

Situation of China's pesticides trade with Ukraine and Russia

The First Edition

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Executive Summary

The outbreak of conflict between Russia and Ukraine started on 24 Feb., has stepped up turbulence in the worldwide commodity markets including crude oil, natural gas and agricultural products, etc., with markups in product prices.

In Jan. 2019–Sept. 2021, China exported 14 kinds of pesticides to Ukraine and 17 to Russia, each accounting for over 10% of the total pesticide exports to major destinations. This month's issue elaborates major pesticide exports to Ukraine and Russia in 2019-2021 with details of export price and volume, and major Chinese producers and exporters; five popular pesticide products are taken as examples to show the recent ups and downs in China's pesticide sector since Q4 2021.

Affected by Russia-Ukraine crisis, major fungicides marked great drops in prices; on the other hand, herbicides' prices experienced their ups and downs, but still remaining on the already high positions set since last year. For instance, among over 72 destinations around the world, the ex-works price of glyphosate technical dwindled in early 2022; Ukraine and Russia collectively made up 4.78% of China's total glyphosate exports in 2021.

As uncertain factors arising from the Russia-Ukraine conflict and fuelling production costs, challenges and new opportunities come on in China's pesticide industry for 2022.

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

1.1 Russia-Ukraine crisis: possible influences on international trades

As the sweeping COVID-19 pandemic forces countries to set up food import and export restrictions and disrupts the global supply chain, the outbreak of conflict between Russia and Ukraine started on 24 Feb., has stepped up turbulence in the worldwide commodity markets including crude oil, natural gas and agricultural products, etc., with markups in product prices. Before the Russia-Ukraine crisis, agricultural commodities that were exported from Russia include cereals (wheat and barley, etc.) and that from Ukraine include corn, barley and wheat, etc. In particular, Ukraine accounted for around 12% of the world's total wheat export; 15%, world's corn export; 50%, world's sunflower seed oil export.

The crisis affected global production and trade of crops mainly in the following aspects:

Logistics: Key ports in the Black Sea have been closed, disturbing the shipment routine and trades between Russia and Ukraine, and even across other countries around the world.

Farmland: In Ukraine, the armed conflicts that happened on agricultural belt of crop-growing areas, has brought the country's expectation for crop-growing areas for this spring down over 50% to some 7 million ha compared with that of 2021. The previously expecting figure was 15 million ha in 2022.

Farming season: According to the crop calendar in Russia and Ukraine, Nov. to next June is the typical growing period for winter wheat & winter barley. Whereas, the schedules of agricultural production face challenges now.

1.2 Russia-Ukraine crisis: involved intermediates of pesticide

Markets of main intermediates from crude oil, namely, paraformaldehyde, 1, 2, 4-Triazole, toluene & benzoyl chloride, are threatened by Russia-Ukraine crisis. The Involved pesticides include herbicides, insecticides and fungicides.

Table 1.2-1 Pesticides and their intermediates affected by conflict between Russia and Ukraine

No.	Product name (EN)	Product name (CN)	Raw material / intermediate
1	Glyphosate	草甘膦	Paraformaldehyde
2	Metamitron	苯嗪草酮	1, 2, 4-Triazole
3	Triadimefon	三唑酮	
4	Benzoximate	苯螨特	Toluene & Benzoyl chloride
5	RH-5849	抑食肼	

Source: CCM

1.3 Impact on crops and related demand for China's pesticides

According to the crop calendar of Russia and Ukraine, early March is the sowing period for barley; April–May for corn, rice, soybean and sunflower seed; late April and May for millet; before July for rapeseed and wheat. Yet amid the intensifying conflicts between the two countries in early 2022, Ukraine saw market supply of pesticides drop by approx. 60% and disrupted schedule for agricultural production.

Figure 1.3-1 Crop calendars of Russia and Ukraine



Source: CCM

In Ukraine, the hard-hit crop yield affects the country's demand for China's pesticides. Markets of herbicides applicable to control of annual weeds in crop-growing fields, namely, barley, corn, rice, soybean and sunflower seed, were sluggish as the main growing fields in eastern Ukraine were out of production. In the harvest season, the usage of insecticides/fungicides on Ukraine's crops, looks set to drop accordingly. Fungicides are critical upon the mid-season and harvest of sunflowers. Lacking sufficient application of fungicide, the final quality of seeds and the production rate of seed oil would be the unknowns. The yield of oil in Sept.-Oct. is expected to suffer a 10%-15% lost from diseases and pests caused by fungicide inadequacy.

Besides, given the higher freight fee, a sliding ruble and bigger fluctuation in exchange rates, Chinese enterprises may slow down pesticide exports to Russia.

1.4 China's major pesticides exported to Ukraine and Russia in 2019–2021

According to the import and export data sourced from Tranalysis, in Jan. 2019–Sept. 2021 (before the tension), China exported pesticides with 14 major active ingredients to Ukraine and 17 to Russia, each accounting for over 10% of the total pesticide exports to major destinations (based on 100% AI volume).

Table 1.4-1 Major types of China's pesticides exported to Ukraine, Jan. 2019–Sept. 2021

No.	Active ingredient (EN)	Product name (CN)
1	Prometryn	扑草净
2	Acetochlor	乙草胺
3	Myclobutanil	腈菌唑
4	Terbuthylazine	特丁津
5	Bentazone	灭草松
6	Nicosulfuron	烟嘧磺隆
7	Diquat	敌草快
8	Quizalofop-P-ethyl	精喹禾灵
9	Imazamox	甲氧醚磺隆

No.	Active ingredient (EN)	Product name (CN)
10	Florasulam	双氟磺草胺
11	Fludioxonil	咯菌腈
12	Thiamethoxam	噻虫嗪
13	Cyprodinil	啞菌环胺
14	Tebuconazole	戊唑醇

Source: Tranalysis

Table 1.4-2 Major types of China's pesticides exported to Russia, Jan. 2019–Sept. 2021

