial Park, there are still risks before the company could acquire government approval. Construction will not start until Binhai Hansen goes through a whole series of administrative review and approval formalities—investment project record filing, energy efficiency appraisal, safety evaluation, occupational health assessment, environmental impact assessment, etc.







## Market analysis

### Many herbicides TC see decreased price in July

Summary: Into July, ex-works prices of most herbicides TC declined due to decreased downstream demand in the off-season.

Into July, ex-works prices of most herbicides TC declined. Decreased downstream demand in the off-season brought down the prices.

Prices of triazine herbicides TC either stabilised or dropped; the supply was quite stable, but downstream demand kept shrinking. Many amide herbicides TC saw their prices decrease since prime time for application of products containing active ingredients under this category was over, but production cost of these herbicides stayed high as prices of their raw materials were at a high level. Prices of organophosphorus herbicides TC went down. For instance, glufosinate-ammonium TC price declined against increasing supply, and glyphosate TC price slipped as many downstream buyers did not believe the market would grow stronger soon. Florasulam TC experienced a lower price compared with that in the last month, yet the price is higher against that in the same period last year.

Sulfonylurea herbicides TC had varied price trends. The price of nicosulfuron TC dipped with increased supply, the price of quizalofop-P-ethyl TC climbed due to growing export demand and little inventory in the market, while the price of bensulfuron-methyl TC steadied. The price of diquat TK kept stable. The product is mainly for export and downstream buyers make on-demand purchase. The price of diuron TC kept going up due to tight supply.



TABLE 2: Ex-works prices of main herbicides TC in early July 2022

Category	Product	Content of active ingredient	Ex-works price in early July, RMB/t	USD/t	MoM change based on RMB
Triazine herbicides	Atrazine TC	97%	38,000	5,683	Basically flat
	Ametryn TC	95%	45,000	6,730	Down
Sulfonylurea herbicides	Nicosulfuron TC	95%	280,000	41,877	Down
	Quizalofop-P-ethyl TC	95%	230,000	34,399	Up
	Bensulfuron-methyl TC	96%	200,000	29,912	Basically flat
Amide herbicides	Pretilachlor TC	95%	44,000	6,581	Down
	Acetochlor TC	92%	42,000	6,282	Down
	Metolachlor TC	97%	52,000	7,777	Basically flat
Organophosphorus herbicides	Glufosinate-ammonium TC	95%	235,000	35,146	Down
	Glyphosate TC	95%	64,600	9,662	Down
Triazolo[1,5-a]pyrimidine-2-sulfonamide herbicides	Florasulam TC	98%	515,000	77,023	Down
Bipyridinium herbicides	Diquat TK	40%	58,000	8,674	Basically flat
Substituted phenylurea herbicides	Diuron TC	97%	47,000	7,029	Up

Source:CCM



## Import and export

### 2,4-D export to Ghana sees big YoY jump in Jan.–April 2022

Summary: In Jan.–April 2022, major export destinations of China's 2,4-D products were Brazil, Ghana and Nigeria. Of the 14 major destinations, Ghana imported 1,783.40 tonnes (actual volume), which accounted for 19.07% of China's total 2,4-D export to major destinations, a huge jump from the same period last year when the country did not import any 2,4-D product from China.

According to the import and export data from Tranalysis, in Jan.–April 2022, 2,4-D products from China were mainly exported to 14 destinations such as Brazil, Ghana and Nigeria. Brazil is the largest export destination, and quite surprisingly Ghana came the second. During these four months, Ghana imported 1,783.40 tonnes (actual volume, the same hereafter), which accounted for 19.07% of China's total 2,4-D export to major destinations, a huge jump from the same period last year when the country did not import any 2,4-D product from China.

Here's the information of China's 2,4-D exports to major destinations in Jan.–April 2022.

#### 2,4-D technical

- Specifications for export: 98% Tech
- Major destination: China exported 4,882.83 tonnes of 2,4-D technical products to major destinations, at an average price of USD4.72/kg. In particular, 3,164.80 tonnes went to Brazil, which made up 64.81% to the total 2,4-D technical export in this period.
- Compared with the same period last year, the first four months this year saw 2,4-D technical export to major destinations decrease by 931.96 tonnes. The export to Brazil declined by 35.60 tonnes, but there was a gain of 9.78 percentage point in its share to the total.

#### 2,4-D formulation

- Specifications for export: 2,4-D amine salt 600g/L SL, 2,4-D amine salt 720g/L SL, 2,4-D amine salt 860g/L SL
- Major destination: China exported 4,467.51 tonnes of 2,4-D formulation products to major destinations, at an average price of USD2.90/kg. The largest destination 2,4-D formulation export was Ghana, with 1,783.40 tonnes, which made up 39.92% to the total 2,4-D formulation export.
- Compared with the same period last year, the first four months this year saw 2,4-D formulation export to major destinations jump by 1,361.76 tonnes. Export to Ghana experienced a big YoY jump as the country did not import any 2,4-D product from China during Jan.–April 2021.





TABLE 3: Exports of China's 2,4-D technical to major destinations, Jan.–April 2022

No.	Destination	Volume, kg	Value, USD	Unit price, USD/kg
1	Brazil	3,164,800.00	14,813,124.00	4.68
2	Russia	642,933.60	3,526,405.94	5.48
3	Argentina	562,600.00	2,423,700.00	4.31
4	Ecuador	140,500.00	642,071.09	4.57
5	The Philippines	134,000.00	455,067.31	3.40
6	Costa Rica	110,400.00	558,360.00	5.06
7	Turkey	103,600.00	513,320.00	4.95
8	Paraguay	24,000.00	112,320.00	4.68
<b>Total</b>		<b>4,882,833.60</b>	<b>23,044,368.33</b>	<b>4.72</b>

Note: The data, sourced from Tranalysis, were updated to 1 July, 2022

Source: Tranalysis





TABLE 4: Exports of China's 2,4-D formulation to major destinations, Jan.–April 2022

No.	Destination	Volume, kg	Value, USD	Unit price, USD/kg
1	Ghana	1,783,403.80	4,876,583.10	2.73
2	Nigeria	1,369,423.00	3,800,065.04	2.77
3	Brazil	674,940.00	2,287,041.00	3.39
4	Peru	385,044.14	1,196,347.04	3.11
5	Ecuador	103,523.00	376,244.06	3.63
6	The Philippines	65,101.00	123,645.50	1.90
7	Bangladesh	29,595.00	71,670.00	2.42
8	Tanzania	28,416.00	98,228.00	3.46
9	Costa Rica	19,840.00	83,583.60	4.21
10	Panama	8,225.28	36,748.80	4.47
<b>Total</b>		<b>4,467,511.22</b>	<b>12,950,156.14</b>	<b>2.90</b>

