

Herbicides China Monthly Report 202311

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Headline

In early Nov., China's herbicides TC market remained weak, and most herbicides TC experienced MoM as well as YoY decreases in their prices. On average, herbicide TC price slipped by 1.54% on a monthly basis, and fell by 24.87% on a yearly basis.

In Nov., herbicide TC price slipped on average by 1.81% on a monthly basis, and fell by 24.76% on a yearly basis. However, the ex-works price of glufosinate-ammonium TC went against this downtrend; the product saw a 2.93% MoM increase in the price.

Weifang Union has successfully expanded its prosulfocarb TC capacity, which boosts the company's competitiveness and influence in this market.

Liaoning Cynda has planned to carry out a technological transformation of its existing production line in the minor use product workshop. Once the project finished, the company can switch production among 19 pesticides TC (TK included) in this line.

Hubei Guangfulin announced that it planned to build production capacity for metamifop TC, tembotrione TC and pyroxasulfone TC. It should be noted that the company has cut down its capacity for mesotrione TC.

The year 2023, which will soon come to an end, is regarded as the start of industrialisation of GM crops in China. In fact, to facilitate the GM crop industrialisation, the Chinese government has rolled out several policies in the past few years. With such policy support, it is believed that China will go at faster pace in this path.

In Nov. 2023, altogether 31 herbicide products were approved of pesticide registration in China, which include two TC products and a TK product. Popular forms of these products are SL, OD and EC. The majority of them are of low toxicity.

In Nov., the FOB price of paraquat 42% TK and the ex-works price of pure pyridine in China went down on a monthly basis.

On 17 Nov., local government announced that it was to approve the EI report of Yongnong BioSciences's high-efficacy low-toxicity pesticides and key intermediates project. Upon completion, Yongnong BioSciences will expand its diquat TK capacity in the Shangyu production base to 25,000 t/a. The company is a major diquat TK producer in China.

In Sept. 2023, China's herbicide formulations were mainly exported to Brazil, Australia, the US, etc.; the export volume jumped by nearly 60% YoY. Meanwhile, the import volume of herbicide formulations to China also ballooned, up some 85% YoY; the majority of these products were imported from Germany.







Editor's note

In Nov., China's herbicides TC market remained weak, and trading was slow. On average, herbicide TC price slipped by 1.81% on a monthly basis, and fell by 24.76% on a yearly basis. Amide herbicides TC experienced bigger price fall, with the monthly ex-works price down 5.97% MoM, while triazine herbicides TC had steady price. It is worth noting that the price of glufosinate-ammonium TC decreased to the cost price, according to some glufosinate-ammonium producers; these producers have plans to set the ex-works price higher.

As regards company dynamics, Weifang Union has successfully expanded its prosulfocarb TC capacity. Besides, Liaoning Cynda has planned to carry out technological transformation of its existing production line in the minor use product workshop, and the line, once transformed, could switch production among 19 pesticides TC (TK included); Hubei Guangfulin has planned to build capacity for metamifop TC, tembotrione TC and pyroxasulfone TC; Yongnong BioSciences has planned to expand diquat TK capacity to 25,000 t/a.

Early this month, the Implementation Rules of the Patent Law of the People's Republic of China (Amended Draft) was approved at an executive meeting of the State Council, which will help China dovetail with international rules. Besides, the commercialisation of GM crops in China has been progressing smoothly with policy support. The development of GM crops will help boost the market growth of some herbicides, such as glyphosate and glufosinate-ammonium.

Also this month, altogether 31 herbicide products were approved of pesticide registration in China, which include two TC products and a TK product. Popular forms of these products are SL, OD and EC. The majority of them are of low toxicity.

The USD/CNY exchange rate in this newsletter is USD1.00 = CNY7.1778 on 1 Nov., 2023, sourced from the People's Bank of China. All the prices mentioned in this newsletter will include the VAT, unless otherwise specified.





Market analysis

Herbicide TC price keeps going down in general in China in early Nov.

Summary: In early Nov., China's herbicides TC market remained weak, and most herbicides TC experienced MoM as well as YoY decreases in their prices. On average, herbicide TC price slipped by 1.54% on a monthly basis, and fell by 24.87% on a yearly basis.

In early Nov., China's herbicides TC market remained weak, and most herbicides TC experienced MoM as well as YoY decreases in their prices. On average, herbicide TC price slipped by 1.54% on a monthly basis, and fell by 24.87% on a yearly basis. Compared with early-Oct. levels, the majority of sulfonylurea and triazine herbicides had stable price, while amide herbicides saw relatively big price falls, phenoxyacid herbicides had slower price drops and organophosphorus herbicides experienced an average 1.39% dip in the price. Prices of other mainstream herbicides also followed a general downtrend.

Organophosphorus herbicides: Average price fall for this category was logged at 1.39% MoM, and 56.99% YoY. For glyphosate TC, downstream demand, raw material price and current glyphosate supply all have had negative effects on its price. Some glyphosate producers cut the price to snatch a chance for transaction, which forced to price down further in the first half of Nov. For glufosinate-ammonium TC, the dull market has continued for a while, and the price was close to the cost price. According to some glufosinate-ammonium producers, the current price has caused losses in parts of the producers, so they had plan to raise quotations for the product.

Sulfonylurea herbicides: Average price decline for this category was logged at 0.95% MoM, and 22.07% YoY. In early Nov., sulfonylurea herbicide price had more stable performance compared with other herbicide categories. However, it should be noted that there was supply shortage for most TC products under this category as many producers suspended production temporarily or lowered operating rates. Specifically, the supply of nicosulfuron TC was tight since the majority of the producers suspended their lines for maintenance; the supply of quizalofop-P-ethyl TC, metsulfuron-methyl TC and pyrazosulfuron-ethyl TC shrank as output declined in the producers. Yet under sluggish demand, even the cut in supply could not drive the price up. It is worth noting that the price of bensulfuron-methyl TC had greater MoM decrease for there was sufficient supply in the market against the slack downstream demand.

Amide herbicides: Average price drop for this category was logged at 4.99% MoM, and 23.34% YoY. In early Nov., demand for herbicides under this category went down further, yet production was kept normal in the producers; larger stocks in the market brought the price down. In mid-Nov., producers of pretilachlor TC, butachlor TC, etc. have lowered their output and many amides producers put efforts into maintaining the price, which made the overall price steadier in mid-Nov.

Prices of other mainstream herbicides mainly kept stable or continued a downtrend due to weak demand. At present, some producers try hard to maintain the price, and prices of the most products will follow a more stable trajectory.





TABLE 1: Ex-works prices of major herbicide TC products in China in early Nov. 2023

| Category | Product | Ex-works price (RMB/t) | Ex-works price (USD/t) | RMB MoM change | RMB YoY change |
|----------------------------|------------------------------------|------------------------|------------------------|----------------|----------------|
| Organophosphorus herbicide | 95% Glufosinate ammonium technical | 61,600 | 8,582 | -0.81% | -69.03% |
| | 95% Glyphosate technical | 29,900 | 4,166 | -1.97% | -44.94% |
| Sulfonylurea herbicide | 95% Nicosulfuron technical | 187,200 | 26,080 | -0.43% | -29.36% |
| | 95% Quizalofop-P-ethyl technical | 185,000 | 25,774 | 0.00% | -21.28% |
| | 96% Bensulfuron-methyl technical | 150,000 | 20,898 | -6.25% | -25.00% |
| | 95% Metsulfuron-methyl technical | 135,000 | 18,808 | 0.00% | 0.00% |
| | 97% Pyrazosulfuron-ethyl technical | 225,000 | 31,347 | 0.00% | -25.00% |
| | 95% Tribenuron-methyl technical | 82,500 | 11,494 | 0.00% | -43.10% |
| | 95% Florasulam technical | 457,900 | 63,794 | 0.00% | -10.74% |
| Amide herbicide | 95% Pretilachlor technical | 31,000 | 4,319 | -2.82% | -8.82% |
| | 92% Acetochlor technical | 28,600 | 3,985 | -0.69% | -27.59% |
| | 92% Butachlor technical | 21,000 | 2,926 | -4.55% | -20.75% |
| | 97% Metolachlor technical | 37,000 | 5,155 | -11.90% | -36.21% |
| Triazine herbicide | 97% Atrazine technical | 30,000 | 4,180 | 0.00% | -16.67% |
| | 95% Ametryn technical | 44,500 | 6,200 | 0.00% | -1.11% |
| Dinitroaniline herbicide | 95% Trifluralin technical | 40,000 | 5,573 | 0.00% | 5.26% |
| | 95% Pendimethalin technical | 57,500 | 8,011 | -1.71% | -9.45% |
| Phenoxyacid herbicide | 98% 2,4-D technical | 16,300 | 2,271 | -1.21% | -32.08% |
| | 97% MCPA technical | 30,000 | 4,180 | -4.76% | -36.17% |
| Diphenyl ether herbicide | 95% Fomesafen technical | 133,900 | 18,655 | 0.00% | -3.67% |