No.	Active ingredient (EN)	Product name (CN)
1	Florasulam	双氟磺草胺
2	Fenoxaprop-P-ethyl	精噁唑禾草灵
3	Cloquintocet-mexyl	解毒唑
4	Imazamox	甲氧醚磺隆
5	Quizalofop-P-ethyl	精喹禾灵
6	Bentazone	灭草松
7	Propiconazole	丙环唑
8	Cyproconazole	环唑醇
9	Dimethoate	乐果
10	Clopyralid	二氯吡啶酸
11	Prometryn	扑草净
12	Clodinafop-propargy	炔草酯
13	Epoxiconazole	氟环唑
14	Thiamethoxam	噻虫嗪
15	Fludioxonil	咯菌腈
16	Tebuconazole	戊唑醇
17	Diquat	敌草快

Source: Tranalysis

2 Situation on trade of China's pesticides with Ukraine and Russia

2.1 China's import and export with Ukraine and Russia in 2021

China's Imports from Ukraine

In 2021, total value of imports & exports between China and Ukraine reached USD19.305 billion, an increase of 29.7% from a year earlier. China's top three categories imported from Ukraine ranked by value in the year, were iron ore, corn and barley. Details are as follows:

- Iron ore:
 - Total imported value: USD3.68 billion
 - Total imported volume: 17.41 million tonnes, accounting for 1.55% of the China's total imports of this product in 2021
- Corn:
 - Total imported value: USD2.35 billion
 - Total imported volume: 8.23 million tonnes, accounting for 29% of China's total imports of this product in 2021
- Barley:
 - Total imported value: USD916.00 million
 - Total imported volume: 3.21 million tonnes, accounting for 26% of China's total imports of this product in 2021

China's Imports from Russia

Between Russia and China, total import & export trade valued USD146.87 billion in 2021, up by 35.9% year on year. Energy products were China's biggest imports from Russia in 2021 by value, amounting to USD52.64 billion, up 47.4% year on year, and accounted for 65.3% of the total value of China's imports from Russia in the year. Details of import value are as follows:

- Crude oil: USD40.96 billion, up 35.6% year on year;
- Coal and lignite: USD7.31 billion, up 148.7% year on year;
- Natural gas: USD4.36 billion, up 70.5% year on year.
- Metal ores: USD4.37 billion, up 13.7% year on year and accounting for 5.4% of China's total energy imports from Russia

2.2 China's pesticide exported to Ukraine and Russia, Q1–Q3 2021

2.2.1 Top 20 pesticide varieties to Ukraine and Russia by volume

China's pesticide exports to Ukraine were valued USD275.96 million in 2021. According to Tranalysis, the country's export volume of pesticides in Q1-Q3 reached 6,970.95 tonnes (converted to 100% AI, same as below). Thereinto, the top 3 were acetochlor, glyphosate and prometryn, accounting for 59.79% of the total.

Table 2.2.1-1 China's top 20 pesticide varieties exported to Ukraine, Q1–Q3 2021

No.	Product name	Volume (100% AI, tonne)	Unit price (USD/t)
1	Acetochlor	1,860.682	3.02
2	Glyphosate	1,212.167	2.39
3	Prometryn	1,092.935	2.78
4	Carbendazim	592.000	3.53
5	Terbuthylazine	458.604	2.75
6	Tebuconazole	375.403	8.27
7	Diquat	188.460	3.15
8	Thiophanate-methyl	112.360	5.01

No.	Product name	Volume (100% AI, tonne)	Unit price (USD/t)
9	Thiamethoxam	108.045	5.74
10	S-metolachlor	100.690	4.11
11	Imidacloprid	92.882	8.58
12	Propiconazole-Cyproconazole	83.420	10.33
13	Nicosulfuron	72.636	4.64
14	Metolachlor	55.869	3.35
15	Azoxystrobin	55.751	10.39
16	Metribuzin	49.930	19.15
17	Dimethoate	43.097	4.53
18	Prochloraz	41.190	9.11
19	Clopyralid	39.639	7.34
20	Quizalofop-P-ethyl	36.072	6.03
	Other	299.115	/
	Total	6,970.946	/

Source: Tranalysis

On the other side, China exported 18,558.337 tonnes of pesticide to Russia in Q1-Q3, 2021. Thereinto, glyphosate (11,532.990 tonnes) ranked the first, accounting for 62.14% of the total.

Table 2.2.1-2 China's top 20 pesticide varieties exported to Russia, Q1–Q3 2021

No.	Product name	Volume (100% AI, tonne)	Unit price (USD/t)
1	Glyphosate	11,532.990	3.85
2	Tebuconazole	1,107.081	12.09
3	Propiconazole	901.681	14.71
4	Prometryn	737.917	4.42
5	Dimethoate	592.278	6.31
6	Diquat	550.759	3.57
7	Thiamethoxam	284.579	9.14
8	Fenoxaprop-P-ethyl	282.763	31.28
9	Chlorpyrifos	271.479	5.71
10	2,4-D	223.440	3.02

No.	Product name	Volume (100% AI, tonne)	Unit price (USD/t)
11	Quizalofop-P-ethyl	197.881	23.69
12	Carbendazim	179.139	5.27
13	Imidacloprid	144.110	11.85
14	Clethodim	135.570	7.28
15	S-metolachlor	119.074	4.70
16	Terbutylazine	104.760	4.62
17	Cyproconazole	97.408	50.35
18	Cloquintocet-mexyl	93.548	30.35
19	Clomazone	91.243	10.72
20	Clothianidin	78.400	18.37
	Other	832.240	/
	Total	18,558.337	/

Source: Tranalysis

2.2.2 Top 15 pesticide varieties to Ukraine and Russia by value

In Q1-Q3, the top 3 pesticides tebuconazole, glyphosate and acetochlor accounted for 29.04% of the total pesticide imports of Ukraine from China by value, while the first 15 made up 83.71% of the total.