Note: The data, sourced from Tranalysis, were updated to 1 July, 2022

Source: Tranalysis



**TABLE 5:** Export volume of China's 2,4-D technical to major destinations, Jan.–April 2021 vs Jan.–April 2022

No.	Jan.–April 2021			Jan.–April 2022		
	Destination	Volume, kg	Share	Destination	Volume, kg	Share
1	Brazil	3,200,400.00	55.04%	Brazil	3,164,800.00	64.81%
2	Indonesia	544,000.00	9.36%	Russia	642,933.60	13.17%
3	Argentina	543,401.67	9.35%	Argentina	562,600.00	11.52%
4	Turkey	424,000.00	7.29%	Ecuador	140,500.00	2.88%
5	Paraguay	305,000.00	5.25%	The Philippines	134,000.00	2.74%
6	Russia	228,000.00	3.92%	Costa Rica	110,400.00	2.26%
7	India	216,004.31	3.71%	Turkey	103,600.00	2.12%
8	The Philippines	150,000.00	2.58%	Paraguay	24,000.00	0.49%
	<b>Sub-total</b>	<b>5,610,805.98</b>	<b>96.49%</b>	<b>Total</b>	<b>4,882,833.60</b>	<b>100.00%</b>

Note: The data, sourced from Tranalysis, were updated to 1 July, 2022

Source: Tranalysis



**TABLE 6:** Export volume of China's 2,4-D formulation to major destinations, Jan.–April 2021 vs Jan.–April 2022

No.	Jan.–April 2021			Jan.–April 2022		
	Destination	Volume, kg	Share	Destination	Volume, kg	Share
1	Brazil	576,000.00	18.55%	Ghana	1,783,403.80	39.92%
2	Indonesia	571,920.00	18.41%	Nigeria	1,369,423.00	30.65%
3	Ecuador	411,520.79	13.25%	Brazil	674,940.00	15.11%
4	Peru	281,256.51	9.06%	Peru	385,044.14	8.62%
5	Uganda	263,650.96	8.49%	Ecuador	103,523.00	2.32%
6	Mexico	262,090.29	8.44%	The Philippines	65,101.00	1.46%
7	Nigeria	181,344.00	5.84%	Bangladesh	29,595.00	0.66%
8	Kenya	159,396.94	5.13%	Tanzania	28,416.00	0.64%
9	Bangladesh	117,360.53	3.78%	Costa Rica	19,840.00	0.44%
10	Tanzania	98,770.00	3.18%	Panama	8,225.28	0.18%
<b>Sub-total</b>		<b>2,923,310.03</b>	<b>94.13%</b>	<b>Total</b>	<b>4,467,511.22</b>	<b>100.00%</b>

Note: The data, sourced from Tranalysis, were updated to 1 July, 2022

Source: Tranalysis



## Paraquat and Pyridine

### Nanjing Red Sun: diquat dichloride capacity to reach 30kt/a by the end of 2022

Summary: Diquat dibromide products had become a big contributor to Nanjing Red Sun's profit growth in 2021. Besides, the company has been actively developing diquat dichloride business, and by the end of 2022, its diquat dichloride capacity is expected to reach 30,000 t/a.

Early July, it is learned from Nanjing Red Sun Co., Ltd. (Nanjing Red Sun) that diquat dibromide business had become a big contributor to its profit growth in 2021. Its diquat dibromide capacity is 5,000 t/a (converted to 100% AI). According to the company, if roughly calculated on its revenue from diquat dibromide business, it takes up over 50% of domestic market share. In 2021, it had a nearly full order book on diquat dibromide products.

According to Nanjing Red Sun, in its future planning in pyridine and herbicide business, it will spend more efforts on the development of diquat dichloride business, besides the existing diquat dibromide business. Diquat dibromide is a non-selective herbicide, which can be widely applied in orchards, plantations for tea and rubber, and non-cultivated land. It is also used to kill weeds in fields of corn, sugarcane, cotton, vegetables, and to dehydrate plants. Likewise, diquat dichloride also has non-selective, broad-spectrum, quick-acting feature. It loses biological activity in soil, keeps intact the soil fertility and water retention, and thus is quite eco-friendly. Moreover, diquat dichloride is more cost-effective than diquat dibromide, as the former requires less in production cost and has efficacy 1.4 times of that of the latter. So diquat dichloride will hold greater competitive edge in international market.

Diquat dichloride is a self-developed and patented product of Nanjing Red Sun, and is exclusively produced by the company. As of early July, 10,000 t/a capacity had been put into trial run in its production base in Wanzhou Industrial Park, Chongqing Municipality. Another 10,000 t/a capacity is under construction in the park. In addition, the company has planned 10,000 t/a capacity in its Anhui base. That is to say, by the end of 2022, diquat dichloride capacity in Nanjing Red Sun could reach 30,000 t/a.

Nanjing Red Sun mainly engages in the business of pyridine & pyridine derivatives, herbicides, and pyrethroid insecticides. So far, it has accumulated strong technological advantage in the production of pyridine & pyridine derivatives. With shifting its centre of gravity to diquat products, the company faces challenges in overseas pesticide registration as well as in market competition. For the diquat dichloride business, Nanjing Red Sun sets its eyes on the international market. To acquire registrations in foreign countries, it takes at least two years. As for diquat dibromide, it is the company's main export at present. Many other diquat dibromide producers are competing with Nanjing Red Sun for larger share in overseas market.

### Yongnong BioSciences to see big jump in diquat TK capacity

Summary: Yongnong BioSciences's wholly-owned subsidiary Ningxia Yongnong has completed the construction of 40,000 t/a 40% diquat TK project and put the lines into trial run. Yongnong BioSciences already boasts 10,000 t/a 40% diquat TK capacity in its Shaoxing production base in Zhejiang Province.

It is learned that the construction of Ningxia Yongnong BioSciences Co., Ltd. (Ningxia Yongnong)'s 40,000 t/a 40% diquat TK project







finished on 8 June, and the lines went into trial production on 15 June. The trial run period lasts until 15 Sept. this year. Ningxia Yongnong is a wholly-owned subsidiary of Yongnong BioSciences Co., Ltd. (Yongnong BioSciences). The parent company also boasts 10,000 t/a 40% diquat TK capacity in its home production base in Hangzhou Bay Shangyu Economic and Technological Development Zone, Shaoxing City, Zhejiang Province. According to Yongnong BioSciences, it will assist Ningxia Yongnong in stabilising diquat TK output rate during the commissioning operation, and enforcing rule-abiding practices in the process, so as to lay a solid foundation for project completion acceptance check.