| | | | | | |
|-----------------------------------|------------------------------------|---------|--------|--------|---------|
| | 97% Oxyfluorfen technical | 145,000 | 20,201 | -2.03% | -35.56% |
| Aryloxyphenoxypropionic herbicide | 95% Cyhalofop-butyl technical | 123,000 | 17,136 | 0.00% | -34.57% |
| | 95% Haloxyfop-P-methyl technical | 118,200 | 16,467 | 0.00% | -46.27% |
| | 95% Clodinafop-propargyl technical | 196,000 | 27,306 | -2.00% | -19.34% |
| Substituted phenylurea herbicide | 97% Diuron technical | 38,500 | 5,364 | 0.52% | -16.30% |
| Pyrimidine herbicide | 98% Fenclorim technical | 106,000 | 14,768 | -0.93% | -18.46% |
| Others | 80% Quinclorac technical | 133,000 | 18,529 | 0.00% | -9.59% |
| | 85%-90% Clethodim technical | 67,000 | 9,334 | -1.47% | -60.59% |

Source: CCM

Glufosinate-ammonium price recover, yet prices of most herbicides fall in Nov.

Summary: In Nov., herbicide TC price slipped on average by 1.81% on a monthly basis, and fell by 24.76% on a yearly basis. However, the ex-works price of glufosinate-ammonium TC went against this downtrend; the product saw a 2.93% MoM increase in the price.

In Nov., herbicide TC had an average 1.81% MoM slip in the ex-works price in general in China; the price fell by 24.76% YoY on average. The continuous price fall is closely related to the sluggish downstream demand. Among the major insecticides, amide herbicides TC experienced bigger price decline, down 5.97% MoM on average; triazine herbicides TC had stable price. In contrast, the ex-works price of glufosinate-ammonium TC went against this overall downtrend, with a 2.93% MoM increase, after the producers desperately fought against further price fall.

Organophosphorus herbicides: Mixed price trends were witnessed; the price of glyphosate TC dropped further under the competition among producers, while the price of glufosinate-ammonium TC recovered in late Nov. after a dip early this month. It should be reminded that downstream markets of glufosinate-ammonium TC were still weak, and the purchase was mainly made to satisfy the rigid demand. According to some glufosinate-ammonium producers, the price decreased to the cost price in early Nov., and by then some producers even had produced at a loss due to a lack of cost advantage. Therefore, the producers desperately fought against further price fall, and led to a quick bounce of the price. Currently, the ex-works price of glufosinate-ammonium TC remains close to the cost price though. It is believed that moderate price increases for glufosinate-ammonium TC will be seen in the short term.

Sulfonyleurea herbicides: The average monthly price decline for this category was logged at 1.47% MoM, and 20.97% YoY. The monthly prices of nicosulfuron TC, bensulfuron-methyl TC and pyrazosulfuron-ethyl TC had MoM decreases, while the prices of other TC products were rather stable.





Amide herbicides: The average monthly price drop for this category was logged at 5.97% MoM, and 24.67% YoY. Buyers of herbicides under this category held a wait-and-see attitude, and just a small number of deals were made. On the other side, most producers kept normal production. Large stocks in the market dragged the price further down.

The monthly price of triazine herbicides TC was steady. However, the prices of dinitroaniline, phenoxyacid and diphenyl ether herbicides TC declined on a monthly basis, especially the price of 95% clodinafop-propargyl TC, which dove 10.80% MoM.





TABLE 2: Monthly ex-works prices of major herbicide TC products in China, Nov. 2023

| Category | Product | Ex-works price in Nov. 2023 (RMB/t) | Ex-works price (USD/t) | RMB MoM change | RMB YoY change |
|----------------------------|------------------------------------|-------------------------------------|------------------------|----------------|----------------|
| Organophosphorus herbicide | 95% Glufosinate ammonium technical | 63,920 | 8,905.24 | 2.93% | -67.51% |
| | 95% Glyphosate technical | 29,500 | 4,109.89 | -3.28% | -44.29% |
| Sulfonylurea herbicide | 95% Nicosulfuron technical | 187,040 | 26,058.12 | -0.51% | -26.65% |
| | 95% Quizalofop-P-ethyl technical | 185,000 | 25,773.91 | 0.00% | -21.28% |
| | 96% Bensulfuron-methyl technical | 150,000 | 20,897.77 | -6.25% | -23.47% |
| | 95% Metsulfuron-methyl technical | 135,000 | 18,807.99 | 0.00% | 0.00% |
| | 97% Pyrazosulfuron-ethyl technical | 217,000 | 30,232.10 | -3.56% | -21.80% |
| | 95% Tribenuron-methyl technical | 82,500 | 11,493.77 | 0.00% | -43.10% |
| | 95% Florasulam technical | 457,900 | 63,793.92 | 0.00% | -10.48% |
| Amide herbicide | 95% Pretilachlor technical | 30,200 | 4,207.42 | -5.33% | -11.18% |
| | 92% Acetochlor technical | 28,200 | 3,928.78 | -2.08% | -30.80% |
| | 92% Butachlor technical | 21,000 | 2,925.69 | -4.55% | -20.75% |
| | 97% Metolachlor technical | 37,000 | 5,154.78 | -11.90% | -35.93% |
| Triazine herbicide | 97% Atrazine technical | 30,000 | 4,179.55 | 0.00% | -16.67% |
| | 95% Ametryn technical | 44,500 | 6,199.67 | 0.00% | -1.11% |
| Dinitroaniline herbicide | 95% Trifluralin technical | 40,000 | 5,572.74 | 0.00% | 5.26% |
| | 95% Pendimethalin technical | 57,500 | 8,010.81 | -1.03% | -9.09% |
| Phenoxyacid herbicide | 98% 2,4-D technical | 16,300 | 2270.89 | -2.63% | -32.08% |
| | 97% MCPA technical | 30,000 | 4,179.55 | -0.99% | -36.17% |
| Diphenyl ether herbicide | 95% Fomesafen technical | 133,900 | 18,654.74 | 0.00% | -3.67% |





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|-----------------------------------|------------------------------------|---------|-----------|---------|---------|
| | 97% Oxyfluorfen technical | 145,000 | 20,201.18 | -2.03% | -34.09% |
| Aryloxyphenoxypropionic herbicide | 95% Cyhalofop-butyl technical | 127,000 | 17,693.44 | 3.25% | -30.98% |
| | 95% Haloxyfop-P-methyl technical | 119,640 | 16,668.06 | 1.22% | -44.09% |
| | 95% Clodinafop-propargyl technical | 178,400 | 24,854.41 | -10.80% | -26.13% |
| Substituted phenylurea herbicide | 97% Diuron technical | 38,260 | 5,330.32 | -1.14% | -18.60% |
| Pyrimidine herbicide | 98% Fenclorim technical | 106,000 | 14,767.76 | -0.56% | -18.46% |
| Others | 80% Quinclorac technical | 133,000 | 18,529.35 | 0.00% | -9.59% |
| | 85%-90% Clethodim technical | 67,000 | 9,334.34 | -1.47% | -60.59% |

Source:CCM





Company and supply

Weifang Union doubles prosulfocarb TC capacity

Summary: Weifang Union has successfully expanded its prosulfocarb TC capacity, which boosts the company's competitiveness and influence in this market.

In late Oct., Weifang Sino-Agri Union Chemical Co., Ltd. (Weifang Union) revealed that it had doubled its prosulfocarb TC capacity to 2,000 t/a as its prosulfocarb TC technological transformation project was officially put into operation. This expansion helps boost the company's competitiveness and influence in this market.

