CCM Data & Business Intelligence

Challenges after COVID-19 in China's Pesticide Market

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Executive summary

In Q1 2023, the pesticide market remained gloomy demand with sluggish trading volume and low sales rate. By category, herbicide saw sufficient inventory in upstream but soft demand in downstream with fierce price competition, yet it is deemed that the slipping trend of exports and price will change in H2 2023 after the stocks run out; with the weather getting warmer, demand for insecticide and fungicide is increasing, and the prices are expected to resume to the level before COVID-19 pandemic.

CAPI of pesticide marked a drop by 3.97% from Oct. 2022 to March 2023 on average. In Q1 2023, China recorded a YoY decrease of 13.71% in export volume and 37.17% in export value, mainly because the rising domestic supply and dull demand abroad; it is predicted that the prices of most pesticides will remain the downtrend in H2. According to the NBS, China's output of pesticide technical slipped slightly in March 2023 by 4.64% YoY and the aggregate output in Q1 down by 1.43% YoY and 2.52% QoQ.

As of April 2023, the downturn of China's pesticide industry was affected by oversupply, wait-and-see attitudes among overseas buyers and unrest global economy. Further, China's pesticide industry is facing multiple challenges. In addition to the quantity and intensity controls of energy consumption, and environmental safety and protection requirements, large enterprises are troubled by lack of innovation ability and difficulty in transformation and upgrading; while small enterprises are under pressure of being eliminated due to the fast regeneration of product variety and structure.

Methodology

The report is drafted by diverse methods as follows:

- Desk research

The sources of desk research are various, including published magazines, journals, government websites and statistics, industrial statistics, association seminars as well as information from the Internet. A lot of work has gone into the compilation and analysis of the obtained information.

- Internet

CCM visited government websites and contacted with players in the domestic agrochemical industry through B2B websites and software.

- Data processing and presentation

The data collected and compiled are sourced from:
√ CCM's database
√ Published articles in periodicals, magazines, journals and third-party databases
√ Statistics from governments and international institutes
√ Telephone interviews with domestic producers, joint ventures, service suppliers and governments
√ Third-party data providers
√ Comments from industrial experts
√ Professional databases from other sources
√ Information from the internet

The data from various sources have been combined and cross-checked to make this report as precise and scientific as possible. Throughout the process, a series of internal discussions were held in order to analyse the data and draw the conclusions.

1 Overview on supply and demand of pesticides in China

1.1 Decreased price of pesticide technical as of April 2023

From Oct. 2022 to March 2023, the China Agrichemical Price Index (CAPI) marked a monthly drop by 3.97% on average. In fact, it witnessed a falling trend since Jan. 2022. In Q1 2023, the prices of China's pesticide came back to and even lower than the level before the strict control on power consumption in East China during Sept.–Dec., 2021, when supply was constrained and prices hiked.

By category, the three major pesticides: herbicide, insecticide and fungicide experienced slight differences in CAPI.

- The CAPI of herbicide peaked in Jan. 2022, then began to fall almost straight to the end of the year; its index number in March 2023 plunged by 11.14% MoM or nearly 33% YoY, approaching the figure in Aug. 2021 (=117.06). During Q1 2023, new purchase orders from the formulation manufacturers had been reduced due to their high levels stocks, and only those transactions in immediate needs could be concluded with competitive prices, leading to the downtrend of the prices of most herbicides.
- The CAPI of insecticide kept an oscillating decline as a whole. In March 2023, it was pulled down to 106.41, even lower than the figure in Jan. 2021 (=107.66).
- The CAPI of fungicide showed the least month-on-month changes compared with the other two categories, marked by a monthly drop of 0.95% on average during Q4 2022 and Q1 2023. The outperformance of fungicide was mainly due to the increasing prices of exports, especially in the Latin American and the US markets; and in China, the warmer and moister weathers in Q1 to some extent spawned fungus that impacted on crop growing.