To serve its overall development plan, Yongnong BioSciences has so far launched multiple projects revolving around non-selective herbicides series and supporting intermediates in Ningxia Yongnong, which was established in Oct. 2018 and is based in New Material Park of Ningdong Energy Chemical Industry Base, Yinchuan City, Ningxia Hui Autonomous Region. Before this diquat TK project, Ningxia Yongnong has put into operation capacity of 6,250 t/a methyldiethoxyphosphine; the product is an important intermediate for the production of glufosinate-ammonium TC. This is the 1<sup>st</sup> phase of a large-scale high-efficacy pesticide TC and intermediate project; the 2<sup>nd</sup> phase will build production lines of 10,000 t/a glufosinate-ammonium TC, 6,250 t/a methyldiethoxyphosphine and supporting facilities, and the 3<sup>rd</sup> phase involves another 10,000 t/a glufosinate-ammonium TC production line, two lines of methyldiethoxyphosphine (totalling 12,500 t/a) and supporting facilities. Both of the latter two phases are under construction now.

Besides the expansion of Ningxia Yongnong, Yongnong BioSciences has been actively developing the Shaoxing production base. In the past two years, the company put into production the 10,000 t/a 40% diquat TK line, along with other newly-built capacity, and improved its glufosinate-ammonium TC production lines. As of 15 June, its Shaoxing production base had the following lines in operation: 10,000 t/a diquat TK, 6,400 t/a glufosinate-ammonium TC, 3,000 t/a glufosinate-p TC, 3,000 t/a prochloraz TC, 1,200 t/a picloram TC, 1,000 t/a etoxazole TC, 900 t/a desmedipham TC, 900 t/a phenmedipham TC, 500 t/a prochloraz-manganese chloride complex TC, 300 t/a ethofumesate TC, 130 t/a clopyralid TC, 100 t/a fluroxypyr-meptyl TC and large-scale production equipment for pesticide formulations. Moreover, it had built up 1,200 t/a bifenazate TC capacity; the lines went into trial run on 8 April.

With bans and use restrictions on paraquat in many countries worldwide, large void in the market is left to be filled with other non-selective herbicide alternatives. Many producers fix their eyes on glyphosate, glufosinate-ammonium, glufosinate-p and diquat, and the competition goes increasingly fierce. Against this backdrop, diquat market grows and provides ample opportunities.

Diquat can also be used as plant growth regulator, accelerating crop ripening, or fast drying down plants, such as potato, oilseed rape, cotton and rice, prior to harvest; or use it as rice desiccant. Domestic producers have noticed these applications and tried to facilitate better use of diquat products.

This time, the big jump in diquat TK capacity in Yongnong BioSciences will boost the company's competitiveness and say in diquat industry. It will also drive domestic diquat market forward in general.

### FOB Price of paraquat TK jumps in July

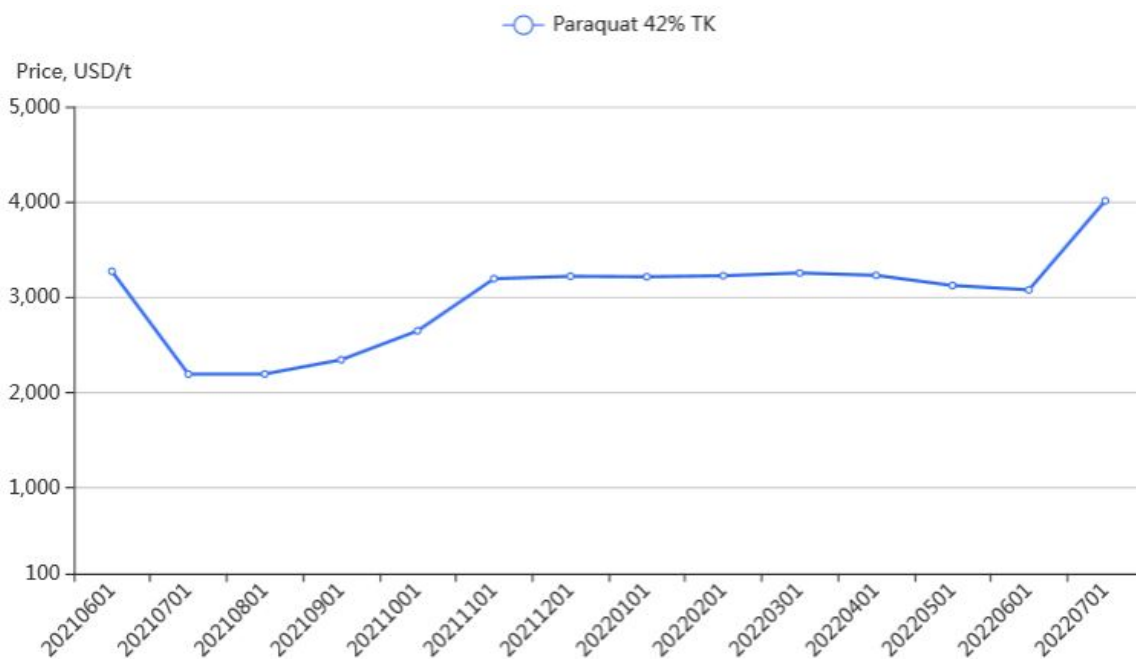




Summary: In July, supply of paraquat TK in China went relatively tight, and its FOB price jumped up quickly. In addition, the price of pyridine remained at a high level, which also played a role in the price hike of paraquat TK. It is expected that FOB price of paraquat TK will stabilise in the next month.

In July, FOB price of paraquat TK jumped up quickly, mainly because its supply went tighter as domestic producers lowered their operating rates. In addition, the price of the important raw material pyridine remained at a high level, which has given a strong support to the price paraquat TK. It is expected that FOB price of paraquat TK will stabilise in the next month, since overseas demand will taper off in the coming low season.