Weifang Union, located in the Lingang Industrial Park of Weifang Binhai Economic and Technological Development Zone, Weifang City, Shandong Province, is an importance subsidiary of Shandong Sino-Agri United Biotechnology Co., Ltd. (Sino-Agri Union). Since establishment, Weifang Union has invested in the construction of capacity for several pesticide products to lay a solid foundation for its future development as well as to serve the overall development of its parent company. It finished the construction 1,000 t/a prosulfocarb TC production line in Nov. 2020, and put the line into normal operation in 2021 after going through trial-run phase and passed acceptance check. Later, the company decided to launch the prosulfocarb TC technological transformation project to bring its total prosulfocarb TC capacity to 2,000 t/a.

In addition to the expanded prosulfocarb TC capacity, Weifang Union also boasts active production capacity for dicamba TC, florasulam TC and a series of pesticide formulations. Moreover, the company has been pushing forward with building large-scale capacity for propyzamide TC, diflufenican TC and metam-sodium 35% AS.

It is worth noting that Shandong United Pesticide Industry Co., Ltd., another important wholly-owned subsidiary of Sino-Agri Union, now has built up capacity for 2-chloro-5-(chloromethyl)pyridine (CCMP), imidacloprid TC, thiamethoxam TC, thiacloprid TC, nitenpyram TC, acetamiprid TC, pyridaben TC, pymetrozine TC, chlorfenapyr TC and some pesticide formulations.

China is a big prosulfocarb TC producer. Besides Weifang Union, CAC Nantong Chemical Co., Ltd. (CAC Nantong) and Lianyungang Newtech Chemical Co., Ltd. (Lianyungang Newtech) also hold large-scale prosulfocarb TC capacity. However, so far the Chinese government has not allowed application of prosulfocarb products in domestic agricultural production. Therefore, prosulfocarb TC products made by the three producers are mainly exported to Australia and European countries, and/or are processed into prosulfocarb formulation products and then exported to the main destinations.

It is well-known that China has implemented the pesticide registration system, and a registration certificate is one of the necessary materials for a pesticide product to be legitimately sold in the market. Meanwhile, under this system, registration certificate for export-only pesticide is a specialised certificate for pesticide exports. In June 2020, the Ministry of Agriculture and Rural Affairs of the People's Republic of China issued the Announcement No. 269 to facilitate easier obtainment of export-only pesticide registration certificate. On 1 July, 2021, Weifang Union, CAC Nantong and Lianyungang Newtech all had export-only pesticide registration of their prosulfocarb TC products approved. And soon after, Weifang Union and CAC Nantong also had their prosulfocarb 800g/L EC products approved of export-only pesticide registration.



TABLE 3: Valid export-only pesticide registration of prosulfocarb products in China, as of early Nov. 2023

| Registrant | Product | Approved export destination |
|---------------------|------------------------|--|
| Weifang Union | 98% Prosulfocarb TC | Australia, Slovakia, Austria, Belgium, Bulgaria, Cyprus, Czech, Germany, Denmark, Estonia, Greece, Spain, Finland, Croatia, Hungary, Ireland, Italy, Lithuania, Luxembourg, Latvia, the Netherlands, Poland, Portugal, Romania, Sweden, Slovenia and France |
| | 98.5% Prosulfocarb TC | Australia |
| | Prosulfocarb 800g/L EC | Australia |
| CAC Nantong | 98% Prosulfocarb TC | Ireland, Sweden, Spain, Slovenia, Slovakia, Portugal, Poland, the Netherlands, Malta, Luxembourg, Lithuania, Romania, Latvia, Australia, Italy, Hungary, Greece, Germany, France, Finland, Estonia, Austria, Croatia, Czech, Cyprus, Bulgaria, Belgium and Denmark |
| | Prosulfocarb 800g/L EC | The UK |
| Lianyungang Newtech | 97% Prosulfocarb TC | Austria, Sweden, Belgium, Bulgaria, Cyprus, Czech, Croatia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Romania, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Slovakia, Slovenia, Spain, Portugal and Australia |

Source: Institute for the Control of Agrochemicals, Ministry of Agriculture and Rural Affairs

Liaoning Cynda to prioritise workshop transformation for minor use herbicides

Summary: Liaoning Cynda has planned to carry out a technological transformation of its existing production line in the minor use product workshop. Once the project finished, the company can switch production among 19 pesticides TC (TK included) in this line.

In Nov., CCM learned from Liaoning Cynda Chemical Co., Ltd. (Liaoning Cynda) that the company would take the minor use product workshop technological transformation project as one of the key tasks in the near future. As is planned, Liaoning Cynda will launch technological transformation in its existing production line in the workshop, and upgrade it into a shared line with production capacity of 50 t/a flumioxazin TC, 50 t/a iodosulfuron TC, 50 t/a picolinafen TC, 50 t/a quinotrione TC, 50 t/a sethoxydim TC, 50 t/a sethoxydim TK, 50 t/a nicosulfuron TC, 50 t/a oxadiazon TC, 25 t/a clomazone TC, 25 t/a carfentrazone-ethyl TC, 50 t/a pyraflufen-ethyl TC, 50 t/a bispyribac-sodium TC, 50 t/a fomesafen TC, 50 t/a bentazone TC, 50 t/a pyribenzoxim TC, 50 t/a pyraquinat TC, 50 t/a pyroxasulfone TC, 50 t/a fepoxydim TC and 50 t/a topramezone TC. Once the transformation is finished, the company can switch production among the 19 products and make the production more flexible, which also means it can greatly expand its pesticide TC product mix.

Liaoning Cynda, founded in Oct. 2017, is a wholly-owned subsidiary of Shandong Cynda Chemical Co., Ltd. (Shandong Cynda). Since establishment, Liaoning Cynda has made a series of investments and built up large-scale production capacity in the Beigang Industrial Zone of Huludao Economic Development Zone, Huludao City, Liaoning Province, with the support of Shandong Cynda and for the



purpose of better serving the parent company's overall development plan. It has set up multiple production workshops and has had production lines and supporting facilities installed in these workshops.

Its current minor use product workshop has a shared line with production capacity of 50 t/a quinotrione TC, 50 t/a flumioxazin TC, 100 t/a picolinafen TC and 50 t/a iodosulfuron TC. The company also has active capacity of 8,000 t/a clethodim TC, 2,000 t/a dimethomorph TC, 200 t/a imazamox TC, 480 t/a 2,4-D butylate/2,4-DB TC, 100 t/a oxaziclomefone TC, 50 t/a pyriminobac-methyl TC and 10,000 t/a pesticide formulations. Moreover, it has put into trial run the production lines of 200 t/a imazapic TC, 1,200 t/a imazethapyr TC, 100 t/a imazaquin TC, 2,000 t/a butyronitrile, 1,500 t/a butyramide, 1,000 t/a imazapyr TC, 2,300 t/a PDE and 700 t/a MPDE. With such large built-up capacity, it is obvious that Liaoning Cynda is an important production base for Shandong Cynda.

It is worth mentioning that Liaoning Cynda has acquired pesticide registration certificates for some of the TC/TK products planned in this workshop technological transformation project, and it has been active in applying for registration for the rest products. At present, Liaoning Cynda holds registration certificates for the following pesticide TC/TK products: clethodim TC, dimethomorph TC, picolinafen TC, 2,4-DB TC, flumioxazin TC, iodosulfuron-methyl-sodium TC, pyraflufen-ethyl TC, carfentrazone-ethyl TC, clomazone TC, quinotrione TC, oxaziclomefone TC, pyriminobac-methyl TC, imazamox TC, bentazone TC, fomesafen TC, imazethapyr TC, nicosulfuron TC, imazaquin TC, clethodim TK and sethoxydim TK. These pesticide TC/TK registrations are the results of its own application efforts and the redistribution of registration resources led by its parent company.

Hubei Guangfulin plans to build capacity for metamifop, tembotrione & pyroxasulfone

Summary: Hubei Guangfulin announced that it planned to build production capacity for metamifop TC, tembotrione TC and pyroxasulfone TC. It should be noted that the company has cut down its capacity for mesotrione TC.

On 9 Nov., Hubei Guangfulin Biological Products Co., Ltd. (Hubei Guangfulin) revealed that the company has slashed its mesotrione TC production capacity from 800 t/a to 500 t/a and optimised production technology for the product; meanwhile, it would invest in the construction of production capacity of 100 t/a metamifop TC, 50 t/a tembotrione TC and 50 t/a pyroxasulfone TC to foster better development of its pesticide TC business.