Table 2.2.2-1 China's top 15 pesticide varieties exported to Ukraine by value, Q1–Q3 2021

No.	Product name	Value, million USD
1	Tebuconazole	7.145
2	Glyphosate	6.518
3	Acetochlor	6.195
4	Prometryn	6.084
5	Nicosulfuron	5.939
6	Diquat	4.969
7	Carbendazim	4.747
8	Propiconazole·Cyproconazole	3.448
9	Terbutylazine	2.512
10	Azoxystrobin	2.358
11	Quizalofop-P-ethyl	2.021

No.	Product name	Value, million USD
12	Thiamethoxam	1.552
13	Imidacloprid	1.430
14	Metribuzin	1.412
15	Clopyralid	0.917
	Other	11.140
	Total	68.389

Source: Tranalysis

In the same period, Russian paid USD62.168 million for glyphosate from China—the biggest sum in its spending on pesticide imports from China—and USD14.381 million for another herbicide diquat (the 4th). Their values comprised of 33.74% and 7.81% respectively of the Russian's total pesticide imports from China.

Table 2.2.2-2 China's top 15 pesticide varieties exported to Russia by value, Q1–Q3 2021

No.	Product name	Value, million USD
1	Glyphosate	62.168
2	Tebuconazole	15.527
3	Propiconazole	14.573
4	Diquat	14.381
5	Fenoxaprop-P-ethyl	9.213
6	Cyproconazole	5.162
7	Dimethoate	5.050
8	Quizalofop-P-ethyl	5.042
9	Thiamethoxam	4.787
10	Prometryn	3.870
11	Propiconazole·Cyproconazole	3.071
12	Cloquintocet-mexyl	2.987
13	Imidacloprid	2.825
14	Azoxystrobin	2.697
15	Nicosulfuron	2.639
	Other	30.244
	Total	184.235

Source: Tranalysis

2.2.3 Top 15 Chinese manufacturers of pesticides to Ukraine and Russia

In Q1–Q3, 2021, 41.14% of the total China's pesticide exports to Ukraine were produced by the top 5 Chinese pesticide manufacturers—four were located in Zhejiang Province and 1 in Jiangsu Province. Zhejiang Province contributed the biggest share of 31.45% of the exports to Ukraine in volume terms.

Table 2.2.3-1 Top 15 Chinese pesticide manufacturers to Ukraine by volume, Q1–Q3 2021

No.	Manufacture	Total volume (converted to 100% technical, tonne)	Unit Price (USD/kg)
1	Nutrichem Co., Ltd.	788.880	2.86
2	Shandong Binnong Technology Co., Ltd.	675.598	3.28
3	Zhejiang Zhongshan Chemical Industry Group Co., Ltd.	526.369	2.75
4	Zhejiang Jinfanda Biochemical Co., Ltd.	457.392	1.94
5	Zhejiang Changxing Zhongshan Import & Export Co., Ltd.	419.750	2.71
6	Jiangsu Lanfeng Biochemical Co., Ltd.	269.286	3.15
7	Anhui Guangxin Agrochemical Co., Ltd.	161.791	3.96
8	Hubei Trisun Chemicals Co., Ltd.	147.816	2.81
9	Jiangsu Sevencontinent Green Chemical Co., Ltd.	132.969	8.09
10	Nantong Jiangshan Agrochemical & Chemicals Co., Ltd.	116.762	2.00
11	Shandong Weifang Rainbow Chemical Co., Ltd.	94.985	3.18
12	Jiangsu Changlong Agrochemical Co., Ltd.	81.708	3.37
13	Fuhua Tongda Agro-chemical Technology Co., Ltd.	77.629	4.03
14	Nanjing Red Sun Co., Ltd.	73.863	3.77
15	Jiangsu Good Harvest-Weien Agrochemical Co., Ltd.	73.731	1.88
	Other	2,872.416	/
	Total	6,970.946	/

Source: *Tranalysis*

As for exports to Russia, above a half of the exported pesticides during the period were manufactured by enterprises located in East China. Specifically, 4 enterprises in Zhejiang Province and 7 in Jiangsu Province, accounting for 29.25% and 24.78% of the total China's pesticide exports to Russia, respectively.

Zhejiang Wynca Chemical Group Co., Ltd. was the largest manufacturer of pesticides to Russia in Q1-Q3, followed by Nantong Jiangshan Agrochemical & Chemicals Co., Ltd. and Fuhua Tongda Agro-chemical Technology Co., Ltd. The quantity produced by the top 3 accounted for 40% of the total.

Table 2.2.3-2 Top 15 Chinese pesticide manufacturers to Russia by volume, Q1–Q3 2021

No.	Manufacture	Total volume (converted to 100% technical, tonne)	Unit Price (USD/kg)
1	Zhejiang Wynca Chemical Group Co., Ltd.	4,038.595	4.48
2	Nantong Jiangshan Agrochemical & Chemicals Co., Ltd.	1,776.899	4.09
3	Fuhua Tongda Agro-chemical Technology Co., Ltd.	1,612.074	4.44
4	Trust Crop Protection Technology Co., Ltd.	1,027.191	6.50
5	Hubei Trisun Chemicals Co., Ltd.	758.725	2.60
6	Zhejiang Jinfanda Biochemical Co., Ltd.	673.333	2.49
7	Shandong Weifang Rainbow Chemical Co., Ltd.	603.804	8.01
8	Jiangsu Sevencontinent Green Chemical Co., Ltd.	500.325	16.31
9	Jiangsu Tenglong Biological & Medicinal Co., Ltd.	401.181	6.23
10	Jiangsu Agrochem Laboratory Co., Ltd.	399.461	5.63
11	Zhenjiang Jiangnan Chemical Co., Ltd.	393.298	8.12
12	Zhejiang Funong Biotechnology Co., Ltd.	323.664	5.10
13	Jiangsu Sword Agrochemicals Co., Ltd.	257.900	12.27
14	Jiangsu Good Harvest-Weien Agrochemical Co., Ltd.	235.854	2.73
15	Jixi Qingfeng Tianying Biochemical Co., Ltd.	220.857	2.61
	Other	5,335.178	/
	Total	18,558.337	/

Source: Tranalysis

2.2.4 Top 10 Chinese exporters of pesticides to Ukraine and Russia

In Q1–Q3, 2021, the top 10 Chinese exporters exported 4,314.763 tonnes of pesticides to Ukraine, making up 61.90% of China's total pesticide exports to the country.