FIGURE 1: FOB price of paraquat 42% TK in China, June 2021–July 2022



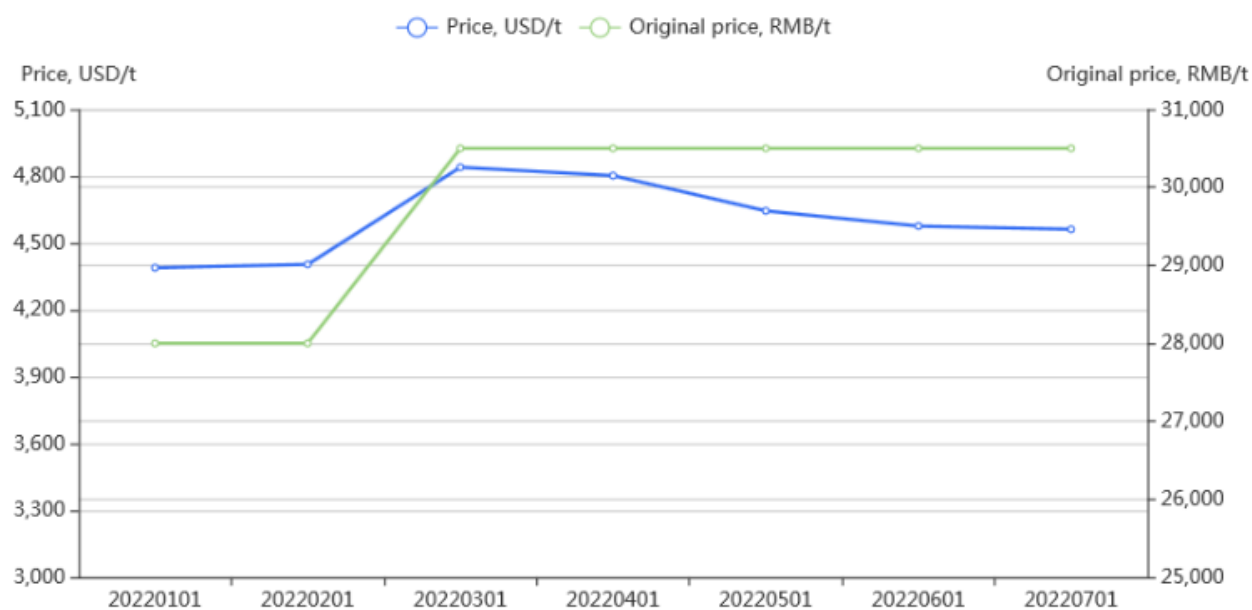
Note: The monthly prices here are the prices recorded in the first half of each month.

Source: CCM





FIGURE 2: Ex-works price of pure pyridine in China, Jan.–July 2022



Source:CCM

TABLE 7: YoY change of pyridine ex-works price, Jan.–July 2022

Month	YoY change of pyridine ex-works price
Jan. 2022	60.00%
Feb. 2022	60.00%
March 2022	69.44%
April 2022	64.86%
May 2022	64.86%
June 2022	56.41%
July 2022	56.41%

Source:CCM





## Registration

**Jiangsu Tianrong transfers all pesticide registrations to its holding subsidiary**

Summary: Jiangsu Tianrong has transferred all its valid pesticide registration resources to the holding subsidiary Heilongjiang Jixiang. It is expected that Jiangsu Tianrong will reassign other resources, like technological assets, brands, to Heilongjiang Jixiang, and build the latter into a large-scale pesticide producer.

Searches on the website of the Institute for the Control of Agrochemicals, Ministry of Agriculture and Rural Affairs (ICAMA) show that Jiangsu Tianrong Group Co., Ltd. (Jiangsu Tianrong) had already transferred all valid pesticide registration resources (120 in total) under the names of Jiangsu Lulilai Co., Ltd. (Jiangsu Lulilai) and itself to the holding subsidiary Heilongjiang Jixiang Agrochemical Co., Ltd. (Heilongjiang Jixiang) as of early July. Heilongjiang Jixiang was co-founded by Jiangsu Tianrong (with 55% shares) and Shandong Rongtai Chemical Co., Ltd. in late 2020; it is located in Anda Economic Development Zone Fine Chemical Industrial Park, Suihua City, Heilongjiang Province. Jiangsu Tianrong plans to build the new subsidiary into a large-scale pesticide producer.

Operation in Jiangsu Tianrong and its subsidiary Jiangsu Lulilai, both located in Xiangshui Ecological Chemical Park, Yancheng City, Jiangsu Province, has been greatly impacted by stricter requirements on work safety and environmental protection. The explosion in March 2019 in the park which caused extremely severe aftermaths had delivered a heavy blow to chemical enterprises there and led to plant closures and eventually company withdrawals. Jiangsu Tianrong and Jiangsu Lulilai passed governmental acceptance check for closure and withdrawal in late 2020.

**TABLE 8:** Pesticide capacity (before closure) of Jiangsu Tianrong and Jiangsu Lulilai in Xiangshui Ecological Chemical Park

Company	Product and capacity
Jiangsu Tianrong	6,600 t/a Monosultap TC, 7,470 t/a bisultap TK, 3,000 t/a cartap TC, 100 t/a thiocyclam-hydrogenoxalate TC, 120 t/a cloquintocet-mexyl, 100 t/a beta-cypermethrin TC, 100 t/a bifenthrin TC, 100 t/a metsulfuron-methyl TC, 50 t/a chlorsulfuron TC, 50 t/a chlorimuron-ethyl TC, 100 t/a tribenuron-methyl TC, 50 t/a ethametsulfuron-methyl TC, 50 t/a pyrazosulfuron-ethyl TC, 100 t/a bensulfuron-methyl TC, 100 t/a nicosulfuron TC, 50 t/a thifensulfuron-methyl TC, 300 t/a fenoxaprop-P-ethyl TC, 100 t/a quizalofop-P-ethyl TC, and large-scale capacity for pesticide formulation products
Jiangsu Lulilai	20,000 t/a Butachlor TC, 20,000 t/a acetochlor TC, 1,000 t/a quinclorac TC, 1,000 t/a bentazone TC, 20,000 t/a butachlor 50% EC, 20,000 t/a acetochlor 50% EC, 1,000 t/a quinclorac 50% WP, 4,500 t/a bentazone 480g/L AS

Source:CCM

After the withdrawals, both Jiangsu Tianrong and Jiangsu Lulilai made modifications to their business registrations. Their registered addresses changed to Chemical Concentration Zone of Shuanggang County, Yancheng City, Jiangsu Province, and pesticide production is no longer included in their business scope. Therefore, Jiangsu Tianrong looked to the north, and started to set up a new production base in Northeast China.





The decision to integrate all the valid pesticide registrations into Heilongjiang Jixiang was made based upon Jiangsu Tianrong's overall development strategy, which would facilitate fast development of this new subsidiary. Of the 120 pesticide registrations, 29 are for pesticide TC products, 1 for TK product, and the rest 90 for formulation products. It is expected that, in the near future, Jiangsu Tianrong will reassign other resources, like technological assets, brands, to Heilongjiang Jixiang, and build the latter into a large-scale pesticide producer.



**TABLE 9:** Pesticide registrations of pesticide TC & TK transferred from Jiangsu Tianrong to Heilongjiang Jixiang

No.	Registration code	Pesticide name	Category	Expiry date	Certificate holder
1	PD20101416	40% Bisultap TK	Insecticide	2025/4/26	Heilongjiang Jixiang Agrochemical Co., Ltd.
2	PD20070105	90% Thiocyclam-hydrogenoxalate TC	Insecticide	2027/4/25	Heilongjiang Jixiang Agrochemical Co., Ltd.
3	PD20040063	95% Beta-cypermethrin TC	Insecticide	2024/12/19	Heilongjiang Jixiang Agrochemical Co., Ltd.
4	PD20040312	95% Monosultap TC	Insecticide	2024/12/19	Heilongjiang Jixiang Agrochemical Co., Ltd.
5	PD20150233	98% Pymetrozine TC	Insecticide	2025/1/15	Heilongjiang Jixiang Agrochemical Co., Ltd.
6	PD20070042	98% Cartap TC	Insecticide	2027/3/5	Heilongjiang Jixiang Agrochemical Co., Ltd.
7	PD20080610	95% Amitraz TC	Acaricide	2023/5/12	Heilongjiang Jixiang Agrochemical Co., Ltd.
8	PD20081602	90% Propisochlor TC	Herbicide	2023/11/12	Heilongjiang Jixiang Agrochemical Co., Ltd.
9	PD20080888	94% Acetochlor TC	Herbicide	2023/7/9	Heilongjiang Jixiang Agrochemical Co., Ltd.
10	PD20070293	95% Tribenuron-methyl TC	Herbicide	2022/9/21	Heilongjiang Jixiang Agrochemical Co., Ltd.
11	PD20172926	95% Mefenacet TC	Herbicide	2022/11/20	Heilongjiang Jixiang Agrochemical Co., Ltd.





