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Headline

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Inner Mongolia Lange's pretilachlor TC and supporting intermediate production lines have been put into trial operation. The company is currently preparing for launching a 1,000 t/a topramezone TC project.

Jiangsu Changqing has been proceeding in an orderly manner with the construction of its production base in Yichang City, Hubei Province. So far, the company has made arrangements on the commissioning of its 6,000 t/a dicamba TC production lines and the commencement of 3,500 t/a glufosinate-ammonium TC project.

In early Aug., ex-works prices of most herbicides TC were stable.

Ex-works price of 95% glufosinate-ammonium TC in China decreased by 2.13% MoM in early Aug., mainly due to dropped price of the intermediate methyldiethoxyphosphine under larger supply of the product in the market. The price of glufosinate-ammonium TC is expected to keep stable in the short term.

On 2 Aug., Department of Energy Conservation and Comprehensive Utilisation of MIIT issued a notice on carrying out 2022 industrial energy conservation supervision across China.

In Aug., Department of Agrochemical Management of MARA issued a notice calling for effectively strengthening pesticide market supervision and inspection, so as to ensure safe use of pesticides.

In Aug. 2022, ICAMA approved 30 newly-registered herbicide products.

From Feb. to May 2022, China's glufosinate-ammonium products were exported to 15 major destinations including the US, Panama, Vietnam and Brazil. The biggest destination, the US, saw its share to China's total glufosinate-ammonium go up 17.07 percentage points YoY.

Early Aug., FOB price of paraquat TK stayed high, mainly because of tight supply and rising price of upstream material pyridine. It is estimated that the high price trend will continue in the short term.

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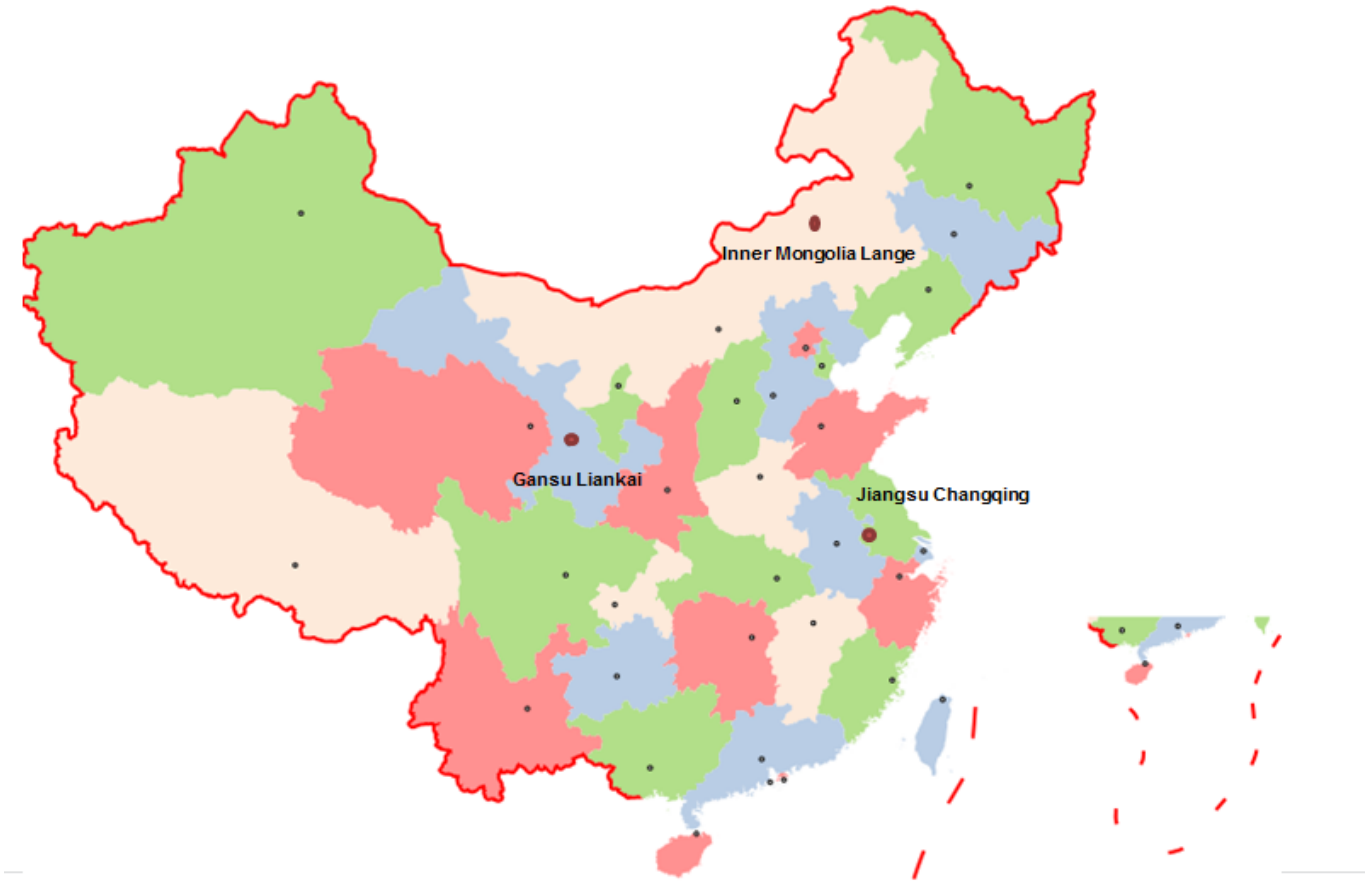

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Editor's Note

Compared with last month, ex-works prices of triazine herbicides and sulfonylurea herbicides were quite stable in Aug., while the prices of many amide herbicides and organophosphorus herbicides went down. In particular, the prices of two popular herbicides, glufosinate-ammonium and glyphosate, dropped at the same time.

As to company dynamics, Gansu Liankai has planned to expand capacity for fenoxaprop-P-ethyl TC, isoxaflutole TC, prothioconazole TC and supporting intermediates. As of late Aug., Jiangsu Changqing has proceeded in an orderly manner with the construction of its production base in Yichang City, and made arrangements on the commissioning of its 6,000 t/a dicamba TC production lines and the commencement of 3,500 t/a glufosinate-ammonium TC project. Besides, in early Aug., acceptance of EI report Fengshan Group's technological transformation project which will expand its capacity for herbicides TC was notified by local government.

In terms of related policy and government notice, the Department of Energy Conservation and Comprehensive Utilisation of MIIT issued a notice on carrying out 2022 industrial energy conservation supervision across China on 2 Aug. On 7 Aug., the Industry and Information Technology Department of Hebei Province issued the fourth-batch list of approved chemical parks. And this month, the Department of Agrochemical Management of MARA issued the *Notice on Effectively Strengthening Pesticide Market Supervision and Inspection*, calling for effectively strengthening pesticide market supervision and inspection, so as to ensure safe use of pesticides.