Table 2.2.4-1 Top 10 Chinese pesticide exporters to Ukraine by volume, Q1–Q3 2021

No.	Exporter	Total volume (converted to 100% technical, tonne)	Unit Price (USD/kg)
1	Nutrichem Co., Ltd.	787.646	2.83
2	Shandong Binnong Technology Co., Ltd.	681.938	3.45
3	Zhejiang Jinfanda Biochemical Co., Ltd.	457.392	1.94
4	Zhejiang Zhongshan Chemical Industry Group Co., Ltd.	446.229	2.72
5	Zhejiang Changxing Zhongshan Import & Export Co., Ltd.	419.750	2.71

No.	Exporter	Total volume (converted to 100% technical, tonne)	Unit Price (USD/kg)
6	China Jiangsu International Economic and Technical Cooperation Group, Ltd.	372.635	3.44
7	ASA Swiss AG	352.520	6.54
8	Shandong Weifang Rainbow Chemical Co., Ltd.	326.933	3.38
9	Kronos Chemical Limited	238.533	3.28
10	Jiangsu Trustchem Co., Ltd.	231.187	4.10
	Other	2,656.183	/
	Total	6,970.946	/

Source: Tranalysis

Sinochem Agro Co., Ltd., Sichuan Leshan Fuhua Tongda Agro-Chemical Technology Co., Ltd. and Syngenta (Suzhou) Crop Protection Co., Ltd. were the major Chinese exporters of pesticides to Russia.

Table 2.2.4-2 Top 10 Chinese pesticide exporters to Russia by volume, Q1–Q3 2021

No.	Exporter	Total volume (converted to 100% technical, tonne)	Unit Price (USD/kg)
1	Sinochem Agro Co., Ltd.	3,934.799	6.28
2	Fuhua Tongda Agro-Chemical Technology Co., Ltd.	1,617.745	4.42
3	Syngenta (Suzhou) Crop Protection Co., Ltd.	1,580.800	4.54
4	Jiangsu Trustchem Co., Ltd.	1,178.582	9.91
5	Jiangsu Agrochem Laboratory Co., Ltd.	755.757	18.70
6	Xingfa (Shanghai) International Trade Co., Ltd.	605.767	2.52
7	Shanghai E-tong Chemical Co., Ltd.	485.284	2.65
8	Shandong Weifang Rainbow Chemical Co., Ltd.	468.849	6.81
9	Zhejiang Jinfanda Biochemical Co., Ltd.	427.555	2.57
10	Zhenjiang Jiangnan Chemical Co., Ltd.	393.298	8.12
	Other	7,109.901	/
	Total	18,558.337	/

Source: Tranalysis

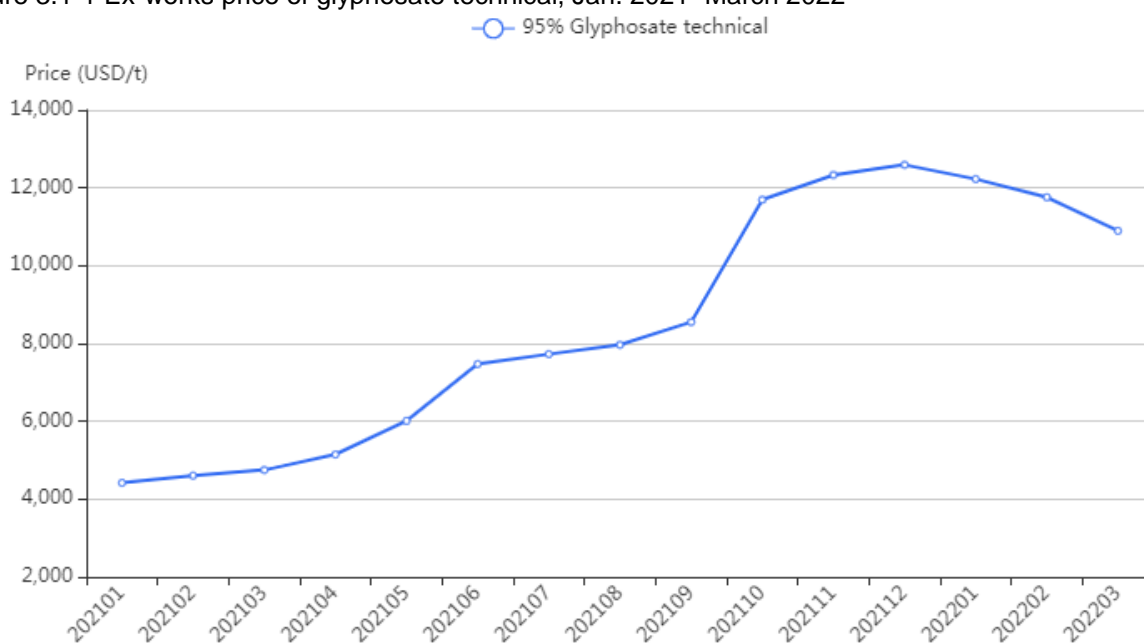
3 Major pesticides exported to Ukraine and Russia from China

The weeklong Russia-Ukraine crisis has triggered off great fluctuations in ex-works prices of Chinese pesticides in early 2022. Taking major fungicides and herbicides as examples, carbendazim, tebuconazole and azoxystrobin, have marked great drops in prices; on the other hand, prices of glyphosate and diquat, have experienced their ups and downs, but still remaining on the already high positions set since last year.

3.1 Glyphosate

Since Jan. 2021, the ex-works price of glyphosate technical has been climbing due to the rising prices of its crucial raw materials of paraformaldehyde and glycine as a result of crude oil price hike. Moving into 2022, the ex-works price of glyphosate technical began to dwindle from USD12,592/t in Dec. 2021, a record high in the recent three years, as most of buyers postponed purchasing plans. The price is unlikely to mark up significantly in the coming few months.