12	PD20102188	95% Pretilachlor TC	Herbicide	2025/12/15	Heilongjiang Jixiang Agrochemical Co., Ltd.
13	PD20083823	95% Glyphosate TC	Herbicide	2023/12/15	Heilongjiang Jixiang Agrochemical Co., Ltd.
14	PDN19-92	95% Butachlor TC	Herbicide	2027/4/9	Heilongjiang Jixiang Agrochemical Co., Ltd.
15	PD20060217	95% Pendimethalin TC	Herbicide	2026/12/26	Heilongjiang Jixiang Agrochemical Co., Ltd.
16	PD20070099	95% Fenoxaprop-P-ethyl TC	Herbicide	2027/4/19	Heilongjiang Jixiang Agrochemical Co., Ltd.
17	PD20070237	95% Quizalofop-P-ethyl TC	Herbicide	2027/8/7	Heilongjiang Jixiang Agrochemical Co., Ltd.
18	PD20081765	95% Chlorimuron-ethyl TC	Herbicide	2023/11/18	Heilongjiang Jixiang Agrochemical Co., Ltd.
19	PD20050208	95% Bentazone TC	Herbicide	2025/12/23	Heilongjiang Jixiang Agrochemical Co., Ltd.
20	PD20092743	95% Nicosulfuron TC	Herbicide	2024/3/4	Heilongjiang Jixiang Agrochemical Co., Ltd.
21	PD20092007	96% Bensulfuron-methyl TC	Herbicide	2024/2/12	Heilongjiang Jixiang Agrochemical Co., Ltd.
22	PD20080110	96% Bensulfuron-methyl TC	Herbicide	2023/1/3	Heilongjiang Jixiang Agrochemical Co., Ltd.
23	PD20080935	96% Quinclorac TC	Herbicide	2023/7/17	Heilongjiang Jixiang Agrochemical Co., Ltd.





24	PD20096865	96% Metsulfuron-methyl TC	Herbicide	2025/12/31	Heilongjiang Jixiang Agrochemical Co., Ltd.
25	PD20102015	97% Thifensulfuron-methyl TC	Herbicide	2025/9/25	Heilongjiang Jixiang Agrochemical Co., Ltd.
26	PD20070176	97% Oxyfluorfen TC	Herbicide	2027/6/24	Heilongjiang Jixiang Agrochemical Co., Ltd.
27	PD20085579	97% Atrazine TC	Herbicide	2023/12/25	Heilongjiang Jixiang Agrochemical Co., Ltd.
28	PD20097400	98% Pyrazosulfuron-ethyl TC	Herbicide	2024/10/28	Heilongjiang Jixiang Agrochemical Co., Ltd.
29	PD20085625	98% Pyrazosulfuron-ethyl TC	Herbicide	2023/12/25	Heilongjiang Jixiang Agrochemical Co., Ltd.
30	PD20171392	98% Penoxsulam TC	Herbicide	2027/7/18	Heilongjiang Jixiang Agrochemical Co., Ltd.

Source: ICAMA







## Policy

### Workplace safety checks carried out in many provinces

Summary: Workplace safety checks have been carried out in many provinces, as the high-temperature season has come, and to provide a pleasant environment for the upcoming 20th National Congress of the CPC. Since June, Shandong, Jiangsu, Jiangxi, etc. have launched workplace safety improvement campaigns targeting chemical enterprises. It is expected that such campaigns will last until the end of Q3 this year.

Workplace safety checks have been carried out in many provinces, as the high-temperature season has come, and in order to provide a pleasant environment for the 20th National Congress of the Communist Party of China (CPC) scheduled in H2 2022. Since June, Shandong, Jiangsu, Jiangxi, etc. have carried out workplace safety improvement campaigns targeting chemical enterprises. It is expected that production in agrochemical enterprises will be affected by such checks to some extent.

On 19 June, an online meeting on work scheduling of workplace safety improvement of chemical (especially hazardous chemical) enterprises within Jiangsu Province was held. Officials of emergency management at all levels in the province should thoroughly analyse current situation of production safety, and arrange in-depth re-investigations on safety hazards and re-rectifications. During the meeting, it was warned that lessons must be drawn from recent safety accidents happened in hazardous chemical production across China. Strong and effective measures should be taken to co-ordinate and implement key tasks including comprehensive examination, centralised elimination of hazardous chemical safety risks, hundred-day specialised workplace safety rectification campaign targeting hazardous chemical enterprises. Supervision and enforcement of related laws and regulations should be strengthened to pre-empt safety accidents. The provincial-level emergency management department required immediate launch of re-investigation on safety hazards and re-rectification, careful search of problems and weak links, in order to root out risks. The officials should study safety accidents happened before, do troubleshooting based on causes found in previous accidents in petrochemical and agrochemical production enterprises, and have knowledge of their risk situations. In the investigation, attention should be focused on equipment used in hydrogenation process, glufosinate-ammonium production, ethylene glycol production through ethylene oxide, and the like. For old and out-dated production equipment, more efforts should be put in risk identification, and classified rectification be adopted. As to construction projects involving hazardous chemicals, safety measures must be examined strictly to stop dangerous and backward technology of unknown sources from being applied; project commissioning procedures must be followed to avoid accidents. Besides, chemical enterprises would be prompted to better manage safety risks of environmental protection facilities.

On 2 July, government of Shouguang City, Shandong Province, held an online meeting to mobilise support from major parties involved, and deploy human resources for the three special campaigns for safe production: warning & education, fighting unlawful & illegal violations, investigation on safety hazards & rectification. The three campaigns started from mid-June and will last until the end of Oct.; they will play the leading role in workplace safety improvement in the city.