The USD/CNY exchange rate in this newsletter is USD1.00 = CNY6.7467 on 1 Aug., 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

Gansu Liankai to expand capacity for pesticides TC & intermediates

Summary: Gansu Liankai recently planned a new 4,200 t/a project, covering products (R)-(+)-2-(4-hydroxy phenoxy)propionic acid, 2,3,6-trichloropyridine, pentachloropyridine, fenoxaprop-P-ethyl TC, isoxaflutole TC and prothioconazole TC. The decision was made based on its long-term development plan as well as on analysis of general trend in pesticide market.

Early Aug., CCM learnt from Gansu Liankai Biotechnology Co., Ltd. (Gansu Liankai) that it had recently launched a 4,200 t/a pesticides TC & intermediates project, to serve the company's long-term development goal and better respond to general supply-demand trend in pesticide market. The project plans to:

- build an 800 t/a fenoxaprop-P-ethyl TC production line, a 1,000 t/a (R)-(+)-2-(4-hydroxy phenoxy)propionic acid production line, a 600 t/a2,3,6-trichloropyridine production line and an 800 t/a pentachloropyridine production line in re-purposed existing workshops;
- build a 500 t/aisoxaflutole TC production line and a 500 t/a prothioconazole TC production line in a new workshop, along with supporting facilities.

Gansu Liankai, established in Oct. 2018, is a subsidiary of Jiangsu Yongkai Chem Co., Ltd. (Jiangsu Yongkai). Jiangsu Yongkai engages in R&D, production and sale of pesticides and other chemicals, headquartered in Liangyungang Chemical Industrial Park in Jiangsu Province. Gansu Liankai, based in Hexipu Circular Economy Chemical Industrial Park, Yongchang County, Jinchang City, Gansu Province, is Jiangsu Yongkai's new production base in central and western China, following a "going west" trend in chemical industry.

Indeed, many pesticide enterprises in Jiangsu have turned their eyes on central and western China, or on Northeast China, and set new bases in these regions, as they have faced greater pressures on environmental protection, stricter work safety requirements, etc. in recent years. In the meantime, some quality enterprises have invested in enlarging capacity in existing production bases in Jiangsu so long as such choices are feasible.

The newly-planned 4,200 t/a project will become Gansu Liankai's next focus. Production technologies to be adopted for products involved in the project all come from Jiangsu Yongkai. But before it could start civil work, Gansu Liankai should go through a series of administrative formalities.

So far, with the help of Jiangsu Yongkai, Gansu Liankai has built up pesticide intermediate production capacity of 1,200 t/a (R)-2-(4-((6-chlor-2-benzoxazolyloxy)-phenoxy) propanoic acid (a main intermediate for fenoxaprop-P-ethyl production), 800 t/a 2-methyl-4-(trifluoromethyl)thiazole-5-carboxylic acid (a key intermediate for thifluzamide production) and 1,000 t/a 3,4-difluorobenzonitrile (a key intermediate for cyhalofop-butyl production). Gansu Liankai also has an 11,100 t/a pesticides TC project currently under construction. Of this project, production lines of 500 t/a thifluzamide TC, 600 t/a clodinafop-propargyl TC, 1,000 t/a cyhalofop-butyl TC, 500 t/a fluroxypyr-meptyl TC, and supporting facilities have been built up and put into operation, while construction work for the lines of 1,000 t/a mefenacet TC, 1,000 t/a bentazone TC, 4,000 t/a MCPA TC, 1,500 t/a MCPA-sodium TC, 1,000 t/a MCPA-isooctyl TC, and their supporting facilities is still in progress.

Gansu Liankai's TC products and intermediate products (both already produced and planned products) are closely connected. It is obvious that the company pays much attention to industrial chain integration. In the perspective of pesticide industrial chain, pesticide intermediates lie in the middle of the chain; starting from there, basic organic and inorganic raw materials are in the upstream, pesticides TC in the downstream, and pesticide formulation products lie further down the chain. Generally speaking, demand for intermediates comes from TC market, and fluctuations in the cost of intermediates will affect the price of pesticide TC products.

Inner Mongolia Lange's pretilachlor TC line enters trial run

Summary: Inner Mongolia Lange's pretilachlor TC and supporting intermediate production lines have been put into trial operation. The company is currently preparing for launching a 1,000 t/a topramezone TC project.

It is learnt that Inner Mongolia Lange Biotechnology Co., Ltd. (Inner Mongolia Lange) finished construction of the 10,000 t/a pretilachlor project in June 2022 and put the lines into trial run on 17 July. The pretilachlor project planned to build production lines of 10,000 t/a pretilachlor TC, and 10,000 t/a 2,6-diethyl-N-(2-propoxyethyl)aniline (DEPA, a key intermediate for synthesis of pretilachlor and some other pesticides), plus supporting facilities in Tengger Economic and Technological Development Zone, Alxa League, Inner Mongolia Autonomous Region. The construction started in Sept. 2021.

Inner Mongolia Lange, established in Jan. 2019, is a holding subsidiary of Hebei Lansheng Biotech Co., Ltd. (Hebei Lansheng). In the past few years, Hebei Lansheng has invested in multiple initiatives to boost its competitiveness and consolidate its leading position in pesticide industry. The founding of Inner Mongolia Lange is one of these initiatives; it has become an important production base of Hebei Lansheng and the 10,000 t/a pretilachlor project is a major project planned in this base.

Pretilachlor is an excellent amide herbicide, usually used in the control of weeds in paddy fields like barnyard grass, Cyperus difformis, Lindernia crustacea, Eleocharis yokoscensis and Scirpus juncoides.

Beyond Inner Mongolia Lange, major pretilachlor TC producers in China are Hangzhou Nutrichem Co., Ltd. (5,000 t/a in Linjiang Industrial Zone of Hangzhou Dajiang Don Industrial Cluster, Hangzhou City, Zhejiang Province), Anhui Futian Agrochemical Co., Ltd. (3,000 t/a in Dongzhi Economic and Technological Development Zone, Chizhou City, Anhui Province), Shoujian Technology Co., Ltd. (3,000 t/a in Bincheng Chemical Industrial Park, Binzhou City, Shandong Province) and Jiangsu Laike Crop Protection Co., Ltd. (3,000 t/a in Yangkou Chemical Industrial Park, Nantong City, Jiangsu Province). Based on current pretilachlor market situation in China, it can be easily found that once its pretilachlor project passes acceptance check and the lines are operated at full capacity, Inner Mongolia Lange will play a big role in this market as it has advantages in scale size and industrial chain integration.

Besides the trial run, Inner Mongolia Lange is now busy with the formalities necessary for its topramezone project. It plans to build a production line of 1,000 t/a topramezone TC, along with supporting facilities. Patent of topramezone compound in China expired in Jan. 2018, and no wonder the product has gotten a lot of attention in herbicide industry in recent years. However, new capacity of topramezone TC has not been added fast in domestic market since technologies of large-scale production were only developed not long ago by a few

Chinese pesticide producers with strong R&D capability.