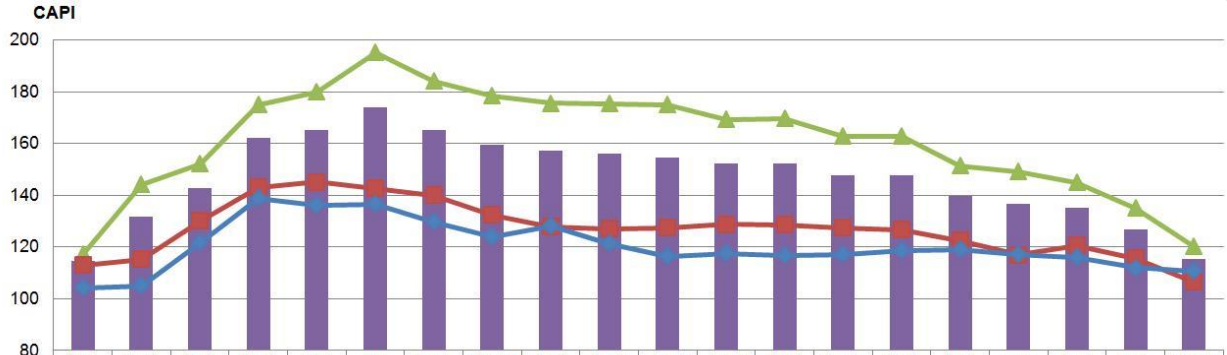
The rising prices of crude oil and natural gas, as well as higher labour costs and others, are expected to raise the costs of China's pesticides. However, owing to the excessive pesticide supply in the market and loosened prices for intermediates and raw materials, the ex-works prices of technicals will stabilise at the current level, which is close to the periodical point before Sept. 2021. Whereas, prices of such products as glufosinate-ammonium TC may hardly escape the shaky status where oversupply results from the release of new production capacities in China in 2023.

Table 1.1-1 Monthly changes of China Agrichemical Price Index (CAPI), Oct. 2022–March 2023

Item	Oct. 2022	Nov. 2022	Dec. 2022	Jan. 2023	Feb. 2023	March 2023	Average MoM Change
Pesticides	-0.03%	-5.34%	-2.15%	-1.23%	-6.10%	-8.97%	**-3.97%**
Herbicides	-0.02%	-6.98%	-1.37%	-2.80%	-6.87%	-11.14%	**-4.86%**
Insecticides	-0.61%	-3.26%	-4.57%	3.22%	-4.29%	-7.86%	**-2.90%**
Fungicides	1.19%	0.46%	-1.71%	-0.85%	-3.48%	-1.29%	**-0.95%**
Average	**0.13%**	**-3.78%**	**-2.45%**	**-0.41%**	**-5.19%**	**-7.31%**	**-**

Source: China Crop Protection Industry Association (CCPIA) and CCM

Figure 1.1-1 China Agrichemical Price Index (CAPI), August 2021 to March 2023



	Aug. 2021	Sept. 2021	Oct. 2021	Nov. 2021	Dec. 2021	Jan. 2022	Feb. 2022	March 2022	April 2022	May 2022	June 2022	July 2022	Aug. 2022	Sept. 2022	Oct. 2022	Nov. 2022	Dec. 2022	Jan. 2023	Feb. 2023	March 2023
Pesticides	114.58	131.63	142.67	162.2	165.28	174.07	165.33	159.55	157.17	155.95	154.71	152.14	152.26	147.77	147.73	139.84	136.84	135.16	126.91	115.53
Herbicides	117.06	144.02	152.11	174.93	179.75	195.2	184.23	178.46	175.53	175.45	174.85	169.29	169.70	162.68	162.64	151.29	149.22	145.04	135.08	120.03
Insecticides	112.93	115.28	130.16	143.1	145.06	142.57	139.8	132.39	127.84	126.98	127.47	128.68	128.49	127.42	126.64	122.51	116.91	120.67	115.49	106.41
Fungicides	104.23	104.92	121.53	138.66	136.01	136.57	129.63	123.92	128.27	121.23	116.21	117.38	116.75	117.12	118.51	119.06	117.02	116.03	111.99	110.55

Source: China Crop Protection Industry Association (CCPIA) and CCM

1.2 Depressed China's exports and imports of pesticide technical in Q1 2023

According to the data from China Customs, in Q1 2023, the import values of China's three major non-retail packaged pesticides (herbicide, insecticide and fungicide) added up to over USD1,020 million, with the former increasing to USD254.42 million, while the export value fell by 37.17% YoY to USD765.14 million; the trade volumes (actual volume, also applied in a subsequent part of the report) aggregated to 212,844 tonnes, with the import volume edging down by 1.29% YoY to 16,300 tonnes and the export volume dipping by 13.71% YoY to 196,545 tonnes.

In Q1 2023, China achieved a surplus of USD510.72 million in the import and export trade of the three major pesticides. It is worth mentioning that the exports of herbicide saw declines in value and volume by 43.09% YoY to USD568.34 million and 16.84% YoY to 160,431 tonnes, separately, while insecticide and fungicide enjoyed slight rebounds by 2.08% YoY and 5.86% YoY in export volume, with an export value reaching USD113.46 million and USD119.94 million, respectively, which signalled a certain degree of recovery in global demand for the two categories in the short terms.