On 7 July, the Office of Department of Emergency Management of Jiangxi Province released the *Plan of Special Inspection on Safety Training in Hazardous Chemical and Other Key Industries in the Province*. According to the Plan, targets of the inspection are production





and operation enterprises of hazardous chemicals, and industry & trading companies in metal smelting industry. This round of inspection will last until mid-Aug. and the work is divided into three phases:

- 7–17 July: Self-examination in enterprises related;
- 18–31 July: Departments of emergency management at all levels in the province should carry out all-round inspections in enterprises under their administrative jurisdiction;
- 1–10 Aug.: Jiangxi Provincial Department of Emergency Management will organise four work groups to supervise the inspections in cities with subordinate districts and the Ganjiang New Area. The work groups will visit various enterprises to see how the inspections are performed, notify their supervision results, and make public illegal behaviours in batches at the proper time.

### **Liaoning releases measures for accreditation of chemical parks**

Summary: In July, Liaoning Provincial Industry and Information Technology Department, together with other six departments, released the Measures for Administration of the Accreditation of Chemical Parks in Liaoning Province. The Measures pays much attention to industrial structure, environmental protection and safe production in chemical parks. It also emphasises that new or transformation & expansion projects of chemical industry outside recognised chemical parks are not allowed.

In July, Liaoning Provincial Industry and Information Technology Department, together with other six departments, released the *Measures for Administration of the Accreditation of Chemical Park* in Liaoning Provinces. The Measures gives out nine prerequisites for accreditation and details the standards for evaluation. Parks should be graded on four main aspects: planning and layout, common infrastructures, work safety, and environmental protection. To be accredited as a chemical park, 60 points are the bottom line in the evaluation.

The document also requires annual self-review and official evaluation every three years for already recognised chemical parks. If they fail to apply for an official evaluation in time, their accreditation should be revoked. Regular supervision and review should be performed in recognised parks in accordance with related laws and regulations. If a park fails in a review check, or witnesses a major or more severe work safety accident or environmental emergency, it must be rectified within a specified period; during rectification, formalities of projects planned in the park should be halted, and after rectification, if it is still reviewed as unqualified, the accreditation should be revoked.

The Measures pays much attention to industrial structure, environmental protection and safe production in chemical parks. In the chapter Basic Principles, it requires:

- Concentration of upstream to downstream enterprises to facilitate circular economy and efficiency. Chemical parks should strictly follow industrial policies and their industrial development planning. They should help extend industrial chain in the parks, promote cascade utilisation of energy, so as to lift quality and benefits of the industrial development to a higher level.
- Green and safe development. Chemical parks should implement mechanisms and policies to ensure work safety and environmental protection. Careful management and supervision are necessary for this goal.
- Digitalisation and smart development. Common infrastructures and new infrastructures should be provided in chemical parks to improve public services and facilitate the construction of digital and smart parks. Application of smart technologies and "industrial internet + safe production" is encouraged to help park management.

In addition, the document emphasises that new or transformation & expansion projects of chemical industry outside recognised chemical parks are not allowed in the future, except projects to upgrade safety, environmental protection, energy saving, intelligence of production





equipment, upgrade oil quality, projects related to resources, clean energy, and projects to support other industries.





## News in Brief

### **Ningxia Lantian's bentazone & metamifop lines to pass acceptance check**

In June, the environmental protection acceptance monitoring report for the construction project of 1,200 t/a bentazone and 500 t/a metamifop production capacity, part of Ningxia Lantian Agricultural Development Co., Ltd. (Ningxia Lantian)'s 22,722 t/a high-efficacy and environmental-friendly pesticide project, was unveiled.

Previously, in Feb. 2019, Ningxia Lantian released information on the large-scale project for the first time. Construction content for the project involves lines of 600 t/a oxadisrgyl, 1,000 t/a nicosulfuron, 600 t/a isoproturon, 1,200 t/a bentazone, 300 t/a pinoxaden, 500 t/a metamifop and 6,000 t/a 2-methyl-4-chlorophenoxyacetic acid. All lines should be located in the Fine Chemical Zone of the Ningxia Pingluo Industrial Park. In Sept. 2020, the 600 t/a oxadisrgyl line passed environmental protection acceptance check arranged by the company itself.

The bentazone and metamifop lines started construction in Dec. 2020; they were built up in Nov. 2021 and put into trial production in Dec. 2021. Currently, these lines operate stably, and so do supporting facilities. According to the monitoring report, the production lines and auxiliary facilities meet the conditions for acceptance.

### **Sichuan has 22 approved chemical parks by July 2022**

In late June, the second-batch list of 16 approved chemical parks was jointly released by the Sichuan Provincial Economic and Information Department, Sichuan Provincial Development and Reform Commission and other four departments. This brought the total number of approved chemical parks in Sichuan Province to 22. The first-batch six parks were approved in late March this year.



TABLE 10: List of approved chemical parks in Sichuan Province (second batch)

No.	Chemical park	Location
1	Yuechi Chaoyang Chemical Park	Guang'an City
2	Nanchong Economic and Technological Development Chemical Park	Nanchong City
3	Dazhou Puguang Chemical Park	Dazhou City
4	Hejiang Lingang Chemical Park	Luzhou City
5	Luxian County Shenxianqiao Chemical Park	Luzhou City
6	Jiang'an Yangchun Chemical Park	Yibin City
7	Pengshan Chengmei Chemical Park	Meishan City
8	Meishan Ganmei Chemical Park	Meishan City
9	Weiyuan Shale Gas Comprehensive Utilisation Chemical Park	Neijiang City
10	Shehong Lithium Battery Chemical Park	Suining City
11	Mianzhu Xinshi Chemical Park	Deyang City
12	Mianzhu New Material Chemical Park	Deyang City
13	Panzhuhua Geliping Chemical Park	Panzhuhua City
14	Panzhuhua Vanadium and Titanium Chemical Park	Panzhuhua City
15	Shimian Zhuma Chemical Park	Ya'an City
16	Ya'an Yongxing Chemical Park	Ya'an City

Source: Sichuan Provincial Economic and Information Department

**TABLE 11:** List of approved chemical parks in Sichuan Province (first batch)

No.	Chemical park	Location
1	Guangan Xinqiao Chemical Park	Guang'an City
2	Mianyang Economic and Technological Development Chemical Park	Mianyang City
3	Daying Hongqi Chemical Park	Suining City
4	Suining Anju Chemical Park	Suining City
5	Zigong Chuannan New Material Chemical Park	Zigong City
6	Meishan High-tech Chemical Park	Meishan City

Source: Sichuan Provincial Economic and Information Department

### **Fuhua Tongda plans multiple new projects, 20kt/a glufosinate-ammonium included**

On 7 July, Sichuan Leshan Fuhua Tongda Agro-chemical Technology Co., Ltd. (Fuhua Tongda), signed with the Wutongqiao district government in Leshan City, Sichuan Province, the Investment Agreement of Fuhua Advanced Material Industrial Park Project. Some USD3.29 billion (RMB22 billion) will be invested in a package of projects, including comprehensive utilisation of associated resources in fluorite ores, fluorinated electronic special gas, 600,000 t/a lithium battery electrolyte, 100,000 t/a lithium iron phosphate cathode material, 50,000 t/a high-end phosphorus flame retardant, 20,000 t/a glufosinate-ammonium and supporting facilities.