These pioneers have released their plans to build topramezone capacity. Examples are as following:

- Shandong Eshung Industrial Co., Ltd. planned to construct 1,000 t/a topramezone TC line in New Material Industrial Park, Jinxiang County, Jining City, Shandong Province;
- Jingbo Agrochemicals Technology Co., Ltd. planned to construct 1,000 t/a topramezone TC line in Boxing County Chemical Industrial Concentration Zone, Binzhou City, Shandong Province;
- Jiangsu Flag Chemical Industry Co., Ltd. planned to construct 500 t/a topramezone TC line in its wholly-owned subsidiary Anhui Neotec Co., Ltd., which is located in New Coal Chemical Synthetic Material Base, Huaibei City, Anhui Province;
- Inner Mongolia Nab Technology Co., Ltd. planned to construct 500 t/a topramezone TC line in Wuda Industrial Park, Wuhai City, Inner Mongolia Autonomous Region;
- Shandong Luba Chemical Co., Ltd. planned to construct 300 t/a topramezone TC line in its subsidiary Weifang Xinlu Chemical Co., Ltd., which is located in Binhai Economic and Technological Development Zone, Weifang City, Shandong Province;
- Gansu Huashi Biotechnology Co., Ltd. planned to construct 200 t/a topramezone TC line in Yinnan Industrial Park, Baiyin City, Gansu Province;
- Shandong Cynda Chemical Co., Ltd. planned to construct 50 t/a topramezone TC line in its subsidiary Liaoning Cynda Chemical Co., Ltd., which is located in Beigang Industrial Zone, Huludao City, Liaoning Province.

More pesticide producers are expected to launch topramezone TC project in China in the future.

Jiangsu Changqing proceeds with construction projects as planned in general

Summary: Jiangsu Changqing has been proceeding in an orderly manner with the construction of its production base in Yichang City, Hubei Province. So far, the company has made arrangements on the commissioning of its 6,000 t/a dicamba TC production lines and the commencement of 3,500 t/a glufosinate-ammonium TC project.

So far Jiangsu Changqing Agrochemical Co., Ltd. (Jiangsu Changqing) has been proceeding in an orderly manner with phase I of its Yichang production base program in Yichang City, Hubei Province. The company has made arrangements on the commissioning of 6,000 t/a dicamba TC production lines and the commencement of 3,500 t/a glufosinate-ammonium TC project.

Jiangsu Changqing has rich experience in pesticide production and sale, and it has been actively involved in technological advancement & innovation. The company has already built systems for innovation, product development and production management that are accustomed to pesticide markets both home and abroad. So it can quickly respond to market changes and offer a variety of high-quality pesticides.

On 18 Aug., Jiangsu Changqing released its semi-annual report of H1 2022, reporting growths of revenue and net profits. It also revealed that its 1,000 t/a bifenthrin TC project and 10,000 t/a S-metolachlor TC project had entered equipment installation phase.

Currently, the 6,000 t/a dicamba TC production lines are under commissioning, which falls behind the previous plan. And on 23 Aug., it disclosed that the 3,500 t/a glufosinate-ammonium TC project would break ground in Q4 this year, and construction period is about one year.

Market Analysis

Prices of most herbicides TC keep stable in Aug.

Summary: In early Aug., ex-works prices of most herbicides TC were stable.

In early Aug., ex-works prices of most herbicides TC were stable, except that those of some amide herbicides and organophosphorus herbicides went down.

Prices of triazine herbicides TC kept stable with steady supply. Prices of most sulfonylurea herbicides TC stabilised, but that of quizalofop-P-ethyl TC kept an uptrend and climbed 4.44% MoM to USD34,832/t (RMB235,000/t) because of growing export demand and little inventory in the market. Supply of nicosulfuron TC turned more stable and its price kept at RMB280,000/t, though transactions shrank. The supply of bensulfuron-methyl TC did not change much, so its price was stable. Florasulam TC and export-oriented diquat TK had stable price, and so did diuron TC, even though diuron TC experienced slightly tight supply.

As the prime time for application nearly came to an end, many amide herbicides TC saw their prices decrease, but production cost stayed high as prices of their raw materials were still at a high level. The price of pretilachlor TC went down by 2.27% MoM, and that of acetochlor TC down 2.38% MoM. However, metolachlor TC had stable price as the inventory was low and export was quite strong. Prices of organophosphorus herbicides TC went down further in this period. Supply and demand of glufosinate-ammonium TC were both weak, and the producers mainly fulfilled their previous orders. The price of glyphosate TC dropped by 3.25% MoM with increasing operating rate; nevertheless, the producers enjoyed fatter profit margins as production cost declined after price reductions seen in many raw materials.

TABLE 1: Ex-works prices of main herbicides TC in early Aug. 2022

Category	Product	Content of active ingredient	Ex-works price in early Aug., RMB/t	USD/t	MoM change based on RMB
Triazine herbicides	Atrazine TC	97%	38,000	5,632	Basically flat
	Ametryn TC	95%	45,000	6,670	Basically flat
Sulfonylurea herbicides	Nicosulfuron TC	95%	280,000	41,502	Basically flat
	Quizalofop-P-ethyl TC	95%	235,000	34,832	Up
	Bensulfuron-methyl TC	96%	200,000	29,644	Basically flat
Amide herbicides	Pretilachlor TC	95%	43,000	6,373	Down
	Acetochlor TC	92%	41,000	6,077	Down
	Metolachlor TC	97%	52,000	7,707	Basically flat
Organophosphorus herbicides	Glufosinate-ammonium TC	95%	230,000	34,091	Down
	Glyphosate TC	95%	62,500	9,264	Down
Triazolo[1,5-a]pyrimidine-2-sulfonanilide herbicides	Florasulam TC	98%	515,000	76,334	Basically flat
Bipyridinium herbicides	Diquat TK	40%	58,000	8,597	Basically flat
Substituted phenylurea herbicides	Diuron TC	97%	47,000	6,966	Basically flat

Source:CCM

Glufosinate-ammonium TC price dips in early Aug.

Summary: Ex-works price of 95% glufosinate-ammonium TC in China decreased by 2.13% MoM in early Aug., mainly due to dropped price of the intermediate methyldiethoxyphosphine under larger supply of the product in the market. The price of glufosinate-ammonium TC is expected to keep stable in the short term.

Ex-works price of 95% glufosinate-ammonium TC in China was recorded at USD34,091/t (RMB230,000/t) in early Aug., seeing a 2.13% decrease MoM. But the price has kept steady since late July. The price drop came from lowered production cost, as the output of intermediate methyldiethoxyphosphine increased and its price went down.

Incomplete statistics show that already-built and in-the-planning capacity of methyldiethoxyphosphine has surpassed 178,000 t/a in China.

The production lines are built or planned either by producers of glufosinate-ammonium TC or glufosinate-p TC, or by intermediate producers. Currently, China's methyldiethoxyphosphine capacity mainly concentrates in Hubei Province. But with completion of planned methyldiethoxyphosphine projects in the future, Shandong Province, Inner Mongolia Autonomous Region and Ningxia Hui Autonomous Region will also become main production bases.

In general, it is an off-time for pesticide TC production, yet operating rate of glufosinate-ammonium TC has stabilised. Supply and demand of the product has been weak, and the producers have mainly fulfilled their previous orders. It is expected that the price of glufosinate-ammonium TC will keep stable in the short term.

FIGURE 1: Ex-works price of 95% glufosinate-ammonium technical in China, Jan.–Aug. 2022

Source:CCM

Policy

MIIT notifies start of 2022 industrial energy conservation supervision

Summary: On 2 Aug., Department of Energy Conservation and Comprehensive Utilisation of MIIT issued a notice on carrying out 2022 industrial energy conservation supervision across China.