Table 1.2-1 Import and export value of China's pesticides in Q1 2023, million USD

Category	Export		Import		Surplus / Deficit
	Value	YoY Change	Value	YoY Change	
Herbicide	568.34	-43.09%	53.61	8.99%	514.73
Insecticide	113.46	-36.66%	80.86	-10.78%	32.60
Fungicide	83.33	31.08%	119.94	5.26%	-36.61
Total	**765.14**	**-37.17%**	**254.42**	**0.26%**	**510.72**

Note: These data are collected under 8-digit HS code provided by China Customs. Thereinto, herbicides are subject to HS code 38089319, insecticides to 38089190 and fungicides to 38089290.
Source: China Customs and CCM

Table 1.2-2 Import and export volume of China's pesticides in Q1 2023, tonne

Category	Export		Import		Trade volume in Q1 2023
	Volume	YoY Change	Volume	YoY Change	
Herbicide	160,430.633	-16.84%	3,049.521	-0.06%	163,480.154
Insecticide	21,136.461	2.08%	2,326.208	3.45%	23,462.669
Fungicide	14,977.722	5.86%	10,924.079	-2.57%	25,901.801
Total	**196,544.816**	**-13.71%**	**16,299.808**	**-1.29%**	**212,844.624**

Note: These data are collected under 8-digit HS code provided by China Customs. Thereinto, herbicides are subject to HS code 38089319, insecticides to 38089190 and fungicides to 38089290.
Source: China Customs and CCM

-Exports of pesticide in China

In general, the export volume and value of China's pesticides both slipped in Q1 2023, mainly attributed to the increase of domestic supply and the soft demand from overseas, which induced a sharp decrease in prices and a low level of the export quantity. It is predicted that the price downtrend will proceed in H2 2023.

By month, except for Feb. which recorded a YoY export volume growth of 6.70% at 56,256 tonnes, Jan. and March suffered YoY drops of 21.07% and 18.52%, hitting 72,600 tonnes and 67,688 tonnes, respectively; the export value in Jan.–March witnessed double-digit declines of 44.58%, 17.42% and 41.04% YoY, down to USD299.52 million, USD226.57 million and USD275.67 million, respectively.

By category, the export volumes of insecticide and fungicide have presented double-digit increases since Feb. In March, the export volume of fungicide rose by 23.38% YoY to 6,490 tonnes, with an export value surging by 68.03% YoY to USD34.47 million; the export volume of insecticide was up by 19.88% YoY to 8,364 tonnes, with the value jumped by 97.93% to USD47.10 million.

-Imports of pesticide in China

Similar to the exports, the imports of the three pesticides saw YoY increases in Feb. and YoY decreases in Jan. and March. However, both volume and value in Feb. reported double-digit growths of 21.52% and 37.32% year-on-year, respectively. The Q1 import volume—5,507 tonnes in Jan., 5,393 tonnes in Feb. and 5,400 tonnes in March—slid down by 1.29% YoY; the Q1 import value—USD73.14 million in Jan., USD89.90 million in Feb. and 91.38 million in March—nudged up by 0.26% YoY.

By category, in Q1, the import volume and value of different pesticide categories featured ups and downs. The imports of herbicide (3,050 tonnes) and fungicide (10,924 tonnes) abated by 0.06% YoY and 2.57% YoY, respectively, but the values were lifted by 8.99% YoY to USD53.61 million and 5.26% YoY to USD119.94 million; on the contrary, insecticide, though experiencing a 3.45% YoY rise in import volume to 2,326 tonnes, saw a YoY decrease of 10.78% in import value to USD80.86 million.

1.3 Diminished supply of China's pesticide technical in Q1 2023

Since the overseas demand for China's pesticide marked a double-digit drop in Q1 2023, the supply of pesticide technicals witnessed a stable output in the major producing provinces/regions in China. According to the National Bureau of Statistics (NBS), China's output of pesticide technical (converted into 100% AI) reached 226,000 tonnes in March 2023, slipping slightly by 4.64% compared with that in March 2022; and the aggregate output in Jan.–March 2023 was 619,000 tonnes, down by 2.52% QoQ or 1.43% YoY.

In March, Jiangsu topped the list by province/region in pesticide technical output in China, producing 135,800 tonnes, and followed by Shandong, Sichuan and Zhejiang provinces with the output of 107,500 tonnes, 78,700 tonnes and 56,600 tonnes, respectively. These top four provinces accounted for 61% of the national total, accounting for output of 378,600 tonnes.