### **Gansu Xinyu to put pesticide intermediate lines into trial production**

On 9 July, with support from Zhejiang Wynca Chemical Group Co., Ltd. (Zhejiang Wynca), phase I of the 17,000 t/a pesticide TC and intermediate project of Zhejiang Wynca's second-tier subsidiary Gansu West Xinyu Chemical Co., Ltd. (Gansu Xinyu) has progressed smoothly and is expected to be put into trial production in late Aug. The construction started in mid-June 2021.

Details of the project are as follows:

- Total investment: USD130.12 million (RMB870 million);
- Location: East Yumen Building Materials Chemical Park, Jiuquan City, Gansu Province;
- Covering area: 12.93 ha (phase I) and 16.40 ha (reserved for phase II), totalling 29.33 ha;
- Content:
  - Phase I: Production lines of 9,500 t/a pesticide intermediates, including 1,000 t/a 2,6-dichloroquinoxaline, 1,000 t/a 2-mercapto-6-chlorobenzoxazole;
  - Phase II: Production lines of 7,500 t/a pesticides TC, including 1,000 t/a quizalofop-P-ethyl, 500 t/a quizalofop-P-tefuryl, 500 t/a penoxsulam, 2,000 t/a bentazone, 500 t/a metamifop, 500 t/a fenoxaprop-P-ethyl, 1,000 t/a nicosulfuron and 1,000 t/a fluroxypyr-meptyl.

### **Veyong Bio-chemical to put 5,000 t/a glufosinate-ammonium project into production in Q3**

In H1 2022, Hebei Veyong Bio-chemical Co., Ltd. (Veyong Bio-chemical), a wholly-owned subsidiary of Limin Group Co. Ltd., took every



chance to proceed with construction of the 5,000 t/a glufosinate-ammonium project, against the backdrop of strict regional environmental inspections. As of 15 July, the construction work has come close to the end, 85% of the installation work has finished, formalities concerning workplace safety, environmental protection, etc. have been dealt with in an orderly manner, and preparations for production and personnel have been arranged. The project is to be put into production by late Q3 2022 as previously planned, with joint adjustment and testing scheduled in Sept.

Meanwhile, Veyong Bio-chemical will keep pushing forward with R&D on L-glufosinate production technology and application of research results to production, laying a solid foundation for its planning and development of follow-up products as well as for sustainable and high-quality development in the future.

### **Jiangsu Changqing's dicamba TC registration approved in Brazil**

As of 10 July, Jiangsu Changqing Agrochemical Co., Ltd. (Jiangsu Changqing) had its registration of dicamba TC approved in Brazil. Meanwhile, registration of pesticide formulations applied by Jiangsu Changqing and its partners, which contain dicamba TC products sourced from Jiangsu Changqing, has been in progress. Considering the unfinished dicamba formulation registration, Jiangsu Changqing's dicamba TC has not been rolled out in Brazil's market yet. Usually, it takes five to six years to acquire approval of a pesticide formulation product in Brazil.

### **Lier Chemical's subsidiary plans capacity for glufosinate-p TC and pinoxaden TC**

In early July, environmental impact assessment information of Jingzhou Sancaitang Chemical Technology Co., Ltd. (Jingzhou Sancaitang)'s green, high-efficacy, low-toxicity pesticides TC and new material project was publicised. Jingzhou Sancaitang, founded in 2018, is a subsidiary of Lier Chemical Co., Ltd. It proposed to build in Tanqiao Town, Jingzhou Development Zone, Hubei Province, production lines of 50,000 t/a glufosinate-p, 5,000 t/a chlorantraniliprole, 3,000 t/a cyantraniliprole, 2,000 t/a pinoxaden, 50,000 t/a fire retardants, plus lines of supporting intermediates, and public and auxiliary utilities.

### **Lier Chemical projects sound growth in H1 2022**

On 7 July, Lier Chemical Co., Ltd. (Lier Chemical) disclosed its performance projection of H1 2022. During the reporting period, though facing challenges in unfavourable situations such as COVID-19 resurgence in China and increasing raw material prices, Lier Chemical effectively organised production and ensured steady supply to satisfy customers' demands, with the help of improved management of supply chain and production. Thanks to rising sales volume and sales prices, major financial performance indicators of Lier Chemical experienced YoY growths in this period: total revenue was up 60.72%, operating profit up 119.69%, total profit up 117.84%, net profit attributable to equity holders of the listed company up 107.44% and basic earnings per share up 106.22%.

### **Sichuan Hebang estimates surging net profit in H1 2022**

On 13 July, Sichuan Hebang Biotechnology Co., Ltd. (Sichuan Hebang) disclosed its performance projection of H1 2022. During the reporting period, the company's net profit attributable to equity holders of the listed company jumped by an estimated 184.38% to 206.25% YoY, or USD252.12 million (RMB1,685.73 million) to USD282.03 million (RMB1,885.73 million). Thanks to rising demand for PMIDA,





glyphosate and ammonium chloride in downstream agricultural sector, and surging demand for sodium carbonate from downstream new energy industry for producing photovoltaic glass and lithium carbonate, sales prices of these products witnessed considerable YoY growths.

### **China develops new technology to quicken degradation of sulfonylurea herbicides**

In early July, it was reported that Tobacco Research Institute of the Chinese Academy of Agricultural Sciences, in collaboration with institutes from home and abroad, had developed a way to effectively diminish residue injury caused by sulfonylurea herbicides on sensitive succeeding crops, via photodegradation technology based on a single-atom-modified nanomaterial. The research article was published in *Chemical Engineering Journal*. Tests on rules, mechanism of photocatalytic degradation of sulfonylurea herbicides and phytotoxicity assessment were carried out during the research. It has found that the single-atom-modified carbon nitride nanomaterial the research team used had a significantly enhanced performance, and could simultaneously remove a variety of commonly used sulfonylurea herbicides with efficiency four times greater than natural degradation.







## Price Update

## Ex-works prices of key herbicide raw materials in China, 8 July, 2022

TABLE 12: Ex-works prices of key herbicide raw materials in China, 8 July, 2022

Raw Materials	20220608		20220708	
	Original Price (RMB/t)	Price (USD/t)	Original Price (RMB/t)	Price (USD/t)
98% Glycine	19,000	2,850.67	15,000	2,243.39
92% Iminodiacetonitrile	9,300	1,395.33	9,300	1,390.9
99% Isopropylamine	9,550	1,432.84	9,550	1,428.29
98% N-(Phosphonmethyl) Iminodiacetic acid	39,000	5,851.38	39,000	5,832.82
99% Phosphorus trichloride	10,830	1,624.88	9,200	1,375.95
99.9% Pyridine	30,500	4,576.08	30,500	4,561.57

Note: Ex-works price includes VAT.