Hubei Guangfulin, located in the Zaoyang Chemical Industrial Park, Zaoyang City, Hubei Province, is a pesticide enterprise with mesotrione TC as its flagship product. It previously built up 500 t/a 2-nitro-4-methylsulfonylbenzoic acid and 300 t/a 1,3-cyclohexanedione production lines to support the 800 t/a mesotrione TC line in this park. With the capacity slash, capacity for the two important intermediates for mesotrione production, 2-nitro-4-methylsulfonylbenzoic acid and 1,3-cyclohexanedione, also reduced to 400 t/a and 177.2 t/a, respectively. Yet in general, the supportive intermediate capacity still gives the company an advantage in the competition.

Beyond the capacity for mesotrione and its intermediates, Hubei Guangfulin also boasts 1,000 t/a capacity for pesticide formulations. However, these pesticide formulation lines are currently in suspension. So far, the company has announced no plan to phase the capacity out.





As regards its new capacity building plan, Hubei Guangfulin launched a workshop 115 pesticide TC expansion project, which aims to build the 100 t/a metamifop TC, 50 t/a tembotrione TC and 50 t/a pyroxasulfone TC production lines and supporting facilities. It acquired a record filing certificate for this investment project on 9 Nov., 2023 and is now preparing for other necessary administrative review and approval formalities. Whether the project could be constructed or not still depends on local government's view on the safety and environmental protection aspects of the project. Furthermore, after the completion of the project, Hubei Guangfulin needs to obtain all the necessary certificates for the production and sales of these products.

It is believed that the new project will help decrease the risks in the company's operation, since currently mesotrione TC is the major source of its revenue. Great dependence on one product renders Hubei Guangfulin vulnerable to changes in the market; fluctuations in the mesotrione TC price will cause big swings in the company's overall performance.

Metamifop, tembotrione and pyroxasulfone, all the three are herbicides received much attention in today's Chinese pesticide market. Although many Chinese companies have revealed project plans to build capacity for these products, the ones actually have built up the capacity are just a few at present. Take metamifop as an example, major players include: Ningxia Lantian Agricultural Development Co., Ltd., which has set up 500 t/a production line, and Jiangsu Fuding Chemical Co., Ltd. with 200 t/a.

Though the production scale planned by Hubei Guangfulin is relatively small, the capacity will benefit the company's long-term development once it is put into operation. Moreover, the capacity will help improve supplies of the three herbicides TC in the Chinese market.





Policy

China speeds up GM crop commercialisation to ensure food security

Summary: The year 2023, which will soon come to an end, is regarded as the start of industrialisation of GM crops in China. In fact, to facilitate the GM crop industrialisation, the Chinese government has rolled out several policies in the past few years. With such policy support, it is believed that China will go at faster pace in this path.

The year 2023 is regarded as the start of industrialisation of genetically modified (GM) crops in China, and the commercialisation of GM crops still has a long way to go. As of Nov. 2023, the Chinese government has rolled out several policies to facilitate the industrialisation process, main policies including:

- The Notice by the General Office of Ministry of Agriculture and Rural Affairs of the People's Republic of China on Issuing the Work Plan for Administration of Agricultural Genetically Modified Organisms in 2020, which was published on 13 Jan., 2020, required careful supervision on the safety of agricultural GM organisms.
- The Notice by the General Office of Ministry of Agriculture and Rural Affairs of the People's Republic of China on Issuing the Major Tasks in Science, Technology, Education, Environmental Protection and Energy Use in Agriculture Sector and Rural Areas in 2020, which was published on 26 Feb., 2020, mentioned that major programs for the breeding of new varieties of GM organisms should be organised and launched.
- The Work Plan for Administration of Agricultural Genetically Modified Organisms in 2021, which was issued by the Ministry of Agriculture and Rural Affairs of the People's Republic of China (MARA) in Jan. 2021, put forward that the administration of agricultural GM organisms should be put onto government agenda; the document also advocated that expenditure on supporting the development of the cause of agricultural GM organism safety should be included in the government budget.
- The Outline of the 14th Five-Year Plan (2021-2025) for National Economic and Social Development and Vision 2035 of the People's Republic of China, which was released in March 2021, reads that China will steadily advance the industrial application of biological breeding, and foster leading enterprises in the seed industry with international competitiveness.
- Decision of the Ministry of Agriculture and Rural Affairs of the People's Republic of China on Amending the Methods on Management of Safety Evaluation of Agricultural Genetically Modified Organisms and several other regulations (Order No. 2 [2022] of the Ministry of Agriculture and Rural Affairs of the People's Republic of China), which was issued on 21 Jan., 2022, announced that amendments had been made to regulations including Measures for the Administration of the Production and Business Licence of Crop Seeds, Measures for the Approval of Key Crop Varieties, etc. on rules concerning genetic modification.
- The National GM Soybean Variety Approval Standard (Trial) and the National GM Maize Variety Approval Standard (Trial), which was published by MARA on 8 June, 2022, have clear requirements on the authenticity of GM transformants, on effectiveness of target traits and on varieties through backcross breeding.

Besides, on 17 Oct., 2023, MARA released the Decision on Amending the Measures for the Administration of Labelling of Agricultural Genetically Modified Organisms (Draft for Comment), which clarified that labelling was required when the content of single-crop GM component of 18 products from 6 categories exceeds 3%. In the 2002 version of the measures for labelling, labelling was compulsory for 17 GM products from 5 categories—soybean, rape, maize, cotton and tomato.





Registration

31 Herbicide products approved of registration in Nov.

Summary: In Nov. 2023, altogether 31 herbicide products were approved of pesticide registration in China, which include two TC products and a TK product. Popular forms of these products are SL, OD and EC. The majority of them are of low toxicity.

In Nov. 2023, the Department of Agrochemical Management of the Ministry of Agriculture and Rural Affairs of the People's Republic of China (MARA) revealed a batch of pesticide products approved of registration. Of these products, 31 are herbicide products, including two TC products and a TK product. Popular forms of these products are SL, OD and EC; products in these three forms account for 29%, 26% and 19%, respectively, of the total. The majority of these herbicide products are of low toxicity.



TABLE 4: Herbicide products approved of registration, Nov. 2023

| No. | Registration No. | Registrant | Form | Toxicity | Active ingredient and content |
|-----|------------------|---|------|----------|---|
| 1 | PD20230740 | Dezhou Xianglong Biochemical Co., Ltd. | TC | Low | Topramezone 98% |
| 2 | PD20230700 | Guang'an Lier Chemical Co., Ltd. | TK | Low | Glufosinate-P 45.70% |
| 3 | EX20230168 | MAX (Rudong) Chemicals Co., Ltd. | TC | Low | Terbacil 97.50% |
| 4 | PD20230662 | Anhui Yinong Chemical Co., Ltd. | SL | Low | Glufosinate-P 10% |
| 5 | PD20230743 | Anhui Xitian Biological Technology Co., Ltd. | OD | Low | Bispyribac-sodium 5%·penoxsulam 2%·quinclorac 18% |
| 6 | PD20230709 | Cangzhou Runde Pesticide Co., Ltd. | EC | Low | Clomazone 12%·oxadiargyl 6%·pretilachlor 30% |
| 7 | PD20230730 | Henan Jintiandi Agro-Chemical Co., Ltd. | OD | Low | Atrazine 30%·s-metolachlor 18%·nicosulfuron 2% |
| 8 | PD20230676 | Henan Jinliang Fine Chemical Co., Ltd. | OD | Low | Metamifop 10%·cyhalofop-butyl 15%·quinclorac 10% |
| 9 | PD20230734 | Henan Jinliang Fine Chemical Co., Ltd. | SL | Low | Acifluorfen 120g/L·bentazone 540g/L |
| 10 | PD20230688 | Hunan Xinchangshan Agricultural Development Co., Ltd. | OD | Low | Penoxsulam 4%·mesotrione 12% |
| 11 | PD20230732 | Jiangsu Changqing Bio-tech Co., Ltd. | EC | Low | Metamifop 8%·cyhalofop-butyl 12% |
| 12 | PD20230691 | Jilin Bada Pesticide Co., Ltd. | SE | Low | Florasulam 0.50%·mcpa-isooctyl 43.50% |
| 13 | PD20230693 | Liaoning Jintian Tech Co., Ltd. | OD | Low | Clethodim 7%·clomazone 15%·fomesafen 15% |
| 14 | PD20230679 | Shandong Dongyuan Bio-Technology Co., Ltd. | OD | Low | Topramezone 2%·nicosulfuron 3%·terbutylazine 25% |
| 15 | PD20230719 | Shandong Runyang Chemical Co., Ltd. | EW | Low | Fluoroglycofen-ethyl 1%·glufosinate-p 9% |
| 16 | PD20230735 | Jinan Yinong Chemical Co., Ltd. | OD | Low | Atrazine 20%·mesotrione 6%·nicosulfuron 4% |
| 17 | PD20230671 | Shandong Qingdao Fengbang Agrochemical Co., Ltd. | SL | Low | Diquat dichloride 20% |
| 18 | PD20230720 | Qingdao Jiner Agrochemicals (Group) R&D Co., Ltd. | SC | Low | Diflufenican 15%·flufenacet 15% |
| 19 | PD20230711 | Shandong Changqing Pesticide Factory Co., Ltd. | OD | Low | Pinoxaden 10% |
| 20 | PD20230678 | Shandong Zhongxin Kenong Bio-Technology Co., Ltd. | SL | Low | Glufosinate-P 20% |