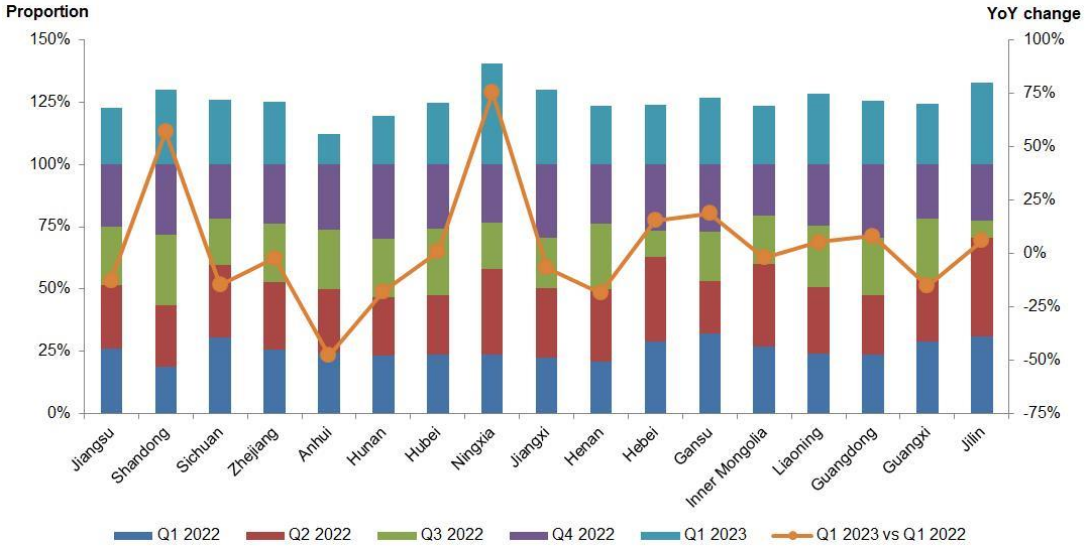
Ranking the third in national output by province/region, Sichuan Province, pesticide production of which (especially glyphosate and glufosinate-ammonium) during Q2–Q4 2022 was affected by the high cooling load and restricted hydropower supply due to the sustained high-temperature and dry weather since July 2022, saw the output rebound to 78,700 tonnes in Q1 2023, up by 21.26% QoQ, yet down by 14.73% YoY; Ningxia Hui Autonomous Region and Gansu Province, two of the emerging pesticide production bases in West China, hit an output of 24,900 tonnes and 13,500 tonnes with a double-digit growth of 75.35% YoY and 15.38% YoY, respectively. In addition, with the further release of some new capacities including for glufosinate-ammonium, glyphosate and clethodim, Liaoning Province, Inner Mongolia Autonomous Region and Jilin Province contributed an output of 9,700 tonnes, 9,500 tonnes and 7,000 tonnes, individually.

Table 1.3-1 China's pesticide technical output by province/region in Q1 2023, tonne

No.	Province/Region	March 2023	YoY Change	Q1 2023	QoQ Change	YoY Change
1	Jiangsu Province	49,700	-8.64%	135,800	-8.43%	-12.61%
2	Shandong Province	38,000	35.23%	107,500	6.23%	56.93%
3	Sichuan Province	27,700	-10.93%	78,700	21.26%	-14.73%
4	Zhejiang Province	20,500	4.06%	56,600	6.39%	-2.25%
5	Hubei Province	15,300	0.66%	41,700	-6.29%	0.97%
6	Ningxia Hui Autonomous Region	12,400	169.57%	24,900	35.33%	75.35%
7	Anhui Province	11,200	-53.33%	23,800	-52.40%	-47.81%
8	Hunan Province	8,500	-51.15%	34,400	-16.91%	-17.70%
9	Gansu Province	6,300	43.18%	14,500	-8.23%	18.85%
10	Hebei Province	6,300	36.96%	13,500	2.27%	15.38%
11	Henan Province	5,300	-24.29%	15,900	-10.67%	-18.46%
12	Jiangxi Province	5,200	-30.67%	18,000	10.43%	-6.74%
13	Liaoning Province	3,600	-2.70%	9,700	36.62%	5.43%
14	Inner Mongolia Autonomous Region	3,200	-11.11%	9,500	-5.00%	-2.06%
15	Guangdong Province	3,100	10.71%	7,900	-13.19%	8.22%
16	Guangxi Zhuang Autonomous Region	2,400	-7.69%	5,000	13.64%	-15.25%
17	Jilin Province	2,300	4.55%	7,000	45.83%	6.06%
Others		5,000	21.95%	14,600	0.00%	52.08%
Total		**226,000**	**-4.64%**	**619,000**	**-2.52%**	**-1.43%**

Note: The output here is converted into 100% AI volume.
Source: National Bureau of Statistics (NBS) and CCM

Figure 1.3-1 Regional output of China's pesticide technical by quarter, Q1 2022-Q1 2023