On 2 Aug., Department of Energy Conservation and Comprehensive Utilisation of Ministry of Industry and Information Technology of the People's Republic of China (MIIT) issued a notice on carrying out 2022 industrial energy conservation supervision. To promote industrial energy conservation and efficiency improvement and facilitate green and low-carbon development, in accordance with the Law of the People's Republic of China on Energy Conservation and Measures for the Administration of Industrial Energy Conservation, supervision work for the year 2022 mainly focuses on the following aspects:

Carrying out in-depth, specialised industrial energy conservation supervision

Specialised supervision efforts include:

- Supervision on energy efficiency in key industries. Enterprises in industries including iron and steel, petrochemical and chemical, building material, non-ferrous metal smelting, shall be inspected to find out whether they follow compulsory energy consumption limits per unit product prescribed in national standards.
- Supervision on energy efficiency in key fields. Following the spirit of the Guiding Opinions on Strengthening the Building of Green Data Centre, based on related standards on energy efficiency, officials at local governments shall extensively examine large and super-large data centres, measure on-spot power usage effectiveness, and check whether these centres are equipped with energy measurement instruments.
- Supervision on energy efficiency improvement of major energy consuming equipment. With a focus on equipment including electrical machinery, transformers, draught fans, air compressors and pumps, energy-saving supervision shall be launched targeting enterprise users of these equipment, based on compulsory national standards on energy efficiency. During the process, equipment ledgers must be perused.
  Supervision on implementation of corrective actions in enterprises with violation record in 2021. Enterprises that were found consuming over-limit energy and that went against laws and regulations on energy conservation in 2021 shall be carefully reviewed in supervision efforts this year.

Keeping routine supervision on industrial energy conservation

The routine practices mainly consist of:

- For enterprises not covered by 2022 specialised supervision campaigns, check their performances in following compulsory energy consumption limits per unit product, compulsory standards for energy efficiency of major energy consuming equipment, etc.;
- Supervise on establishment of energy management system in major energy-consuming enterprises, on implementation of energy management personnel system which includes creating posts for energy management and letting them carry out their duties, and on execution of systems of energy measurement, energy consumption statistics and energy utilisation reporting;
- Check organisation of energy-saving training sessions.

Strengthening the building of basic capability of industrial energy conservation supervision

The basic capability building work focuses on three parts:

- Improve work system. Strengthen system building in industrial energy conservation supervision organs at county level, municipality

level and provincial level. Consolidate cross-department work mechanism, and create new models to facilitate effective supervision.

- Strengthen capacity building. Launch training sessions to boost industrial energy conservation supervision performances in an orderly manner. Publicise laws & regulations, standards and norms on energy conservation and low-carbon practices, and make them well-understood by inspectors. Enhance professional competence at grass-root level.
- Make better use of supervision results. Through tracking and guidance, supervision organs could offer suggestions for improvement, targeting weak links in energy management and irrational energy use practices found in enterprises. Encourage enterprises to take energy efficiency diagnosis regularly, adopt energy efficiency benchmarking, and actively carry out energy-saving upgrades.

Work requirements

- Strengthen organisation and leadership. Local departments of industry and information technology shall work out supervision plans and important details, set clear goals and schedules, and ensure high-quality in-time accomplishment of tasks.
- Enforce laws and regulations in a strict, procedure-based manner. Departments of industry and information technology and industrial energy conservation supervision organs at various levels shall standardise work procedures and regulate their law enforcement activities. Intensify law enforcement efforts and inspections. Investigate and punish all kinds of energy use activities that are against laws and regulations. Enterprises that refuse to rectify or make inadequate rectifications shall be duly punished.
- Strengthen public supervision. Departments of industry and information technology and industrial energy conservation supervision organs at various levels shall make public their inspection results, release lists of enterprises that violate laws or regulations, and accept social supervision.

MARA to effectively strengthen pesticide market supervision and inspection

Summary: In Aug., Department of Agrochemical Management of MARA issued a notice calling for effectively strengthening pesticide market supervision and inspection, so as to ensure safe use of pesticides.

In Aug., Department of Agrochemical Management of the Ministry of Agriculture and Rural Affairs of the People's Republic of China (MARA) issued the *Notice on Effectively Strengthening Pesticide Market Supervision and Inspection*. The notice is a response to media's exposure of misbehaviours found in some pesticide operators, which include: not recording their pesticide sales, not keeping an account of pesticide packaging waste recovery, selling expired or inferior pesticide products. Such malpractices have severely affected farmers' pesticide use and would easily lead them towards unscientific or irrational use.

To beef up regulation of pesticide market and ensure safe pesticide use, in accordance with the Regulation on Pesticide Administration, the Measures for the Administration of Pesticide Business Licensing and the Measures for the Administration of Recovery and Disposal of Pesticide Packaging Waste, the department makes the following arrangements:

- Step up routine supervision efforts: Focusing on finding out whether pesticide business operators have kept correct purchase/sale records and accounts of pesticide packaging waste recovery as required by competent authorities, and whether they have sold expired or inferior pesticide products.
- Intensify random inspections on pesticide quality: Besides random checking launched by MARA, departments at provincial level should arrange checks on pesticide quality based on local conditions. Continuous efforts should be put on this front, and strictly crack down on illegal pesticide production and operation in accordance with laws and regulations.
- Report inspection results in a timely manner: Illegal acts found in supervisions and inspections should be investigated and punished in accordance with laws and regulations. Such acts include but are not limited to: leasing or lending out pesticide registration certificate under the name of consigned processing, engaging in pesticide production or business operation without self-owned

certificates or permits, bundle-selling pesticides with incorrect labels, and promoting pesticide assortment options.

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Registration

ICAMA releases new batch of newly-registered herbicides in Aug.

Summary: In Aug. 2022, ICAMA approved 30 newly-registered herbicide products.

In Aug. 2022, the Institute for the Control of Agrochemicals, Ministry of Agriculture and Rural Affairs of the People's Republic of China (ICAMA) approved registration of 30 herbicide products. Of the newly-approved, three are TC products and their active ingredients are: asulam, tembotrione and topramezone. The rest are formulation products, mainly in the forms of SL and EC. The most popular applied site is non-cultivated cropland and the biggest control target is annual weeds.

TABLE 2: Forms of newly-registered herbicides in China, 1 Aug.–17 Aug., 2022

No.	Form	Number
1	SL	13
2	EC	7
3	TC	3
4	OD	3
5	SC	2
6	SG	1
7	WG	1
Total		**30**

Source:ICAMA

TABLE 3: Applied sites of the newly-registered herbicides in China, 1 Aug.–17 Aug., 2022

No.	Site	Number
1	Non-cultivated cropland	4
2	Spring soybean field	2
3	Rice field (direct seeding)	2
4	Forest	1
5	Transplanted rice field	1
6	Maize field	1
Total		**11**

Note:19 Products are excluded due to vacant info on the item of applied site.
Source:ICAMA

TABLE 4: Control targets of the newly-registered herbicides in China, 1 Aug.–17 Aug., 2022

No.	Control target	Number
1	Annual weeds	5
2	Weeds	4
3	Annual gramineous weeds	1
4	Miscellaneous shrubs, broadleaf weeds	1
Total		**11**

Note:19 Products are excluded due to vacant info on the item of applied site.
Source:ICAMA

Import and Export

Share of glufosinate-ammonium export to the US expands YoY in Feb.–May 2022

Summary: From Feb. to May 2022, China's glufosinate-ammonium products were exported to 15 major destinations including the US, Panama, Vietnam and Brazil. The biggest destination, the US, saw its share to China's total glufosinate-ammonium go up 17.07 percentage points YoY.