Figure 3.1-1 Ex-works price of glyphosate technical, Jan. 2021–March 2022



Source: CCM

According to the import and export data from Tranalysis, China's glyphosate were exported to over 72 destinations around the world. In 2021, a total of 432,530.408 tonnes (100% AI volume) of glyphosate products were exported from China—18,495.400 tonnes (100% AI volume, =4.28% of the total) to Russia and 2,172.930 tonnes (100% AI volume, =0.50% of the total) to Ukraine.

- Major products to Russia: 95% glyphosate TC and 62% glyphosate IPA in 2021
- Major products to Ukraine: 41% glyphosate IPA and 95% glyphosate TC in 2021
- Major exporters: In May 2020–Jan. 2022, the top 3 glyphosate TC exporters were Fuhua Tongda Agro-Chemical Technology Co., Ltd., Shandong Weifang Rainbow Chemical Co., Ltd. and Youth Chemical Co., Ltd, accounting for totally 171,301.267 tonnes (100% AI volume) in this period which altogether equated to 49.19% of total glyphosate exports from the top 10 Chinese exporters.

Table 3.1-1 China's exports of glyphosate to Russia and Ukraine in 2021, tonne

Destination	41% IPA	51% IPA	62% IPA	75.7% WSG	95% Tech.	96% Tech.	97% Tech.	98% Tech.	Total volume (converted to 100% technical)
Russia	2,638.619	0.000	6,147.297	623.703	15,194.120	0.000	0.000	8.640	18,495.400
Ukraine	2,982.379	0.000	1,012.277	107.976	768.400	0.000	0.000	0.000	2,172.930
Others	79,400.625	14,417.748	110,664.678	69,418.965	272,538.909	6,842.615	18,843.318	0.000	411,862.079
Total	85,021.623	14,417.748	117,824.252	70,150.644	288,501.429	6,842.615	18,843.318	8.640	432,530.408

Source: Tranalysis

Table 3.1-2 Top 10 Chinese exporters of glyphosate, May 2020–Jan. 2022

No.	Exporter	Volume, tonne
1	Fuhua Tongda Agro-Chemical Technology Co., Ltd.	75,577.387
2	Shandong Weifang Rainbow Chemical Co., Ltd.	55,780.946
3	Youth Chemical Co., Ltd.	39,942.933
4	Nantong Jiangshan Agrochemical & Chemicals Co., Ltd.	36,692.681
5	Jiangsu Good Harvest-Weien Agrochemical Co., Ltd.	29,895.436
6	Zhejiang Wynca Chemical Group Co., Ltd.	29,062.907
7	Hubei Trisun Chemicals Co., Ltd.	26,930.343
8	Nufarm Chemical (Shanghai) Co., Ltd.	22,114.457
9	Xingfa (Shanghai) International Trade Co., Ltd.	18,259.834
10	Sinochem Agro Co., Ltd.	14,011.771
Top 10 total		348,268.695

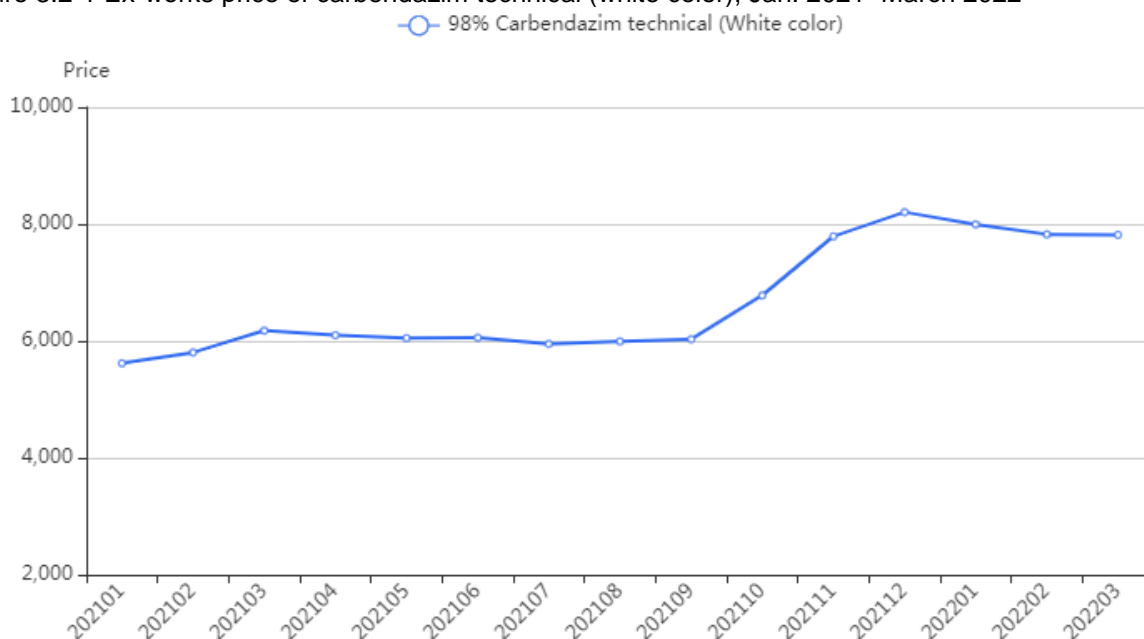
Note: The volume in this table is converted into 100% AI.

Source: Tranalysis

3.2 Carbendazim

According to CCM, the recent March price of 98% carbendazim technical (white color) fell back slightly from USD8,203/t in Dec. 2021, but up by 26.52% year on year. However, amid high cost of 1-Chloro-2-nitrobenzene and environmental concerns of manufacturers, the product's ex-works price will largely hover around USD8,000/t in Q2 2022.

Figure 3.2-1 Ex-works price of carbendazim technical (white color), Jan. 2021–March 2022



Source: CCM

According to the import and export data from Tranalysis, 28 countries had trades with Chinese carbendazim manufactures in the previous one and a half years. In 2021 alone, 14,866.138 tonnes (100% AI volume) of carbendazim products were exported from China.