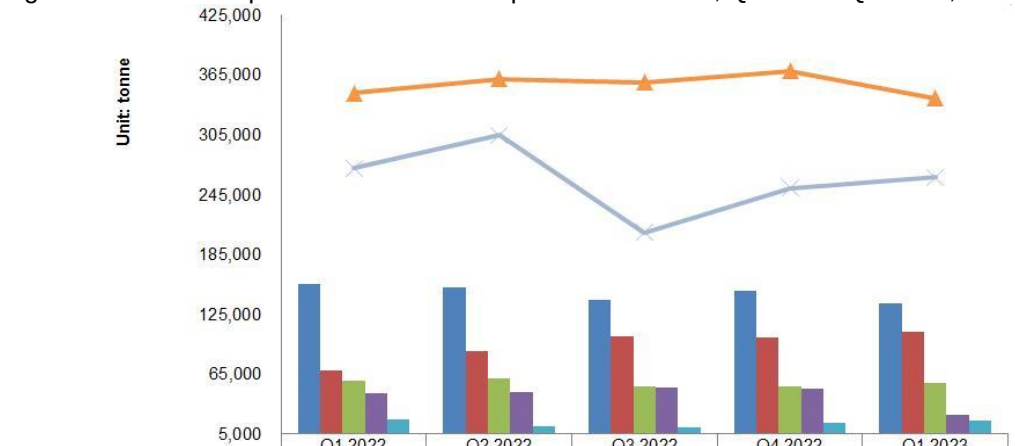
Note: 1.The list is ranked by the regional output of China's pesticide TC in 2022.
2. The proportion is based on the total output of China's pesticide TC in 2022 by province.
Source: National Bureau of Statistics (NBS) and CCM

-Output of China's pesticide technical in East China

Generally speaking, China's pesticide supply was sufficient during 2022–Q1 2023. Against varied changes in different provinces/regions, pesticide producers in East China maintained stable operation in the regional high-quality development.

Among the 17 major pesticide producing provinces/regions, 5 provinces in East China, namely Jiangsu, Shandong, Zhejiang, Anhui and Jiangxi, took up above 58% of the national output in 2022. As of Q1 2023, the 5 provinces had achieved a total output exceeding 340,000 tonnes for five consecutive quarters. Specifically, the 5 provinces added up to 358,000 tonnes of pesticide output in Q3 2022, accounting for 63.34% of the national total; the output of Shandong Province (No. 2 in national output) hit 107,500 tonnes in Q1 2023, surging by 57% YoY. In Q3 2022, except for 3 provinces (Shandong, Hubei and Henan), 14 out of the 17 major producing provinces/regions of pesticide TC registered less than 25% of the total output in 2022, mainly due to the high temperature in summer and accidental operation halts of machine for maintenance, or provisional production suspension.

Figure 1.3-2 China's pesticide technical output in East China, Q1 2022–Q1 2023, tonne



	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Jiangsu Province	155,400	152,300	139,900	148,300	135,800
Shandong Province	68,500	88,200	102,500	101,200	107,500
Zhejiang Province	57,900	61,000	52,300	53,200	56,600
Anhui Province	45,600	46,600	51,500	50,000	23,800
Jiangxi Province	19,300	12,900	11,800	16,300	18,000
Subtotal in East China	346,700	361,000	358,000	369,000	341,700
Subtotal outside East China	271,700	304,500	207,200	251,400	262,700

Note: The output here is converted into 100% AI volume.
Source: National Bureau of Statistics (NBS) and CCM

2 Factors for the downturn of China's pesticide industry

Pesticides, closely related to crop farming, have become stable products for agricultural production and a critical sector that supports national economy. In the past two years, China's pesticide industry went through ups and downs. In price terms, the hike in 2021 was triggered by many factors, such as more stringent regulations and policies on environmental protection in China, international turmoil, rising inflation worldwide. In 2022, the CAPI of pesticides started to fall, and the downtrend proceeded to April 2023, especially in herbicide which has accounted for largest share of China's pesticide production, price plunged during Q1 2023.

In Jan. 2023, market supply of most pesticide TCs remained stable and downstream manufacturer's stock sufficient, which drove the technical prices down,—some products even touched their record lows. There were producers reducing their operation acitivities to lower the market supply, which spurred a short-term price rise in a limited range of products (like 95% nicosulfuron TC and 95% pymetrozine TC).

In Feb., a reduced level of inventory in formulation manufacturers plus the steady recovery of logistics, facilitated growing demand for pesticide technical after Chinese Spring Festival. However, downstream traders offered much lower prices for formulation products to boost sales, inversely forcing down the prices of technical products, for example, diquat TK, glyphosate TC, glufosinate-ammonium TC.