According to the import and export data from Tranalysis, in Feb.–May 2022, glufosinate-ammonium products from China were mainly exported to 15 destinations, such as the US, Panama, Vietnam and Brazil. Export to the US, the largest export destination with a volume of 8,384.71 tonnes (actual volume, the same hereafter), accounts for 42.60% of China's total glufosinate-ammonium export to major destinations in this period, up 17.07 percentage points YoY.

Details of China's glufosinate-ammonium exports to major destinations in Feb.–May 2022 are as follows:

Glufosinate-ammonium technical

Specifications for export: 50% TK, 91% TC, 95% TC, 96% TC, 97% TC

Major destination: China exported 7,369.53 tonnes of glufosinate-ammonium technical products to major destinations, at an average price of USD21.59/kg. In particular, 6,594.75 tonnes went to the US, which makes up 89.49% to the total glufosinate-ammonium technical export in this period.

Compared with Feb.–May 2021, these four months in 2022 saw glufosinate-ammonium technical export to major destinations increase by 4,093.09 tonnes. The export to the US grew by 4,585.95 tonnes; the share to the total technical export surged by a whopping 28.18 percentage points.

Glufosinate-ammonium formulation

Specifications for export: 10% SL, 80% SG, 150g/L AS, 150g/L SL, 180g/L SL, 200g/L AS, 200g/L SL, 280g/L SL

Major destination: China exported 12,312.79 tonnes of glufosinate-ammonium formulation products to major destinations, at an average price of USD8.23/kg. The largest destination of glufosinate-ammonium formulation exported from China was Panama, with 5,625.20 tonnes, which makes up 45.69% to the total glufosinate-ammonium formulation export in this period. The US came second with a share of 14.54%.

Compared with Feb.–May 2021, these four months in 2022 saw glufosinate-ammonium formulation export to major destinations increase by 5,829.99 tonnes. Panama joined the major destination group with a surprisingly large share. The export to the US increased by 1,306.76 tonnes, which is translated into 7.09-percentage-point gain in the country's share to the total.

TABLE 5: Exports of China's glufosinate-ammonium technical to major destinations, Feb.–May 2022

No.	Destination	Volume, kg	Value, USD	Average price, USD/kg
1	The US	6,594,754.16	134,537,065.09	20.40
2	Vietnam	400,001.00	11,812,604.00	29.53
3	Brazil	180,520.00	6,874,658.00	38.08
4	Mexico	75,000.00	2,834,361.10	37.79
5	Argentina	50,000.00	1,532,864.82	30.66
6	India	27,008.00	733,508.00	27.16
7	Costa Rica	18,000.00	312,996.00	17.39
8	Peru	13,820.60	177,804.00	12.87
9	Thailand	10,000.00	265,000.00	26.50
10	Turkey	425	18,062.50	42.50
Total		**7,369,528.76**	**159,098,923.51**	**21.59**

Note:The data, sourced from Tranalysis, were updated on 1 Aug., 2022.
Source:Tranalysis

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TABLE 6: Exports of China's glufosinate-ammonium formulation to major destinations, Feb.–May 2022

No.	Destination	Volume, kg	Value, USD	Average price, USD/kg
1	Panama	5,625,200.00	31,444,868.00	5.59
2	The US	1,789,959.00	34,849,106.70	19.47
3	Vietnam	1,680,682.00	9,540,074.15	5.68
4	Brazil	1,587,629.99	12,713,000.00	8.01
5	Thailand	927,520.00	6,865,135.77	7.40
6	Mexico	269,000.00	2,592,194.31	9.64
7	Ecuador	240,677.60	2,006,189.27	8.34
8	The Philippines	127,760.92	669,801.79	5.24
9	Peru	35,078.00	335,386.77	9.56
10	Colombia	19,641.60	172,402.56	8.78
Others		9,645.00	108,498.01	11.25
Total		**12,312,794.11**	**101,296,657.33**	**8.23**

Note:The data, sourced from Tranalysis, were updated on 1 Aug., 2022.
Source:Tranalysis

TABLE 7: Export volume of China's glufosinate-ammonium technical to top 10 destinations, Feb.–May 2021 vs Feb.–May 2022

No.	Feb.–May 2021			Feb.–May 2022		
	Destination	Volume, kg	Share	Destination	Volume, kg	Share
1	The US	2,008,806.06	61.31%	The US	6,594,754.16	89.49%
2	Vietnam	411,000.00	12.54%	Vietnam	400,001.00	5.43%
3	Brazil	360,000.00	10.99%	Brazil	180,520.00	2.45%
4	Paraguay	165,302.00	5.05%	Mexico	75,000.00	1.02%
5	Mexico	146,012.00	4.46%	Argentina	50,000.00	0.68%
6	Argentina	90,010.00	2.75%	India	27,008.00	0.37%
7	Indonesia	47,250.00	1.44%	Costa Rica	18,000.00	0.24%
8	The Philippines	20,000.00	0.61%	Peru	13,820.60	0.19%
9	Thailand	16,000.00	0.49%	Thailand	10,000.00	0.14%
10	Malaysia	4,400.00	0.13%	Turkey	425	0.01%
Sub-total		**3,268,780.06**	**99.77%**	**Total**	**7,369,528.76**	**100.00%**

Note:1. Due to rounding, the total may not equal 100.00%.
2. The data, sourced from Tranalysis, were updated on 1 Aug., 2022.
Source:Tranalysis

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TABLE 8: Export volume of China's glufosinate-ammonium formulation to top 10 destinations, Feb.–May 2021 vs Feb.–May 2022

No.	Feb.–May 2021			Feb.–May 2022		
	Destination	Volume, kg	Share	Destination	Volume, kg	Share
1	Thailand	2,288,496.80	35.30%	Panama	5,625,200.00	45.69%
2	Brazil	1,514,880.00	23.37%	The US	1,789,959.00	14.54%
3	Vietnam	768,000.00	11.85%	Vietnam	1,680,682.00	13.65%
4	The US	483,197.00	7.45%	Brazil	1,587,629.99	12.89%
5	Mexico	342,000.00	5.28%	Thailand	927,520.00	7.53%
6	Paraguay	319,360.00	4.93%	Mexico	269,000.00	2.18%
7	The Philippines	182,359.90	2.81%	Ecuador	240,677.60	1.95%
8	Peru	127,803.06	1.97%	The Philippines	127,760.92	1.04%
9	Fiji	110,650.00	1.71%	Peru	35,078.00	0.28%
10	Indonesia	80,980.00	1.25%	Colombia	19,641.60	0.16%
Sub-total		**6,217,726.76**	**95.91%**	**Sub-total**	**12,303,149.11**	**99.92%**