- Major product to Russia: 98% carbendazim TC, totalling 731.080 tonnes (100% AI volume) and accounting for 95% of Russia's total carbendazim exports from China in 2021
- Products to Ukraine: 500g/L carbendazim SC and 98% of carbendazim TC, totalling 1,332.472 tonnes (100% AI volume) in 2021
- Major exporters: In May 2020–Jan. 2022, Anhui Guangxin Agrochemical Co., Ltd. accounted for 30.97% of China's Top 10 azoxystrobin exports, ranking the first and followed by Sinoway International (Jiangsu) Co., Ltd. and Ningxia Wynca Technology Co., Ltd., with 15.42% and 14.50% of top 10 total, respectively.

Table 3.2-1 China's carbendazim exported to Russia and Ukraine in 2021, tonne

Destination	250g/L SC	50% SC	50% WDG	50% WP	500g/L SC	80% WDG	80% WP	95% Tech.	97% Tech.	98% Tech.	Total volume (converted to 100% technical)
Russia	0.000	0.000	8.316	0.000	79.300	0.000	0.000	0.000	0.000	746.000	769.337
Ukraine	0.000	0.000	0.000	0.000	1,944.586	0.000	0.000	0.000	0.000	462.010	1,332.472
Others	0.998	127.073	470.080	876.000	1,408.506	82.294	15.000	8.000	48.002	11,441.742	12,764.329
Total	0.998	127.073	478.396	876.000	3,432.392	82.294	15.000	8.000	48.002	12,649.752	14,866.138

Source: Tranalysis

Table 3.2-2 Top 10 Chinese exporters of carbendazim in May 2020–Jan. 2022

No.	Exporter	Volume, tonne
1	Anhui Guangxin Agrochemical Co., Ltd.	5,083.664
2	Sinoway International (Jiangsu) Co., Ltd.	2,531.343
3	Ningxia Wynca Technology Co., Ltd.	2,380.421
4	Zhejiang Wynca Import and Export Co., Ltd.	2,040.106
5	Ningxia Ruitai Technology Co., Ltd.	1,270.081
6	Jiangsu Lanfeng Biochemical Co., Ltd.	1,169.798
7	Jiangsu Trustchem Co., Ltd.	633.247
8	Anhui Huaxing Chemical Industry Co., Ltd.	514.501
9	Jiangsu Lanfeng Import & Export Co., Ltd.	415.520
10	Shanghai Alfa International Trading Co., Ltd.	376.320
Top 10 total		16,415.000

Note: The volume in this table is converted into 100% AI.

Source: Tranalysis

3.3 Azoxystrobin

Chinese production of azoxystrobin mainly caters for export, furnishing 3,339.802 tonnes (converted to 100% AI) to overseas market in 2021.

The Russia-Ukraine crisis since Feb. has depressed market demand, azoxystrobin price saw downtrend since Oct. 2021; but as many manufactures based in East China, pressured by China's policies on environmental matters implementing in recent years, the price of azoxystrobin products is unlikely to dip further in the near future.

According to CCM's monitoring price data, the ex-works price of 96% azoxystrobin technical reached USD45,228/t in March, declined by 39.29% compared with the high of USD62,999/t in Oct. 2021.

Figure 3.3-1 Ex-works price of azoxystrobin technical (white), Jan. 2021–March 2022



Source: CCM

According to the import and export data from Tranalysis, since May 2020, China exported azoxystrobin products to 38 destinations, including Ukraine and Russia—Russia ranked the 7th and Ukraine were the 10th amongst the top ten destinations by export volume in May 2020-Feb. 2022.

- Major products to Russia: 97% azoxystrobin TC and 98% azoxystrobin TC, accounting for 95.54% of azoxystrobin exports (100% AI volume) from China in 2021
- Major product to Ukraine: 25% azoxystrobin SC, accounting for 77.71% (58.638 tonnes) of azoxystrobin exports (100% AI volume) from China in 2021
- Major exporter: CAC Nantong Chemical Co., Ltd. was the largest Chinese exporter of azoxystrobin, with the exported volume of 10,150.397 tonnes, accounting for 57.61% of China's total exports from May 2020 to Feb. 2022.

Table 3.3-1 China's azoxystrobin exported to Russia and Ukraine in 2021, tonne

Destination	18.7% SC	25% SC	25% WDG	32% SC	40% WP	50% WDG	60% WDG	80% WDG	95% Tech.	96% Tech.	97% Tech.	98% Tech.	Total volume (converted to 100% technical)
Russia	23.506	15.275	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.000	166.000	180.430
Ukraine	0.000	254.659	0.000	0.000	0.000	4.200	0.000	0.000	0.000	0.000	0.000	15.025	75.462
Others	40.000	388.273	3.000	80.524	0.025	51.377	0.315	15.502	35.400	3.000	573.348	2,331.080	3,083.910
Total	63.506	658.207	3.000	80.524	0.025	55.577	0.315	15.502	35.400	3.000	583.348	2,512.105	3,339.802

Source: Tranalysis

Table 3.3-2 Top 10 Chinese exporters of azoxystrobin in May 2020–Feb. 2022

No.	Exporters	Volume, tonne
1	CAC Nantong Chemical Co., Ltd.	10,150.397
2	Nutrichem Co., Ltd.	3,322.077
3	Taizhou Bailly Chemical Co., Ltd.	560.456
4	Jiangsu Pesticide Research Institute Co., Ltd.	312.970
5	CAC Shanghai International Trade Co., Ltd.	200.732
6	China Jiangsu International Economic and Technical Cooperation Group, Ltd.	128.474
7	Yongnong BioSciences Co., Ltd.	122.108
8	Shanghai Heben-Eastsun Medicaments Co., Ltd.	92.958
9	Hailir Pesticides and Chemicals Group Co., Ltd.	88.922
10	Jiangsu Trustchem Co., Ltd.	82.804
Top 10 total		14,979.093