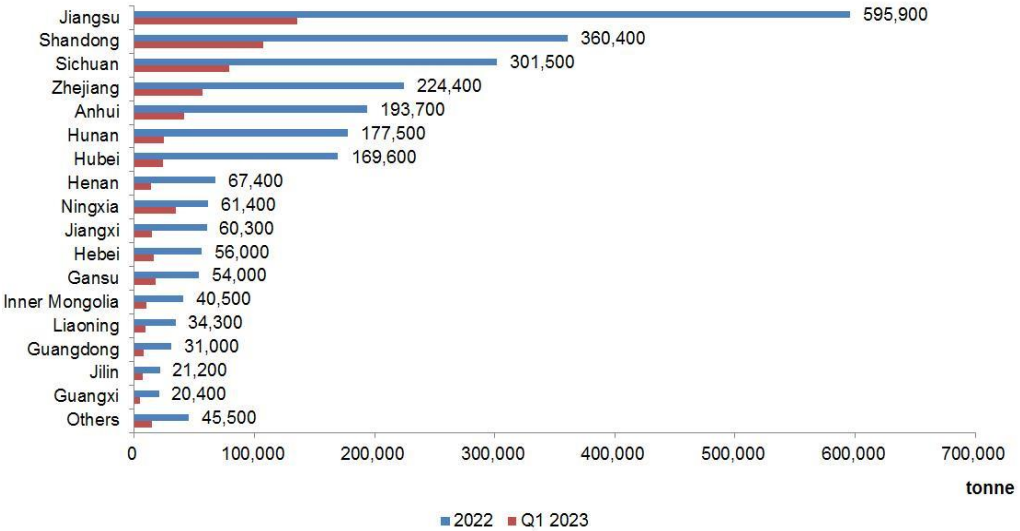
In the warmer March, domestic pesticide technical producers maintained sound operation; and demand for fungicides and insecticides grew.

In April, a restocking season, the overall market showed less wait-and-see attitudes and export trading was getting hectic; the low prices of pesticide technical encouraged more order settlements. Still the demand in domestic market stayed weak, constraining some production operation in some factories.

2.1 China's output of pesticide stabilising

In Q1 2023, the supply of pesticide TC in China remained relatively stable. Since Q4 2022, with the epidemic lock-down scraped, most of the pesticide technical factores resumed operation. In the recent quarter, the 17 major pesticide producing provinces/regions produced an aggregate output of 619,000 tonnes, close to the 628,000 tonnes totalled in Q1 2022. Among them, 8 provinces saw their output totals equal to or higher than that in Q1 2022.

Figure 2.1-1 China's pesticide technical output by province/region in 2022 and Q1 2023, tonne



Note: 1. The list is ranked by the regional output of China's pesticide TC in 2022.
2. The output here is converted into 100% AI volume.
Source: National Bureau of Statistics (NBS) and CCM

-Rising capacity of pesticide supply

To scale up operation and win profit, many producers have launched capacity construction projects for multiple techincal products in recent years. Since H2 2022, more than six new projects for glufosinate-ammonium technical have been carried out, adding no less than 80,000 t/a capacity in two years.

Table 2.1-1 Potential capacity of glufosinate-ammonium TC in China since H2 2022

No.	Date	Enterprise	Parent Company	Project	Status
1	18 April, 2023	Inner Mongolia Miraculous Crop Science Co., Ltd.	Lianyungang Liben Crop Science Co., Ltd.	50,000 t/a Glufosinate-ammonium TC project	Trial production
2	9 March, 2023	Hubei Jinghesheng Biotechnology Co., Ltd.	Hubei Jingshengtai Biotechnology Co., Ltd.	3,000 t/a Glufosinate-ammonium TC and intermediate project (Phase II of 13,600 t/a pesticide TC and intermediate project)	Approved with environmental impact report
3	23 Dec., 2022	Ningxia Wynca Technology Co., Ltd.	Zhejiang Wynca Chemical Industrial Group Co., Ltd. (stock code: 600596)	3,000 t/a Glufosinate-ammonium TC and 2,940 t/a glufosinate-ammonium AS project	Production of 3,000 t/a TC
4	Oct., 2022	Hebei Veyong Bio-chemical Co., Ltd.	Limin Chemical Co., Ltd. (stock code: 002734)	5,000 t/a Glufosinate-ammonium TC project	Trial production
5	Late August, 2022	Jiangsu Changqing Agrochemical Co., Ltd.	/	3,500 t/a Glufosinate-ammonium TC project	Commissioning
6	7 July, 2022	Fuhua Tongda Chemical Co., Ltd.	/	20,000 t/a Glufosinate-ammonium TC project	Planning