Source: CCM

## Ex-works prices of main herbicides in China, 8 July, 2022



TABLE 13: Ex-works prices of main herbicides in China, 8 July, 2022

Product	20220608		20220708	
	Original Price (RMB/t)	Price (USD/t)	Original Price (RMB/t)	Price (USD/t)
92% Acetochlor technical	42,500	6,376.5	42,000	6,281.5
97% Atrazine technical	38,000	5,701.34	38,000	5,683.26
96% Bensulfuron-methyl technical	200,000	30,007.05	200,000	29,911.91
92% Butachlor technical	41,000	6,151.45	37,000	5,533.7
95% Clomazone technical	115,000	17,254.05	118,000	17,648.03
95% Cyhalofop-butyl technical	188,000	28,206.63	188,000	28,117.19
97% Diuron technical	45,500	6,826.6	47,000	7,029.3
98% Fenclorim technical	160,000	24,005.64	150,000	22,433.93
95% Fenoxaprop-P-ethyl technical	190,000	28,506.7	185,000	27,668.52
96% Fluroxypyr technical	175,000	26,256.17	176,000	26,322.48
95% Fomesafen technical	142,000	21,305.01	142,000	21,237.46
95% Glufosinate ammonium technical	256,500	38,484.04	235,000	35,146.49
95% Glyphosate technical	65,300	9,797.3	64,600	9,661.55
95% Haloxyfop-P-methyl technical	230,000	34,508.11	223,000	33,351.78
97% Metolachlor technical	52,000	7,801.83	52,000	7,777.1
95% Metsulfuron-methyl technical	135,000	20,254.76	135,000	20,190.54
95% Nicosulfuron technical	290,000	43,510.22	280,000	41,876.67
97% Oxyfluorfen technical	240,000	36,008.46	244,000	36,492.53
95% Pendimethalin technical	63,500	9,527.24	63,500	9,497.03
95% Pretilachlor technical	48,500	7,276.71	44,000	6,580.62
97% Pyrazosulfuron-ethyl technical	300,000	45,010.58	300,000	44,867.86
80% Quinclorac technical	134,500	20,179.74	134,500	20,115.76



95% Quizalofop-P-ethyl technical	220,000	33,007.76	225,000	33,650.9
95% Tribenuron-methyl technical	155,000	23,255.47	150,000	22,433.93
95% Trifluralin technical	38,000	5,701.34	38,000	5,683.26

Note: Ex-works price includes VAT.

Source: CCM

### Shanghai Port prices of main herbicides in China, 8 July, 2022



TABLE 14: Shanghai Port prices of main herbicides in China, 8 July, 2022

Product	20220608		20220708	
	Original Price (RMB/t)	Price (USD/t)	Original Price (RMB/t)	Price (USD/t)
92% Acetochlor technical	43,000	6,451.52	42,500	6,356.28
97% Atrazine technical	38,500	5,776.36	38,500	5,758.04
96% Bensulfuron-methyl technical	200,500	30,082.07	200,500	29,986.69
92% Butachlor technical	41,500	6,226.46	37,500	5,608.48
95% Clomazone technical	115,500	17,329.07	118,500	17,722.81
95% Cyhalofop-butyl technical	188,500	28,281.65	188,500	28,191.97
97% Diuron technical	46,000	6,901.62	47,500	7,104.08
98% Fenclorim technical	160,500	24,080.66	150,500	22,508.71
95% Fenoxaprop-P-ethyl technical	190,500	28,581.72	185,500	27,743.3
96% Fluroxypyr technical	175,500	26,331.19	176,500	26,397.26
95% Fomesafen technical	142,500	21,380.02	142,500	21,312.24
95% Glufosinate ammonium technical	257,000	38,559.06	235,500	35,221.27
95% Glyphosate technical	65,800	9,872.32	65,100	9,736.33
95% Haloxyfop-P-methyl technical	230,500	34,583.13	223,500	33,426.56
97% Metolachlor technical	52,500	7,876.85	52,500	7,851.88
95% Metsulfuron-methyl technical	135,500	20,329.78	135,500	20,265.32
95% Nicosulfuron technical	290,500	43,585.24	280,500	41,951.45
97% Oxyfluorfen technical	240,500	36,083.48	244,500	36,567.31
95% Pendimethalin technical	64,000	9,602.26	64,000	9,571.81
95% Pretilachlor technical	49,000	7,351.73	44,500	6,655.4
97% Pyrazosulfuron-ethyl technical	300,500	45,085.6	300,500	44,942.64
80% Quinclorac technical	135,000	20,254.76	135,000	20,190.54



95% Quizalofop-P-ethyl technical	220,500	33,082.77	225,500	33,725.68
95% Tribenuron-methyl technical	155,500	23,330.48	150,500	22,508.71
95% Trifluralin technical	38,500	5,776.36	38,500	5,758.04

*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 July, 2022





TABLE 15: FOB Shanghai prices of main herbicides in China, 8 July, 2022, USD/t

Product	20220608	20220708
92% Acetochlor technical	6,360.04	6,267.15
97% Atrazine technical	5,507.2	5,489.74
96% Bensulfuron-methyl technical	29,340.21	29,247.18
92% Butachlor technical	6,141.18	5,539.93
95% Clomazone technical	16,938.21	17,320.83
95% Cyhalofop-butyl technical	26,618.35	26,533.95
97% Diuron technical	6,797.75	6,994.36
98% Fenclorim technical	23,503.97	21,975.02
95% Fenoxaprop-P-ethyl technical	27,881.15	27,065.53
96% Fluroxypyr technical	25,692.56	25,756.54
95% Fomesafen technical	20,877.67	20,811.47
95% Glufosinate ammonium technical	36,259.11	33,127.81
95% Glyphosate technical	10,544.18	10,399.77
95% Haloxyfop-P-methyl technical	33,717.38	32,592.37
97% Metolachlor technical	7,746.14	7,721.58
95% Metsulfuron-methyl technical	19,856.33	19,793.37
95% Nicosulfuron technical	42,471.73	40,882.64
97% Oxyfluorfen technical	33,936.89	34,390.46
Paraquat 42% TK	3,077.15	4,012.78
95% Pendimethalin technical	9,424.06	9,394.18
95% Pretilachlor technical	7,235.47	6,558.04
97% Pyrazosulfuron-ethyl technical	43,930.79	43,791.5
80% Quinclorac technical	19,783.37	19,720.65





95% Quizalofop-P-ethyl technical	32,258.32	32,883.26
95% Tribenuron-methyl technical	22,774.44	21,975.02
95% Trifluralin technical	5,507.2	5,489.74

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

*Source: CCM*



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**Publisher : Kcomber Inc.**

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