Note:The data, sourced from Tranalysis, were updated on 1 Aug., 2022.
Source:Tranalysis

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Paraquat and Pyridine

FOB price of paraquat TK to stay high in the short term

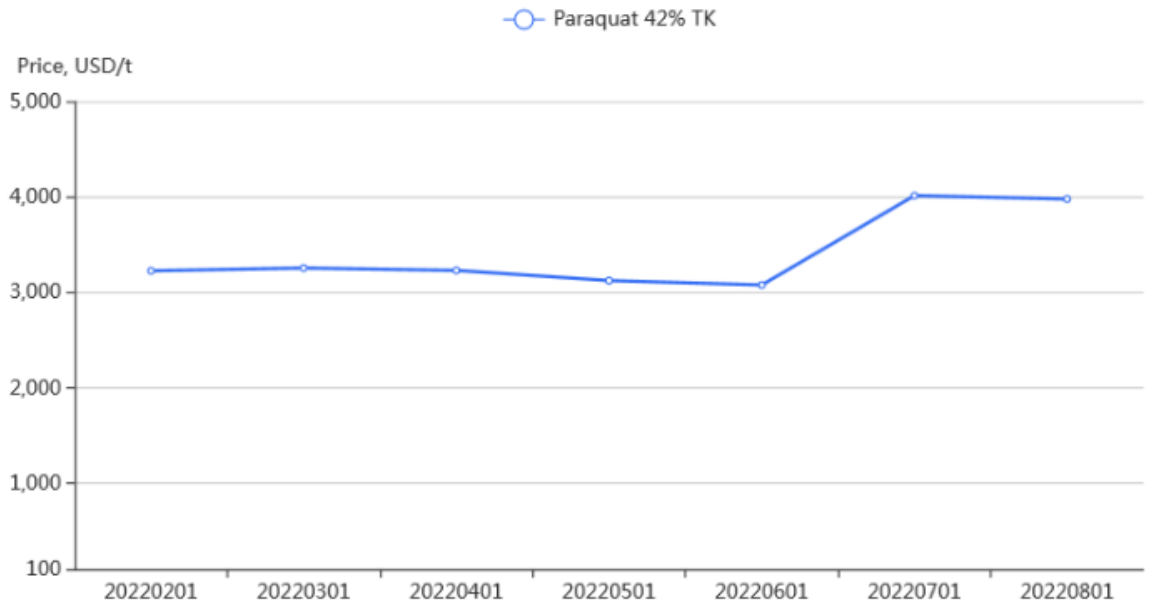
Summary: Early Aug., FOB price of paraquat TK stayed high, mainly because of tight supply and rising price of upstream material pyridine. It is estimated that the high price trend will continue in the short term.

Early Aug., FOB price of paraquat TK was recorded at USD3,977/t. Although it slipped by 0.90% MoM from the USD4,013/t in July, the price stayed at a high level still. Main reasons for the high price are:

- **Jumping price of the upstream material pyridine**: The ex-works price of pure pyridine shot up to USD5,336/t (RMB36,000/t) early this month from the USD4,562/t (RMB30,500/t) in early July, up 16.98% MoM. The rising pyridine price was propelled by supply shortage of its upstream material acetaldehyde, as well as the high price of the product. Pyridine producers, operated under limited supply of raw materials and high temperature, had small output.
- **Insufficient paraquat TK output and inventory**: All the paraquat TK produced in China is for export. Demand for the product from South America has been strong recently, and many paraquat producers had their orders scheduled to the end of Q3. Since qualified paraquat TK producers are small in number in China, the market supply became rather tight. And the situation is not eased at present.

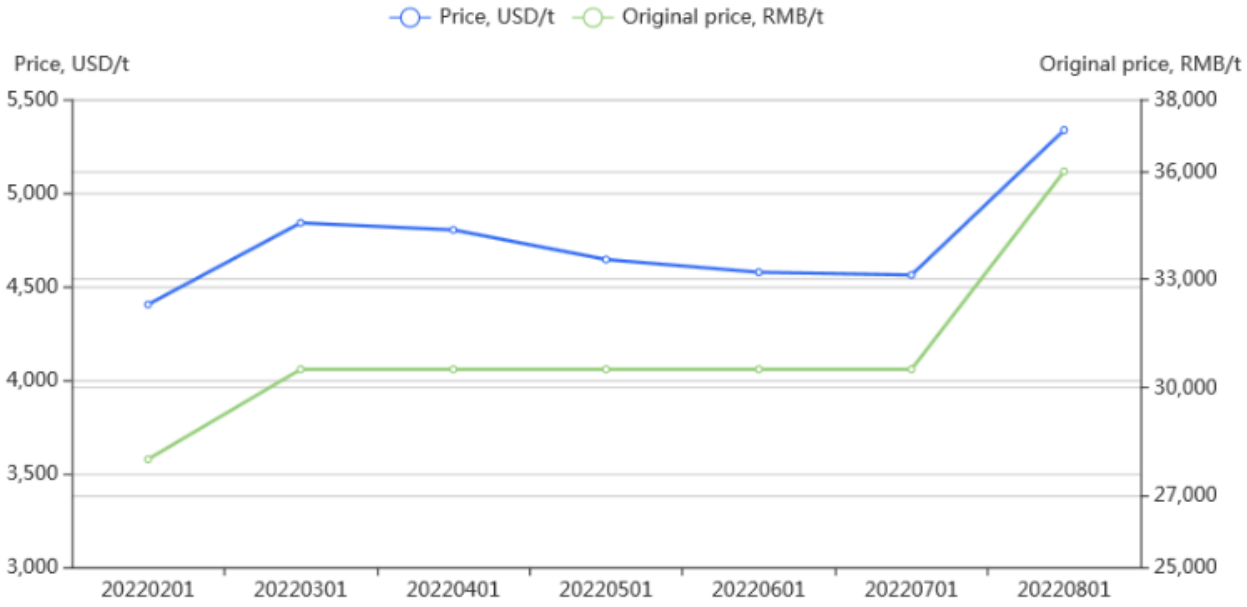
The robust demand now continues, and it is estimated that the price of paraquat TK will keep high for a while.

FIGURE 2: FOB price of paraquat 42% TK in China, Feb.–Aug. 2022



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

FIGURE 3: Ex-works price of pure pyridine in China, Feb.–Aug. 2022



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

News in Brief

Alibaba international bans sale of 66 pesticides

On 5 Aug., the newly-added rule—prohibition of selling 66 pesticide products at Alibaba international station (Alibaba international) went into effect. Aiming to effectively prevent, curb and diminish safety risks from pesticide utilisation, standardise market management of pesticide formulation industry, and help maintain sound operation of the pesticide industry, Alibaba international had decided to ban the sale of 66 pesticide products in accordance with the List of Banned and Restricted Pesticides issued by the Ministry of Agriculture and Rural Affairs of the People's Republic of China. The pesticides thus banned by the platform include herbicides like nitrofen, paraquat and 2,4-D butylate. According to Alibaba international, the list of banned pesticides at this platform may update from time to time.