| | | | | | |
|----|------------|---|----|------|---|
| 21 | PD20230737 | Weihai Hanfu Biochemical Medicine Co., Ltd. | SL | Low | Glufosinate-ammonium 30%·dicamba 3% |
| 22 | PD20230728 | Weihai Hanfu Biochemical Medicine Co., Ltd. | EC | Low | 2,4-D-ethylhexyl 87.50% |
| 23 | PD20230690 | Xuchang Jian'an Changsheng Daily Chemical Co., Ltd. | EC | Low | Fenoxaprop-P-ethyl 10% |
| 24 | PD20230672 | Zhengzhou Xianlida Chemicals Co., Ltd. | EC | Low | Metamifop 7%·propanil 25%·cyhalofop-butyl 13% |
| 25 | EX20230173 | Jiangsu Kaichen Chemical Co., Ltd. | EC | Low | Triclopyr-butotyl 834g/L |
| 26 | EX20230165 | Shandong Binnong Technology Co., Ltd. | SC | Low | Flumioxazin 500g/L |
| 27 | EX20230170 | Shandong Weifang Rainbow Chemical Co., Ltd. | SL | Low | Diquat 150g/L |
| 28 | EX20230172 | Shandong Weifang Rainbow Chemical Co., Ltd. | WG | Low | Propanil 60% |
| 29 | EX20230164 | Yanhua Yoloo (Laoting) Biotechnology Co., Ltd. | SL | Mild | Glyphosate 450g/L |
| 30 | EX20230171 | Yanhua Yoloo (Laoting) Biotechnology Co., Ltd. | SL | Mild | Glyphosate 510g/L |
| 31 | EX20230166 | Yanhua Yoloo (Laoting) Biotechnology Co., Ltd. | SL | Mild | Glyphosate 506g/L |

Source: MARA



**TABLE 5:** Herbicide products approved of registration by form, Nov. 2023

| No. | Form | Number |
|--------------|------|-----------|
| 1 | SL | 9 |
| 2 | OD | 8 |
| 3 | EC | 6 |
| 4 | SC | 2 |
| 5 | TC | 2 |
| 6 | SE | 1 |
| 7 | WG | 1 |
| 8 | EW | 1 |
| 9 | TK | 1 |
| Total | | 31 |

Source: MARA

TABLE 6: Herbicide products approved of registration by toxicity, Nov. 2023

| No. | Toxicity | Number |
|--------------|----------|-----------|
| 1 | Low | 28 |
| 2 | Mild | 3 |
| Total | | 31 |

Source: MARA



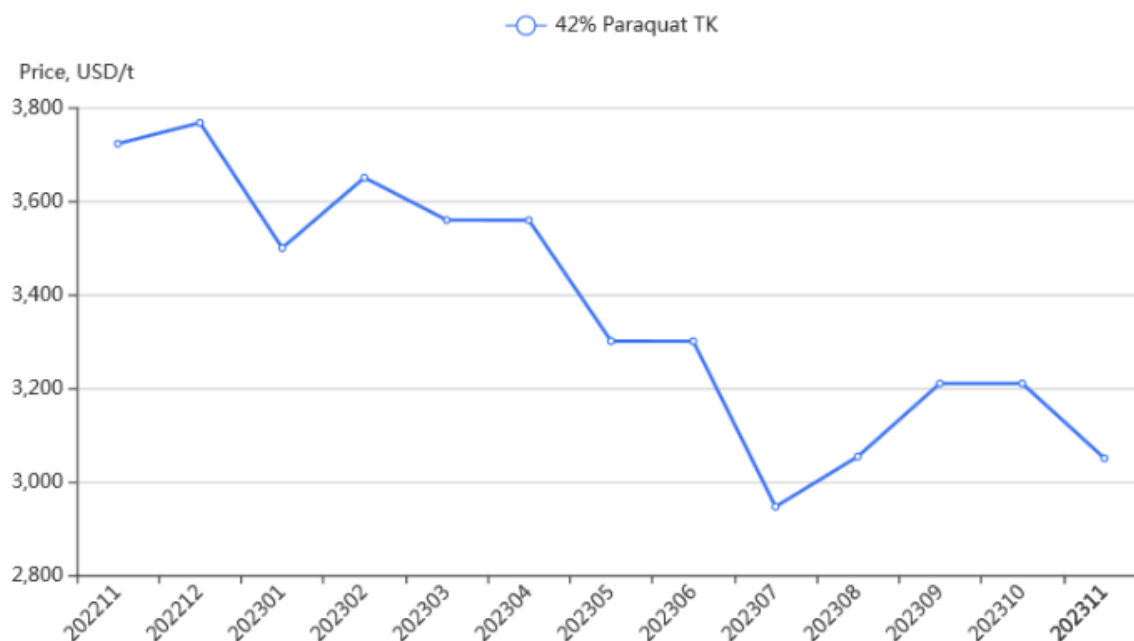
Paraquat and pyridine

Prices of pyridine and paraquat both decrease in Nov.

Summary: In Nov., the FOB price of paraquat 42% TK and the ex-works price of pure pyridine in China went down on a monthly basis.

CCM's price monitoring data show that the FOB price of paraquat 42% TK in China slipped to USD3,050/t in Nov.; on a yearly basis, it still registered a big dive in the price. The ex-works price of pure pyridine also edged down slightly this month, since demand from paraquat producers was limited against weak overseas demand for paraquat TK and the slowed production in Chinese paraquat producers.

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



Source:CCM

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



Source: CCM

Yongnong BioSciences plans to expand diquat TK capacity to 25kt/a

Summary: On 17 Nov., local government announced that it was to approve the EI report of Yongnong BioSciences's high-efficacy low-toxicity pesticides and key intermediates project. Upon completion, Yongnong BioSciences will expand its diquat TK capacity in the Shangyu production base to 25,000 t/a. The company is a major diquat TK producer in China.

On 17 Nov., the Shaoxing Municipal Bureau of Ecology and Environment announced that it was to approve the environmental impact (EI) report of Yongnong BioSciences Co., Ltd. (Yongnong BioSciences)'s high-efficacy low-toxicity pesticides and key intermediates project. The company has planned to construct the project in the Hangzhou Bay Shangyu Economic and Technological Development Zone, Shaoxing City, Zhejiang Province. It will make use of its existing standard workshops, purchase new equipment, build supporting facilities such as biochemical pool, as well as new production capacity of 10,000 t/a 50% L-glufosinate TK, 6,800 t/a 97% picloram TC, 15,000 t/a 40% diquat TK, 2,000 t/a 98% spirodiclofen TC, 800 t/a 98% 3-tert-butylphenol, 438 t/a 50% dimethylamine hydrochloride aqueous solution, along with capacity for by-products including 601 t/a ammonium sulphate (fertiliser grade), 1,267.5 t/a ammonium sulphate (industrial grade), 443.3 t/a 93% diammonium phosphate, 159.34 t/a 97% phosphorous acid.