Source: CCM

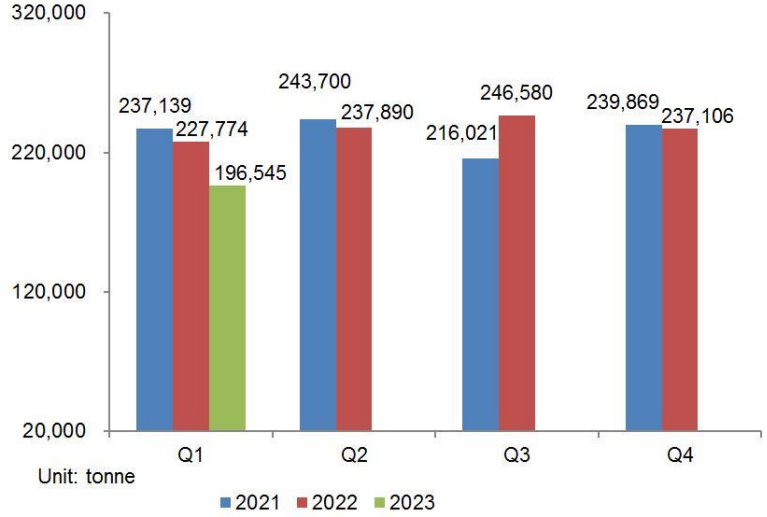
2.2 Lower domestic use and overseas demand

Domestically, in Nov. 2022, the Ministry of Agriculture and Rural Affairs of P. R. China formulated the *Action Plan for Reducing Chemical Fertiliser by 2025* and the *Action Plan for Reducing Chemical Pesticide by 2025*, proposing to further reduce the use of fertiliser and pesticide in China.

Regarding overseas, during Q2–Q3 2022, foreign buyers stepped up restocking of pesticide TC in the case of disrupted logistics in China and international shipping, leading to a sharp reduction in exports in the supposed peak season in Q4.

Data from China Customs showed that the country exported 949,350 tonnes of herbicide, insecticide and fungicide in 2022, up by 1.35% YoY. Quarterly, the Q3 saw the largest amount of exports in the year, reaching 246,580 tonnes, up 3.65% QoQ or 14.15% YoY. As the overseas inventory stood high, the pesticide exports in Q4 2022–Q1 2023 kept falling.

Figure 2.2-1 Quarterly export volume of chemical pesticide in China, Q1 2022–Q1 2023, tonne



Note: These data are collected under 8-digit HS code provided by China Customs. Thereinto, herbicides are subject to HS code 38089319, insecticides to 38089190 and fungicides to 38089290.
Source: China Customs and CCM

- Wait-and-see attitude amid market vagary

In Q1 2023, foreign buyers expected lower prices, thus they cut down transactions and reduced purchase quantity. Yet the export trade might be better off, as the overseas inventory is estimated to run out before this June, and the price and exports will go up slowly with growing demand for herbicides.

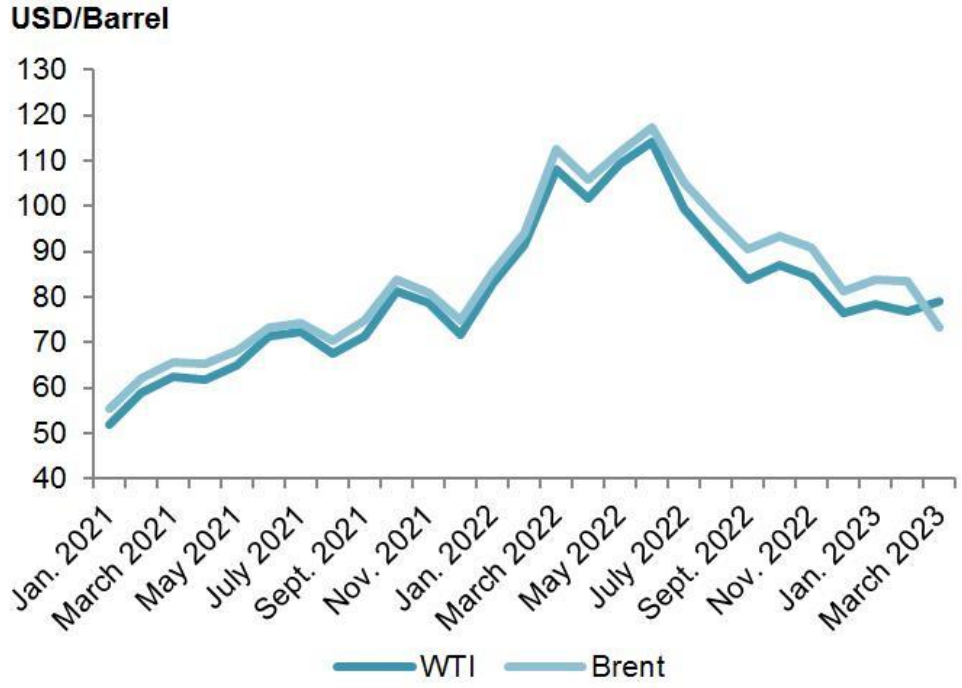
2.3 Global economic turmoil

Exporting is the major way through which Chinese pesticides are consumed, meaning any volatility in the global market could be risks at varying levels for the supply and demand chain in China.