Authority announces acceptance of EI report of Fengshan Group's pesticide TC project

Early Aug., Department of Ecology and Environment of Yancheng City notified acceptance of the environmental impact (EI) report of Jiangsu Fengshan Group Co., Ltd. (Fengshan Group)'s technological transformation project of 1,000 t/a nicosulfuron TC with 435 t/a by-product sodium sulfite, 1,700 t/a quizalofop-P-ethyl TC with 1,083 t/a by-product potassium chloride, 500 t/a quizalofop-P-tefuryl TC and 3,000 t/a triclopyr-butotyl TC.

The project aims at expanding Fengshan Group's production capacity of nicosulfuron, quizalofop-P-ethyl, quizalofop-P-tefuryl and triclopyr-butotyl to 2,200 t/a, 3,000 t/a, 750 t/a and 4,000 t/a, respectively. Such an expansion will help the company to better respond to market demand, fend off risks and bolster competitiveness of its products. Fengshan Group will invest USD37.30 million (RMB251.65 million) in this project, which is planned in its existing plant in Dafeng Port Petrochemical New Material Industrial Park, Yancheng City, Jiangsu Province.

ISO approves common names of two amide herbicides

On 2 Aug., International Standardisation Organisation (ISO) provisionally approved the common name "flusulfinam" for the amide herbicide (with development code QYR601) developed by Qingdao KingAgroot Chemical Compound Co., Ltd. Chinese common name for the product is "Fufengcaoan", and its CAS number is 2428458-82-4.

Previously on 7 July, another amide herbicide (chemical formula: $C_{15}H_{15}F_3N_6O_4S$), developed by Nissan Chemical Corporation, was approved with the provisional common name "iptriazopyrid". CAS number for the product is 1994348-72-9.

CAC Nantong submits IPO prospectus

On 5 Aug., CAC Nantong Chemical Co., Ltd. (CAC Nantong) submitted its initial public offering (IPO) prospectus to China Securities Regulatory Commission, aiming to get listed on the ChiNext market of Shenzhen Stock Exchange. The company plans to issue less than 45 million new shares, which will take up no less than 10% of total equity after issuing.

With this IPO, some USD260 million (RMB1.75 billion) fund raised will be invested in a series of projects, total investment of which is expected at about USD290 million (RMB1.95 billion). These projects cover fungicides, herbicides, pesticide formulation products and

construction of R&D centres.

Nutrichem sees soaring profit in H1 2022

On 10 Aug., Nutrichem Co., Ltd. (Nutrichem) disclosed its semi-annual report of H1 2022. During the reporting period, the company's revenue reached USD634.10 million (RMB4.28 billion), jumping up 31.48% YoY, and its net profit attributable to equity holders of the listed company amounted to USD103.32 million (RMB697.10 million), surging by 241.92% YoY. Specifically, the revenues contributed by the Chinese and international markets stood at USD253.53 million (RMB1.70 billion) and USD377.67 million (RMB2.54 billion), respectively. Boosted by rising demand, selling prices and sales volume in overseas market, Nutrichem's revenue from overseas grew by 62.98% YoY, though the cost of sales spent outside domestic market also went up 45.99% YoY.

Shaoxing BSM doubles net profit in H1 2022

On 8 Aug., Shaoxing BSM Chemical Co., Ltd. (Shaoxing BSM) unveiled its semi-annual report of H1 2022. During the reporting period, the company's revenue reached USD55.18 million (RMB372.29 million), representing a YoY growth of 34.90%, and its net profit attributable to equity holders of the listed company stood at USD11.08 million (RMB74.75 million), marking a YoY growth of 99.71%.

Shaoxing BSM is the only pesticide enterprise in China boasting whole-chain production of pendimethalin intermediate, TC and formulation products. It also has strong R&D capability. Pendimethalin is a green, high-efficiency and low-toxicity herbicide.

Hebei reveals fourth-batch list of approved chemical parks

On 7 Aug., the Industry and Information Technology Department of Hebei Province issued the list of approved chemical parks (fourth batch). Together with the seven chemical parks in this list, so far a total of 29 chemical parks have been approved by Hebei Province.

TABLE 9: List of approved chemical parks in Hebei Province (fourth batch)

No.	Chemical park	Location	Type
1	Hebei Shenze Economic Development Zone (South Zone) Chemical Industry Concentration Zone	Shijiazhuang City	Chemical Industry Concentration Zone
2	Cangzhou Bohai New Area Zhongjie Industrial Park Petrochemical Industrial Park	Cangzhou City	Chemical Industry Concentration Zone
3	Cangzhou Bohai New Area Nandagang Industrial Park Dongxing Industrial Zone	Cangzhou City	Chemical Industry Concentration Zone
4	Jizhou High-tech Zone (West Zone) Chemical Industry Concentration Zone	Hengshui City	Chemical Industry Concentration Zone
5	Hebei Shenzhou Economic Development Zone (South Zone) Chemical Industry Cluster Area	Hengshui City	Chemical Industry Concentration Zone
6	Hebei Jingxian Hi-tech Industrial Development Zone Petrochemical Materials Park	Hengshui City	Chemical Industry Concentration Zone
7	Hebei Xingtai Xuyang Economic Development Zone Chemical Industry Park	Xingtai City	Chemical Industry Concentration Zone

Source:Industry and Information Technology Department of Hebei Province

CCPIA unveils second-batch List of Green and High-Quality Pesticide Products

In Aug., based upon the association standard *Evaluation Standard of Green and High-Quality Pesticide Product* (T/CCPIA 170-2021), the China Crop Protection Industry Association (CCPIA) conducted an examination of 69 self-deemed green and high-quality pesticides declared by pesticide producers and pesticide business operators. After formal examination and comprehensive review by experts organised by CCPIA, a total of 45 products were approved onto the List of Green and High-Quality Pesticide Products (second batch), which includes herbicides like diflufenican 30% SC from Shandong Vicome Greenland Chemical Co., Ltd., oxaziclomefone 10% SC and 2,4-DB sodium 30% SL from Shandong Cynda Chemical Co., Ltd.

Export makes up 60% of Jiangsu Changqing's revenue in H1 2022

On 18 Aug., Jiangsu Changqing Agrochemical Co., Ltd. (Jiangsu Changqing) released its semi-annual report of H1 2022. During the reporting period, the company's revenue amounted to USD315.61 million (RMB2.13 billion), up 15.46% YoY. Revenue from its export business, including direct export and indirect export, made up roughly 60% of the total. Its direct export reached USD152.32 million (RMB1.03 billion), up 65.87% YoY, while the indirect export dropped to USD36.64 million (RMB247.21 million), down 9.16% YoY.

Norsyn Crop goes public on SZSE

On 19 Aug., Norsyn Crop Technology Co., Ltd. (Norsyn Crop) went public on the main board of the Shenzhen Stock Exchange (SZSE) with the stock code 001231. Specialising in R&D, production and sale of pesticide formulations, Norsyn Crop's main products cover formulations of fungicides, insecticides and herbicides. The company's R&D and production centre on targeted pests & diseases and

characteristics of regional crops.