Meanwhile, Yongnong BioSciences will carry out technological upgrading on its existing 3,000 t/a L-glufosinate TC, 10,000 t/a 40% diquat TK and 1,200 t/a picloram TC production lines. Moreover, with this new project, the company will drop its previous 1,000 t/a spirodiclofen TC construction plan.

Diquat TK provides an alternative to paraquat TK. Yongnong BioSciences is one of the major diquat TK producers in China; more precisely, it produces diquat dibromide. Based on Yongnong BioSciences' diquat TK sales in H1 2023, over 95% of its diquat TK products were sold to overseas markets. With accelerating substitution of diquat for paraquat, demand for diquat TK will expand both at home and



abroad. And this expansion plan will help the company better satisfy downstream demand in the future.





Trade analysis

China's herbicide formulation Imp. & Exp. volumes have YoY increases in Sept.

Summary: In Sept. 2023, China's herbicide formulations were mainly exported to Brazil, Australia, the US, etc.; the export volume jumped by nearly 60% YoY. Meanwhile, the import volume of herbicide formulations to China also ballooned, up some 85% YoY; the majority of these products were imported from Germany.

According to the statistics from General Administration of Customs of China (China Customs), China exported 173,677 tonnes (actual volume, the same hereafter) of herbicide formulation products in Sept. 2023. Compared with the export volume achieved in Sept. 2022, this year's figure expanded 58.92%. As regards herbicide formulation imports, in the same month, China imported 424 tonnes of herbicide formulation products. The import volume had an 85.17% increase over the Sept. 2022 level.

In terms of export, export price during Sept. 2023 averaged at USD4.24/kg, down 36.90% YoY. Major export destinations of China's herbicide formulations were Brazil, Australia, the US, Indonesia, etc. Brazil was the largest export destination; the volume to the country reached 43,752 tonnes, soaring 125% from 19,445 tonnes in Sept. 2022.

In terms of import, average import price of herbicide formulations was USD11.18/kg during Sept. 2023, up 21.13% YoY. Over half of the herbicide formulation imports came from Germany; the volume from this origin country more than quadrupled over the volume of the same period last year, rocketing from 55 tonnes to 233 tonnes.

TABLE 7: Exports of herbicide formulations from China, Sept. 2023 vs Sept. 2022

| Time | Actual volume, kg | Average price, USD/kg |
|------------|-------------------|-----------------------|
| Sept. 2023 | 173,676,774 | 4.24 |
| Sept. 2022 | 109,286,002 | 6.72 |

Source: China Customs



**TABLE 8:** Major destinations of herbicide formulations exported from China, Sept. 2023 vs Sept. 2022

| No. | Sept. 2023 | | | Sept. 2022 | | |
|-----|-----------------|----------------------|----------------|-----------------|----------------------|----------------|
| | Destination | Actual volume, tonne | Share | Destination | Actual volume, tonne | Share |
| 1 | Brazil | 43,752 | 25.19% | Brazil | 19,445 | 17.79% |
| 2 | Australia | 20,303 | 11.69% | Australia | 14,931 | 13.66% |
| 3 | The US | 10,473 | 6.03% | The US | 9,715 | 8.89% |
| 4 | Indonesia | 9,708 | 5.59% | Nigeria | 4,948 | 4.53% |
| 5 | Tanzania | 6,056 | 3.49% | Argentina | 4,810 | 4.40% |
| 6 | Ghana | 5,560 | 3.20% | Indonesia | 4,567 | 4.18% |
| 7 | Nigeria | 4,809 | 2.77% | Thailand | 4,235 | 3.88% |
| 8 | The Philippines | 4,232 | 2.44% | South Africa | 3,905 | 3.57% |
| 9 | Canada | 4,153 | 2.39% | The Philippines | 2,987 | 2.73% |
| 10 | Thailand | 4,102 | 2.36% | Russia | 2,802 | 2.56% |
| | Others | 60,529 | 34.85% | Others | 36,941 | 33.81% |
| | Total | 173,677 | 100.00% | Total | 109,286 | 100.00% |

Source:China Customs

TABLE 9: Imports of herbicide formulations to China, Sept. 2023 vs Sept. 2022

| Time | Actual volume, kg | Average price, USD/kg |
|------------|-------------------|-----------------------|
| Sept. 2023 | 423,607 | 11.18 |
| Sept. 2022 | 228,768 | 9.23 |

Source:China Customs



TABLE 10: Major origins of herbicide formulations imported to China, Sept. 2023 vs Sept. 2022

| No. | Sept. 2023 | | | Sept. 2022 | | |
|-----|--------------|----------------------|----------------|--------------|----------------------|----------------|
| | Origin | Actual volume, tonne | Share | Origin | Actual volume, tonne | Share |
| 1 | Germany | 233 | 54.95% | France | 90 | 39.30% |
| 2 | India | 100 | 23.58% | Germany | 55 | 24.02% |
| 3 | Indonesia | 50 | 11.79% | Indonesia | 47 | 20.52% |
| 4 | Australia | 40 | 9.43% | The UK | 21 | 9.17% |
| | Others | 1 | 0.25% | Others | 16 | 6.99% |
| | Total | 424 | 100.00% | Total | 229 | 100.00% |

Source: China Customs



Brief news

Hubei to recognise 2nd-batch qualified chemical parks passed accreditation review

On 30 Oct., the Department of Economy and Information Technology of Hubei Province publicised the second-batch chemical industrial parks that had passed accreditation review. This time, two parks—Shishou Chemical Industrial Park and Guangshui Chemical Industrial Park—passed the review and thus are to be recognised as qualified chemical parks for the second batch.

Previously in June 2023, the Department announced the first-batch qualified chemical industrial parks after accreditation review, with 39 parks on the list, including Wuhan Chemical Industry Zone and Yujiahu Chemical Park of Xiangcheng Economic Development Zone.

Patent implementation rules amended draft approved at State Council executive meeting

The Implementation Rules of the Patent Law of the People's Republic of China (Amended Draft) was approved at an executive meeting of the State Council on 3 Nov. The rules for the implementation of the Patent Law are further refinements of relevant provisions of the Patent Law, as well as an important supporting administrative regulation to ensure the effective implementation of the Patent Law. The latest revised version of the Patent Law took effect on 1 June, 2021. This time, the amended draft of the implementation rules will serve the purpose of further improving the patent application and examination system to level-up China's patent creation, application, protection, management and service, better matching the relevant international treaties, and fulfilling the important role the Patent Law played in promoting scientific and technological innovation and advancing the development of new industries and new arenas.

Previously in Nov. 2022, Zhang Peng, head of the Department of Treaty and Law of the China National Intellectual Property Administration, had revealed in a press conference that the amendment of the implementation rules mainly included four aspects: firstly, improving patent examination system to facilitate higher quality and efficiency on patent examination; secondly, strengthening patent protection to better safeguard the legitimate rights and interests of the patentees; thirdly, following the requirements of the "streamlining administration, delegating powers, and improving regulation and services" reform, and promoting patent transfer and utilisation; fourthly, adding a new chapter concerning international application of design patent to dovetail with international rules.

Shandong Fengruntong plans capacity for tembotrione, metamifop & fenoxaprop-P-ethyl

On 10 Nov., the Tai'an Municipal Bureau of Ecology and Environment announced the acceptance of the environmental impact (EI) report of Shandong Fengruntong New Material Co., Ltd. (Shandong Fengruntong)'s 6,500 t/a fine chemical intermediates project (Phase I). The project mainly involves the construction of production workshops, warehouses and other supporting facilities. According to the EI report, the whole 6,500 t/a project, to be built in two phases, consists of 3,500 t/a production capacity for 2-chloro-3-methyl-4-(methylsulfonyl)benzoic acid, 1,000 t/a for tembotrione, 1,000 t/a for 2,6-dichlorobenzoxazole, 500 t/a for metamifop and 500 t/a for fenoxaprop-P-ethyl. The Phase I will construct capacity of 1,000 t/a 2-chloro-3-methyl-4-(methylsulfonyl)benzoic acid, 300 t/a tembotrione, 1,000 t/a 2,6-dichlorobenzoxazole, 500 t/a for metamifop and 500 t/a for fenoxaprop-P-ethyl, plus 470 t/a capacity for the by-product chloroform.

It should be noted that Shandong Fengruntong is not a pesticide enterprise. It mainly engages in the ink and paint business.