In 2022, investors' optimism took a big hit facing climbing rising inflation rates and energy prices and the world concerns about global economic recession—major economies including the US and the EU, raised interest rate to cool down inflation but in vain so far, and Brent crude oil and US WTI crude oil swang wildly over the year.

The continued COVID-19 pandemic, climate changes, and geopolitical disputes such as the war in Ukraine, doubled down the energy crisis and impacts on international transport and logistics, and clogged and shut down ports—though now the shipping seems to be improving; strikes in the west over payroll fuelled by inflation only aggravated and drove production costs, and pulled back on international trade to a worse extent.

Figure 2.3-1 Monthly prices of London Brent crude oil futures and US WTI crude oil futures, Jan. 2021–March 2023, USD/Barrel



Source: Intercontinental Exchange, Inc. (ICE), New York Mercantile Exchange (NYMEX) and CCM

3 Forecast on China’s pesticide market in H2 2023

In 2022, the pesticide supply went excessive on the rising capacity, leading to a fall in prices to some extent. The demand-supply situation has turned normal year to date and the balance is expected to last in H2 2023.

-Herbicides

In April 2023, overseas buyers with restocking plans raised more enquiries for herbicide technicals, especially those from Southeast Asia, Africa, Middle East and estimatedly the ones from South America in the near future after running short of their goods, facilitating prices to return to a relatively reasonable range.

By April, the price of 95% nicosulfuron TC, witnessed a gentle increase. With the peak season for the use of herbicide approaching, traders' intention for restocking is getting high, and prices will rally in Q3.

-Insecticides

In recent years, China's environmental policies and measures to limit or ban the use of high-residue, high-toxic organophosphorus insecticides have resulted in some business dropouts and reduced capacity.

The price of 95% pymetrozine technical hit USD15,930/t (RMB110,000/t) in April 2023, up by 4.27% MoM. That was because the operating rate of upstream raw materials was low in April, and manufacturers raised the quotation in the month.

However, the capacity expansion of the off-patented chlorantraniliprole in China caused a blow to the abamectin market in Q1 2023 as well as others like neonicotinoids. For example, 95% imidacloprid technical and 97% acetamiprid technical, saw price slumps by 42.88% YoY and 48.15% YoY in April 2023, respectively, which also reflected the general downtrend of most pesticides nowadays, which had once experienced price spikes sparked by China's power rationing in producing regions in Sept.–Dec. 2021. All considered, for months to go, the prices of insecticide are tend to flatline, subject to the low supply and dull demand.

-Fungicides

With part of the domestic production capacity released, China's fungicide business competition is very intense, dragging down the price. Meanwhile, some of the technical manufacturers controlled the market inventory by means of suspending or restricting production. In general, the current market trend is weak. In addition, the boom of prothioconazole formulations in China has taken up part of the international market share of other products, whose export demand turned weak.

Before H2, demand for fungicide will be released steadily and the turnover will start to rise. As part manufacturers have adjusted the start-up rates of some varieties to a low level, most products with historic low prices bottom out from falling in price. The price of fungicide will continue to be subject to the level of inventory and costs. So far, fungicides with stable prices are as follows: 98% chlorothalonil TC, 95% triadimefon TC, 96% fenoxanil TC, 98% metalaxyl TC, 97% Eepoxiconazole TC, 96% thiophanate-methyl (white colour) TC, 95% tricyclazole TC and 98% carboxin TC.

- Solution from CCPIA

In response to the current plight in China's pesticide industry, China Crop Protection Industry Association (CCPIA) introduced the future path and tactics as follows:

- Domestic large-sized enterprises in the agrochemical industry should intensify the construction of intelligent factories and digitalised workshops to enhance the new-generation information technological application surrounding design, production, logistics, management and service; small-and-medium-sized enterprises should shift developing direction towards professional, precise, special and innovative production;
- Research and develop new pesticide products to tackle the key, common and intractable problems regarding pest and disease prevention and control;
- Render research and development for products of first registration;

- Research and develop innovative pesticide formulation products, such as differentiated formulations and high-cost-performance products like water-based pesticides, nano-pesticides, ultra-low-volume pesticides and controlled release formulations;
- Develop herbicide mixing techniques for GM crops and biological breeding crops with herbicide resistance;
- Develop bio-pesticides.

Last but not least, to deal with the lack of technical service in the process of merchandise circulation from factory to farmland, it is suggested to strengthen investment and cooperation in vertical extension (extending and integrating the industrial chain from upstream to downstream in terms of production and construction of raw materials, intermediates, pesticide technical and formulations) and horizontal expansion (e.g. Nantong Jiangshan Agrochemical & Chemicals Co., Ltd. (stock code: 600389)'s acquisition of Nantong Uniphos Chemicals Co., Ltd. in the field of phosphate water treatment), develop online and offline businesses and enhance grassroots services to improve the benefits of pesticide production and application.

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