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Price Update

Ex-works prices of key herbicide raw materials in China, 8 Aug., 2022

TABLE 10: Ex-works prices of key herbicide raw materials in China, 8 Aug., 2022

Raw Materials	20220708		20220808	
	Original Price (RMB/t)	Price (USD/t)	Original Price (RMB/t)	Price (USD/t)
98% Glycine	15,000	2,243.39	11,000	1,630.43
92% Iminodiacetonitrile	9,300	1,390.9	9,300	1,378.45
99% Isopropylamine	9,550	1,428.29	9,550	1,415.51
98% N-(Phosphonmethyl) Iminodiacetic acid	39,000	5,832.82	38,000	5,632.38
99% Phosphorus trichloride	9,200	1,375.95	6,740	999.01
99.9% Pyridine	30,500	4,561.57	36,000	5,335.94

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

Ex-works prices of main herbicides in China, 8 Aug., 2022

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TABLE 11: Ex-works prices of main herbicides in China, 8 Aug., 2022

Product	20220708		20220808	
	Original Price (RMB/t)	Price (USD/t)	Original Price (RMB/t)	Price (USD/t)
92% Acetochlor technical	42,000	6,281.5	41,000	6,077.05
97% Atrazine technical	38,000	5,683.26	38,000	5,632.38
96% Bensulfuron-methyl technical	200,000	29,911.91	200,000	29,644.12
92% Butachlor technical	37,000	5,533.7	30,000	4,446.62
95% Clomazone technical	118,000	17,648.03	118,000	17,490.03
95% Cyhalofop-butyl technical	188,000	28,117.19	188,000	27,865.47
97% Diuron technical	47,000	7,029.3	47,000	6,966.37
98% Fenclorim technical	150,000	22,433.93	140,000	20,750.89
95% Fenoxaprop-P-ethyl technical	185,000	27,668.52	185,000	27,420.81
96% Fluroxypyr technical	176,000	26,322.48	180,000	26,679.71
95% Fomesafen technical	142,000	21,237.46	142,000	21,047.33
95% Glufosinate ammonium technical	235,000	35,146.49	230,000	34,090.74
95% Glyphosate technical	64,600	9,661.55	62,500	9,263.79
95% Haloxyfop-P-methyl technical	223,000	33,351.78	220,000	32,608.53
97% Metolachlor technical	52,000	7,777.1	52,000	7,707.47
95% Metsulfuron-methyl technical	135,000	20,190.54	135,000	20,009.78
95% Nicosulfuron technical	280,000	41,876.67	280,000	41,501.77
97% Oxyfluorfen technical	244,000	36,492.53	230,000	34,090.74
95% Pendimethalin technical	63,500	9,497.03	63,500	9,412.01
95% Pretilachlor technical	44,000	6,580.62	43,000	6,373.49
97% Pyrazosulfuron-ethyl technical	300,000	44,867.86	300,000	44,466.18
80% Quinclorac technical	134,500	20,115.76	138,700	20,558.2

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95% Quizalofop-P-ethyl technical	225,000	33,650.9	235,000	34,831.84
95% Tribenuron-methyl technical	150,000	22,433.93	145,000	21,491.99
95% Trifluralin technical	38,000	5,683.26	38,000	5,632.38

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

Shanghai Port prices of main herbicides in China, 8 Aug., 2022

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TABLE 12: Shanghai Port prices of main herbicides in China, 8 Aug., 2022

Product	20220708		20220808	
	Original Price (RMB/t)	Price (USD/t)	Original Price (RMB/t)	Price (USD/t)
92% Acetochlor technical	42,500	6,356.28	41,500	6,151.16
97% Atrazine technical	38,500	5,758.04	38,500	5,706.49
96% Bensulfuron-methyl technical	200,500	29,986.69	200,500	29,718.23
92% Butachlor technical	37,500	5,608.48	30,500	4,520.73
95% Clomazone technical	118,500	17,722.81	118,500	17,564.14
95% Cyhalofop-butyl technical	188,500	28,191.97	188,500	27,939.59
97% Diuron technical	47,500	7,104.08	47,500	7,040.48
98% Fenclorim technical	150,500	22,508.71	140,500	20,825
95% Fenoxaprop-P-ethyl technical	185,500	27,743.3	185,500	27,494.92
96% Fluroxypyr technical	176,500	26,397.26	180,500	26,753.82
95% Fomesafen technical	142,500	21,312.24	142,500	21,121.44
95% Glufosinate ammonium technical	235,500	35,221.27	230,500	34,164.85
95% Glyphosate technical	65,100	9,736.33	63,000	9,337.9
95% Haloxyfop-P-methyl technical	223,500	33,426.56	220,500	32,682.64
97% Metolachlor technical	52,500	7,851.88	52,500	7,781.58
95% Metsulfuron-methyl technical	135,500	20,265.32	135,500	20,083.89
95% Nicosulfuron technical	280,500	41,951.45	280,500	41,575.88
97% Oxyfluorfen technical	244,500	36,567.31	230,500	34,164.85
95% Pendimethalin technical	64,000	9,571.81	64,000	9,486.12
95% Pretilachlor technical	44,500	6,655.4	43,500	6,447.6
97% Pyrazosulfuron-ethyl technical	300,500	44,942.64	300,500	44,540.29
80% Quinclorac technical	135,000	20,190.54	139,200	20,632.31

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95% Quizalofop-P-ethyl technical	225,500	33,725.68	235,500	34,905.95
95% Tribenuron-methyl technical	150,500	22,508.71	145,500	21,566.1
95% Trifluralin technical	38,500	5,758.04	38,500	5,706.49

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 Aug., 2022

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TABLE 13: FOB Shanghai prices of main herbicides in China, 8 Aug., 2022, USD/t

Product	20220708	20220808
92% Acetochlor technical	6,267.15	6,066.9
97% Atrazine technical	5,489.74	5,440.59
96% Bensulfuron-methyl technical	29,247.18	28,985.34
92% Butachlor technical	5,539.93	4,481.35
95% Clomazone technical	17,320.83	17,165.77
95% Cyhalofop-butyl technical	26,533.95	26,296.41
97% Diuron technical	6,994.36	6,931.75
98% Fenclorim technical	21,975.02	20,336.87
95% Fenoxaprop-P-ethyl technical	27,065.53	26,823.23
96% Fluroxypyr technical	25,756.54	26,102.52
95% Fomesafen technical	20,811.47	20,625.16
95% Glufosinate ammonium technical	33,127.81	32,136.04
95% Glyphosate technical	10,399.77	9,976.73
95% Haloxyfop-P-methyl technical	32,592.37	31,868.17
97% Metolachlor technical	7,721.58	7,652.45
95% Metsulfuron-methyl technical	19,793.37	19,616.17
95% Nicosulfuron technical	40,882.64	40,516.63
97% Oxyfluorfen technical	34,390.46	32,136.04
Paraquat 42% TK	4,012.78	3,976.85
95% Pendimethalin technical	9,394.18	9,310.08
95% Pretilachlor technical	6,558.04	6,355.18
97% Pyrazosulfuron-ethyl technical	43,791.5	43,399.46
80% Quinclorac technical	19,720.65	20,149.49

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95% Quizalofop-P-ethyl technical	32,883.26	34,030.28
95% Tribenuron-methyl technical	21,975.02	21,057.58
95% Trifluralin technical	5,489.74	5,440.59

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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