Gansu Huashi plans to build 4,100 t/a green novel pesticides and intermediates project

On 15 Nov., some basic environmental impact assessment information on Gansu Huashi Biotechnology Co., Ltd. (Gansu Huashi)'s 4,100 t/a green novel pesticides and intermediates project was publicised. The company has planned to build production capacity of 200 t/a topramezone, 1,000 t/a pyroxasulfone and 2,900 t/a pesticide intermediates including 500 t/a 3-(4,5-dihydro-3-isoxazolyl)-2-methyl-4-(methylsulfonyl)benzoic acid.

Weifang Rainbow to issue shares and raise fund for 4 herbicide projects

On 16 Nov., Shandong Weifang Rainbow Chemical Co., Ltd. (Weifang Rainbow) announced that its plan to raise fund through share issuance had been approved by China Securities Regulatory Commission. According to Weifang Rainbow's plan, the fund will mainly be invested in the construction of four pesticide projects: clethodim TC project (capacity expansion by 8,000 t/a), 2,4-D TC and 2,4-D-ethylhexyl TC project (capacity expansion by 40,000 t/a and 20,000 t/a, respectively), clopyralid TC project (building 1,000 t/a capacity) and flumioxazin TC project (building 1,000 t/a capacity).

MARA releases 47th-batch accredited pesticide registration experiment units

On 20 Nov., the Ministry of Agriculture and Rural Affairs of the People's Republic of China (MARA) announced the 47th batch of accredited pesticide registration experiment units, including nine units as followings:

- Beijing Testing Technology Branch of Central Research Institute of China Chemical Science and Technology;
- Shanghai Yinghuochong Agricultural Science and Technology Centre;
- Tai'an Academy of Agricultural Sciences;
- Testing Centre of Shandong Academy of Pesticide Sciences;
- Liaoning Shengjing Testing Technology Co., Ltd;
- Liaoning Qianyi Testing and Evaluation Technology Development Co., Ltd.;
- Hunan Heyi Crop Science Co., Ltd.;
- Qizhen Metabolite Safety Assessment Centre of Zhejiang Isotope Technology Co., Ltd.;
- Hunan Lvhe Technology Co., Ltd.

Among them, Tai'an Academy of Agricultural Sciences, Liaoning Shengjing Testing Technology Co., Ltd., Liaoning Qianyi Testing and Evaluation Technology Development Co., Ltd., and Hunan Heyi Crop Science Co., Ltd. are eligible to conduct herbicide efficacy trials.

Jiangsu Reprint plans to build 1,950 t/a herbicide TC capacity

On 8 Nov., basic environmental impact assessment information on Jiangsu Reprint Agrochemical Co., Ltd. (Jiangsu Reprint)'s 1,950 t/a pesticides TC and 1,222 t/a by-product hydrochloric acid expansion project was publicised by local government. The company plans to invest USD48.03 million (RMB344.78 million) to build the project, which involves the construction of production lines of 500 t/a thiencazabzone-methyl, 500 t/a sulfometuron-methyl, 200 t/a florasulam, 200 t/a halosulfuron-methyl, 200 t/a triflurosulfuron-methyl, 100 t/a mesosulfuron-methyl, 100 t/a cloransulam-methyl, 100 t/a diclosulam, and 50 t/a iodosulfuron-methyl-sodium in its production base in the Yangkou Chemical Industrial Park, Rudong County, Nantong City, Jiangsu Province.





China revises guideline to investigate and manage safety risks in chemical parks

On 21 Nov., the Ministry of Emergency Management of the People's Republic of China issued the latest amendment to the *Guideline for the Investigation and Management of Safety Risks in Chemical Industrial Parks* (the Guideline), which further clarifies definition of chemical industrial parks, mechanism of safety risk assessment and dynamic adjustment, and safety risk investigation rules.

Particularly, the Guideline requires chemical industrial parks to self-rate its safety risks at least once per year. The provincial-level authorities should carry out spot checks on the safety risks of at least 30% of local parks per year, and complete checks on all parks in the province every three years.

The Guideline also specifies that a chemical industrial park should be classified as at high safety risk level (level A) if any of the following eight conditions occur:

- The planning of the park does not conform with the territorial spatial planning of the city it is located in, or the four boundaries (labelling east, west, north, south sides) of the park are not clearly declared;
- The park does not have a responsible organisation for production safety management, or does not have qualified specialised safety supervisors;
- The external safety distance between the park and highly-sensitive protected objects, important protected objects as well as residential areas does not meet the requirements;
- The park has improper internal layout, which leads to uncontrollable overlapping of major safety risks between enterprises;
- The park has enterprises that have operating chemical installation that is designed by unqualified unit or failed in safety design diagnosis;
- The park has enterprises staffed with underqualified special operation personnel working in processes with hazardous chemicals;
- The park cannot guarantee dual power supply, or when there is first grade load in the park, the total transformer capacity of each power source of the dual power supply cannot meet the demand of all loads;
- The park has a history of serious chemical production safety accidents or accidents of higher degrees.

Jiangsu BZBD proposes carfentrazone-ethyl & clomazone tech-upgrade project

On 1 Nov., environmental impact assessment information on Jiangsu Baozong & Baoda Pharmachem Co., Ltd. (Jiangsu BZBD)'s 650 t/a carfentrazone-ethyl and 4,000 t/a clomazone technological upgrading project was publicised on the Jiangsu Environmental Protection Public Network website for the second time. With total investment of USD13.98 million (RMB100.36 million), of which 11.56% or USD1.62 million (RMB11.60 million) is for environmental protection, the project could bring the company 650 t/a capacity for carfentrazone-ethyl TC (spec. 90%+) and 4,000 t/a capacity for clomazone TC (spec. 93%+) upon completion.

Limin Group's 500 t/a tembotrione & 1,000 t/a mesotrione lines finish trial run

On 24 Nov., Limin Group Co., Ltd. (Limin Group) announced its wholly-owned subsidiary Limin Chemical Co., Ltd. had completed the commissioning of the newly built 500 t/a tembotrione TC and 1,000 t/a mesotrione TC production lines. These lines are a part of the company's technological upgrading project that aims to ramp up its capacity for crop protection product series, including 5,000 t/a fosetyl-sodium AS, 3,000 t/a zineb TC, 2,000 t/a amobam AS, 1,100 t/a difenoconazole TC, 1,000 t/a mesotrione TC and 500 t/a tembotrione TC, along with capacity for a series of by-products. Total investment for the project reaches USD41.80 million (RMB300 million).





Price update

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

TABLE 11: Ex-works prices of key herbicide raw materials in China, 8 Nov., 2023

| Raw Materials | 20231008 | | 20231108 | |
|---|------------------------|---------------|------------------------|---------------|
| | Original Price (RMB/t) | Price (USD/t) | Original Price (RMB/t) | Price (USD/t) |
| 98% Glycine | 13,500 | 1,880.51 | 11,668 | 1,625.57 |
| 92% Iminodiacetonitrile | 8,600 | 1,197.96 | 8,600 | 1,198.14 |
| 99% Isopropylamine | 9,550 | 1,330.29 | 9,550 | 1,330.49 |
| 98% N-(Phosphonmethyl) Iminodiacetic acid | 17,750 | 2,472.52 | 18,000 | 2,507.73 |
| 99% Phosphorus trichloride | 6,750 | 940.26 | 6,705 | 934.13 |
| 99.9% Pyridine | 20,100 | 2,799.87 | 20,100 | 2,800.3 |

Note: Ex-works price includes VAT.