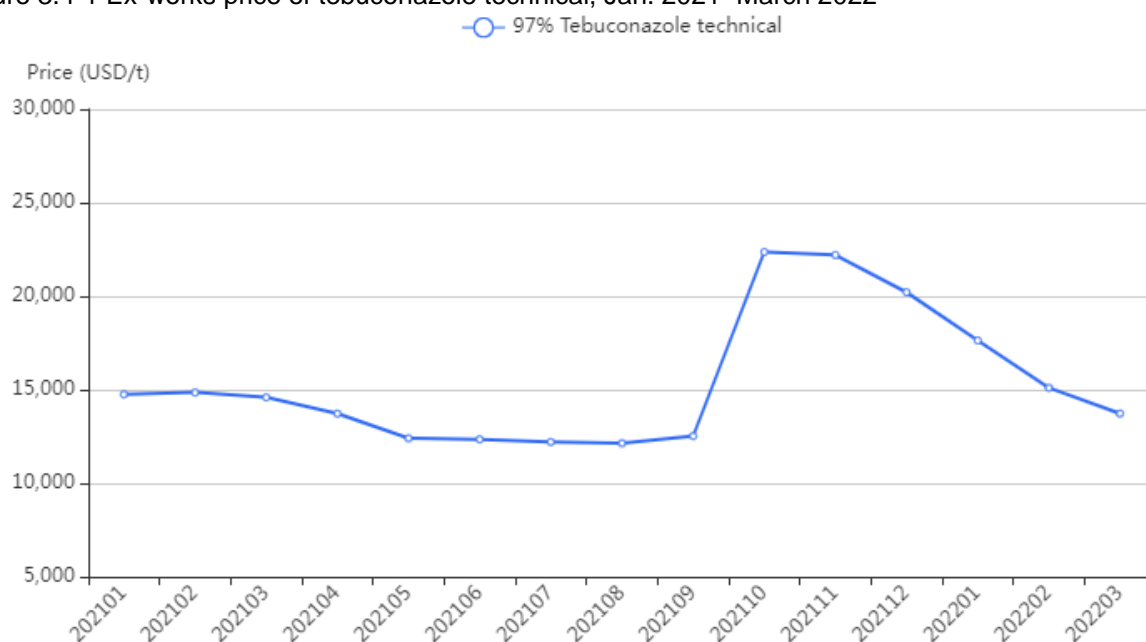
Note: The volume in this table is converted into 100% AI.

Source: Tranalysis

3.4 Tebuconazole

Regional power shortage in Q4 2021 somehow boosted up China's ex-works prices of tebuconazole technical jumping in Oct.–Nov. Last five months, the price of this product gradually descended and returned the March level last year. According to CCM, the price arrived at USD13,727/t in March 2022, up by 0.03% year on year. However, as production cost stood steadily high, the downtrend is expected to end in the coming month.

Figure 3.4-1 Ex-works price of tebuconazole technical, Jan. 2021–March 2022



Source: CCM

According to the import and export data from Tranalysis, China's tebuconazole exported to over 34 destinations around the world for years. In 2021, a total of 8,995.019 tonnes (100% AI volume) of tebuconazole products were exported from China.

- Major products to Russia: 97% tebuconazole TC & 95% tebuconazole TC, totally 1,749.575 tonnes (100% AI volume) of tebuconazole and accounting for 91.07% of total tebuconazole exports from China to Russia in 2021
- Major products to Ukraine: 98% tebuconazole TC, 430g/L tebuconazole SC & 250g/L tebuconazole EC, accounting for 66.36% of total imports of this product from China to Ukraine in 2021
- Major exporters: The top 3 tebuconazole exporters were Jiangsu Sevencontinent Green Chemical Co., Ltd., Jiangsu Agrochem Laboratory Co., Ltd. and Nutrichem Co., Ltd. They exported 3,060.388 tonnes (100% AI volume) of tebuconazole in May 2020-Feb. 2022, which account for 19.55% of China's total tebuconazole exports in this period.

Table 3.4-1 China's tebuconazole exported to Russia and Ukraine in 2021, tonne

Destination	120g/L EC	240g/L EC	25% WP	250g/L EC	250g/L EW	430g/L EC	430g/L SC	60g/L FS	60g/L ME	60g/L ZX	80% WDG	80% WP	91% Tech.	95% Tech.	96% Tech.	97% Tech.	98% Tech.	Total volume (converted to 100% technical)
Russia	65.345	0.000	0.000	0.000	26.541	0.000	0.000	69.602	0.000	52.258	0.000	1.538	0.000	454.000	12.000	1,359.046	140.000	1,921.047
Ukraine	11.720	1.000	2.000	680.044	244.226	127.416	544.760	0.000	0.000	51.475	0.000	0.000	0.000	12.000	86.800	104.600	231.000	917.706
Others	0.000	4.852	16.385	197.265	360.035	6.000	2,552.318	49.296	3.000	0.000	0.200	0.000	36.000	138.762	587.146	2,582.783	1,831.449	6,156.266
Total	77.065	5.852	18.385	877.309	630.802	133.416	3,097.077	118.898	3.000	103.733	0.200	1.538	36.000	604.762	685.946	4,046.429	2,202.449	8,995.019

Source: Tranalysis

Table 3.4-2 Top 10 Chinese exporters of tebuconazole in May 2020–Feb. 2022

No.	Exporter	Volume, tonne
1	Jiangsu Sevencontinent Green Chemical Co., Ltd.	1,349.901
2	Jiangsu Agrochem Laboratory Co., Ltd.	942.361
3	Nutrichem Co., Ltd.	768.126
4	Jiangsu Sword Agrochemicals Co., Ltd.	746.584
5	Yancheng Huihuang Chemical Co., Ltd.	447.593
6	Hubei Avgust Pesticide Co., Ltd.	430.680
7	Shanghai Safechem International Trade Co., Ltd.	341.440
8	Rudong Zhongyi Chemical Co., Ltd.	318.571
9	Sinochem Agro Co., Ltd.	301.528
10	Shandong Kesai Agrochem Biotechnology Co., Ltd.	267.805
Top 10 total		5,914.590

Note: The volume in this table is converted into 100% AI.