Source: CCM

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



TABLE 12: Ex-works prices of main herbicides in China, 8 Nov., 2023

| Product | 20231008 | | 20231108 | |
|------------------------------------|------------------------|---------------|------------------------|---------------|
| | Original Price (RMB/t) | Price (USD/t) | Original Price (RMB/t) | Price (USD/t) |
| 98% 2,4-D technical | 16,500 | 2,298.4 | 16,300 | 2,270.89 |
| 92% Acetochlor technical | 28,800 | 4,011.76 | 28,600 | 3,984.51 |
| 97% Atrazine technical | 30,000 | 4,178.91 | 30,000 | 4,179.55 |
| 96% Bensulfuron-methyl technical | 160,000 | 22,287.54 | 150,000 | 20,897.77 |
| 92% Butachlor technical | 22,000 | 3,064.54 | 21,000 | 2,925.69 |
| 95% Clomazone technical | 95,000 | 13,233.23 | 89,000 | 12,399.34 |
| 95% Cyhalofop-butyl technical | 123,000 | 17,133.54 | 123,000 | 17,136.17 |
| 97% Diuron technical | 38,300 | 5,335.08 | 38,500 | 5,363.76 |
| 98% Fenclorim technical | 107,000 | 14,904.79 | 106,000 | 14,767.76 |
| 95% Fenoxaprop-P-ethyl technical | 154,000 | 21,451.75 | 154,000 | 21,455.04 |
| 96% Fluroxypyr technical | 98,000 | 13,651.12 | 96,000 | 13,374.57 |
| 95% Fomesafen technical | 133,900 | 18,651.88 | 133,900 | 18,654.74 |
| 95% Glufosinate ammonium technical | 62,100 | 8,650.35 | 61,600 | 8,582.02 |
| 95% Glyphosate technical | 30,500 | 4,248.56 | 29,900 | 4,165.62 |
| 95% Haloxyfop-P-methyl technical | 118,200 | 16,464.92 | 118,200 | 16,467.44 |
| 97% Metolachlor technical | 42,000 | 5,850.48 | 37,000 | 5,154.78 |
| 95% Metsulfuron-methyl technical | 135,000 | 18,805.11 | 135,000 | 18,807.99 |
| 95% Nicosulfuron technical | 188,000 | 26,187.86 | 187,200 | 26,080.41 |
| 97% Oxyfluorfen technical | 148,000 | 20,615.97 | 145,000 | 20,201.18 |
| 95% Pendimethalin technical | 58,500 | 8,148.88 | 57,500 | 8,010.81 |
| 95% Pretilachlor technical | 31,900 | 4,443.58 | 31,000 | 4,318.87 |
| 97% Pyrazosulfuron-ethyl technical | 225,000 | 31,341.85 | 225,000 | 31,346.65 |



| | | | | |
|----------------------------------|---------|-----------|---------|-----------|
| 80% Quinclorac technical | 133,000 | 18,526.52 | 133,000 | 18,529.35 |
| 95% Quizalofop-P-ethyl technical | 185,000 | 25,769.96 | 185,000 | 25,773.91 |
| 95% Tribenuron-methyl technical | 82,500 | 11,492.01 | 82,500 | 11,493.77 |
| 95% Trifluralin technical | 40,000 | 5,571.88 | 40,000 | 5,572.74 |

Note: Ex-works price includes VAT.

Source: CCM

Shanghai port prices of main herbicides in China, 8 Nov., 2023



TABLE 13: Shanghai port prices of main herbicides in China, 8 Nov., 2023

| Product | 20231008 | | 20231108 | |
|------------------------------------|------------------------|---------------|------------------------|---------------|
| | Original Price (RMB/t) | Price (USD/t) | Original Price (RMB/t) | Price (USD/t) |
| 98% 2,4-D technical | 17,000 | 2,368.05 | 16,800 | 2,340.55 |
| 92% Acetochlor technical | 29,300 | 4,081.41 | 29,100 | 4,054.17 |
| 97% Atrazine technical | 30,500 | 4,248.56 | 30,500 | 4,249.21 |
| 96% Bensulfuron-methyl technical | 160,500 | 22,357.19 | 150,500 | 20,967.43 |
| 92% Butachlor technical | 22,500 | 3,134.18 | 21,500 | 2,995.35 |
| 95% Clomazone technical | 95,500 | 13,302.87 | 89,500 | 12,469 |
| 95% Cyhalofop-butyl technical | 123,500 | 17,203.19 | 123,500 | 17,205.83 |
| 97% Diuron technical | 38,800 | 5,404.73 | 39,000 | 5,433.42 |
| 98% Fenclorim technical | 107,500 | 14,974.44 | 106,500 | 14,837.42 |
| 95% Fenoxaprop-P-ethyl technical | 154,500 | 21,521.4 | 154,500 | 21,524.7 |
| 96% Fluroxypyr technical | 98,500 | 13,720.77 | 96,500 | 13,444.23 |
| 95% Fomesafen technical | 134,400 | 18,721.53 | 134,400 | 18,724.4 |
| 95% Glufosinate ammonium technical | 62,600 | 8,720 | 62,100 | 8,651.68 |
| 95% Glyphosate technical | 31,000 | 4,318.21 | 30,400 | 4,235.28 |
| 95% Haloxypop-P-methyl technical | 118,700 | 16,534.57 | 118,700 | 16,537.1 |
| 97% Metolachlor technical | 42,500 | 5,920.13 | 37,500 | 5,224.44 |
| 95% Metsulfuron-methyl technical | 135,500 | 18,874.76 | 135,500 | 18,877.65 |





| Product | 20231008 | | 20231108 | |
|------------------------------------|------------------------|---------------|------------------------|---------------|
| | Original Price (RMB/t) | Price (USD/t) | Original Price (RMB/t) | Price (USD/t) |
| 95% Nicosulfuron technical | 188,500 | 26,257.5 | 187,700 | 26,150.07 |
| 97% Oxyfluorfen technical | 148,500 | 20,685.62 | 145,500 | 20,270.84 |
| 95% Pendimethalin technical | 59,000 | 8,218.53 | 58,000 | 8,080.47 |
| 95% Pretilachlor technical | 32,400 | 4,513.23 | 31,500 | 4,388.53 |
| 97% Pyrazosulfuron-ethyl technical | 225,500 | 31,411.5 | 225,500 | 31,416.31 |
| 80% Quinclorac technical | 133,500 | 18,596.16 | 133,500 | 18,599.01 |
| 95% Quizalofop-P-ethyl technical | 185,500 | 25,839.61 | 185,500 | 25,843.57 |
| 95% Tribenuron-methyl technical | 83,000 | 11,561.66 | 83,000 | 11,563.43 |
| 95% Trifluralin technical | 40,500 | 5,641.53 | 40,500 | 5,642.4 |

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 Nov., 2023





TABLE 14: FOB Shanghai prices of main herbicides in China, 8 Nov., 2023, USD/t

| Product | 20231008 | 20231108 |
|------------------------------------|-----------|-----------|
| 98% 2,4-D technical | 2,341.07 | 2,313.05 |
| 92% Acetochlor technical | 4,002.59 | 3,975.4 |
| 97% Atrazine technical | 4,046.6 | 4,047.22 |
| 96% Bensulfuron-methyl technical | 21,797.16 | 20,437.97 |
| 92% Butachlor technical | 3,105.13 | 2,964.44 |
| 95% Clomazone technical | 12,993.14 | 12,174.39 |
| 95% Cyhalofop-butyl technical | 16,175.95 | 16,178.43 |
| 97% Diuron technical | 5,301.35 | 5,329.85 |
| 98% Fenclorim technical | 14,620.96 | 14,486.53 |
| 95% Fenoxaprop-P-ethyl technical | 20,987.67 | 20,990.88 |
| 96% Fluroxypyr technical | 13,359.04 | 13,088.41 |
| 95% Fomesafen technical | 18,280.77 | 18,283.57 |
| 95% Glufosinate ammonium technical | 8,166.88 | 8,102.37 |
| 95% Glyphosate technical | 4,597.3 | 4,507.55 |
| 95% Haloxyfop-P-methyl technical | 16,104.59 | 16,107.06 |
| 97% Metolachlor technical | 5,815.78 | 5,124.21 |
| 95% Metsulfuron-methyl technical | 18,435.19 | 18,438.02 |
| 95% Nicosulfuron technical | 25,585.21 | 25,480.24 |
| 97% Oxyfluorfen technical | 19,442.94 | 19,051.74 |
| 42% Paraquat TK | 3,210 | 3,050 |
| 95% Pendimethalin technical | 8,060.63 | 7,924.05 |
| 95% Pretilachlor technical | 4,459.81 | 4,334.65 |
| 97% Pyrazosulfuron-ethyl technical | 30,609.51 | 30,614.2 |





| Product | 20231008 | 20231108 |
|----------------------------------|-----------|-----------|
| 80% Quinclorac technical | 18,150.11 | 18,152.89 |
| 95% Quizalofop-P-ethyl technical | 25,176.94 | 25,180.8 |
| 95% Tribenuron-methyl technical | 11,259.73 | 11,261.45 |
| 95% Trifluralin technical | 5,382.15 | 5,382.97 |

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

Source: CCM



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