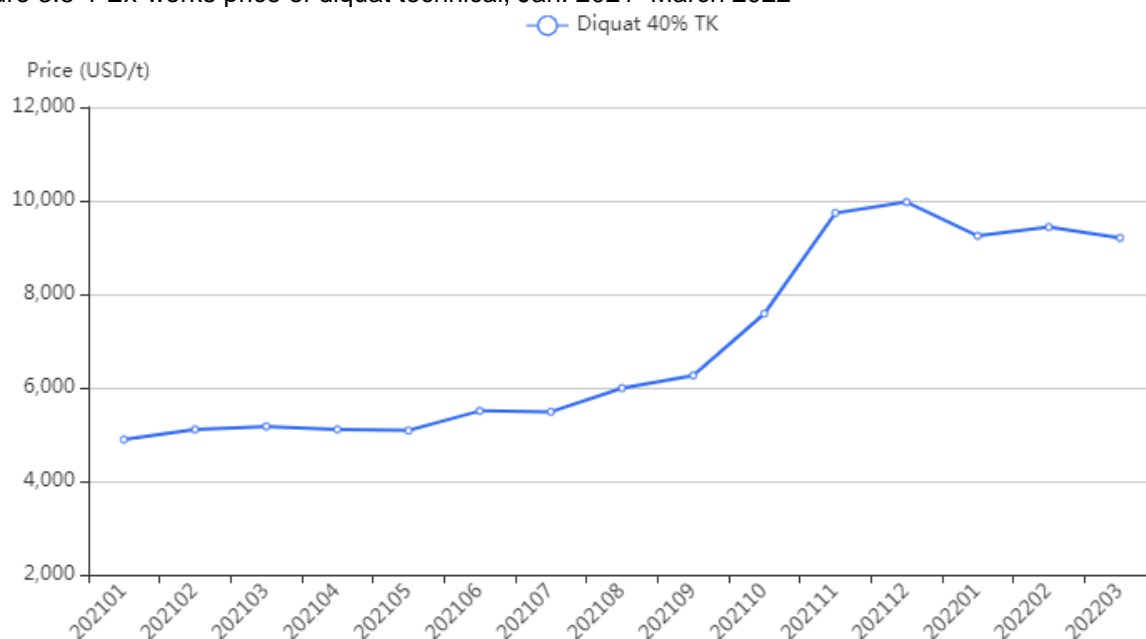
Source: Tranalysis

3.5 Diquat

2021 saw diquat production operation being disturbed by the supply shortage of key intermediates such as 2,2'-dipyridyl and ethylene dibromide. Specially, production and industrial stock of bromine—raw material of ethylene dibromide—fell off in H2 when low temperature made extracting bromine more difficult. The ex-works price of diquat technicals surged to USD9,970/t in Dec.

According to CCM price monitoring data, the ex-works price of diquat dropped to USD9,204/t in March this year, but representing an increase of 77.91% year on year. The recent drop might relate with a dive in prices of glufosinate ammonium in early March, which is a powerful competitor of diquat in the field of herbicides.

Figure 3.5-1 Ex-works price of diquat technical, Jan. 2021–March 2022



Source: CCM

More than 20 foreign countries have traded with China in diquat sector in 2020–2022. In 2021 alone, 6,533.950 tonnes (100% AI volume) of diquat products were sold from China—Russia and Ukraine, taken together, made up 14.65% of the total.

- Major product to Russia: 40% diquat TK, amounting to 391.348 tonnes (100% AI volume) in 2021
- Major product to Ukraine: 150g/l (dibromide), ranking the first and amounting to 153.756 tonnes (100% AI volume) in 2021
- Major exporters: Top 10 Chinese exporters of diquat from May 2020 to Feb. 2022 with Yongnong BioSciences Co., Ltd., Nanjing Red Sun Co., Ltd. and Shandong Weifang Rainbow Chemical Co., Ltd. topping the list, contributed 3,370.742 tonnes.

Table 3.5-1 China's diquat exported to Russia and Ukraine in 2021, tonne

Destination	150g/l (dibromide)	200g/l (cation)	40% TK	Total volume (converted to 100% technical)
Russia	2,765.024	0.000	1,863.560	629.140
Ukraine	1,787.861	296.414	547.120	327.934
Others	205.369	23,714.881	3,886.847	5,576.876
Total	4,758.254	24,011.295	6,297.527	6,533.950

Source: Tranalysis

Table 3.5-2 Top 10 Chinese exporters of diquat, May 2020–Feb. 2022

No.	Exporter	Volume, tonne
1	Yongnong BioSciences Co., Ltd.	893.024
2	Nanjing Red Sun Co., Ltd.	642.591
3	Shandong Weifang Rainbow Chemical Co., Ltd.	596.578
4	China Jiangsu International Economic and Technical Cooperation Group, Ltd.	392.058
5	Sino-Agri Red Sun Bio-Technology Co., Ltd.	226.630
6	Dezhou Luba Fine Chemical Co., Ltd.	206.300
7	Sino-DG International Logistics Co., Ltd.	191.680
8	Ningbo Youngor International Trade & Transportation Co., Ltd.	91.535
9	Nufarm Chemical (Shanghai) Co., Ltd.	76.429
10	Sharda Cropchem Ltd.	53.917
Top 10 total		3,370.742

Note: The volume in this table is converted into 100% AI.

Source: Tranalysis

4 Outlook for Chinese pesticide technical market under Russia-Ukraine crisis

Prices of natural gas, energy products, foods and other international commodities have been soaring since 2021 and have been further driven up by the uncertain factors arising from the Russia-Ukraine conflict. In this context, in early 2022, China's pesticides registered markups before recently descending as far as both price and volume are concerns. At home, changes in supply-demand relation, shipping destinations, product prices, supply amount and even varieties, are catching on.

Long-term prospect:

- Supply side: Global supply of pesticides will contract with decreasing proportion of overseas products, which benefits China in advancing pesticide export business.
- Demand side: Future demand for pesticides around the world tends to rise due to increasing energy prices, costs of fertilisers and transportation, and other supply concerns.
- Government's incentive: Agricultural departments will focus on harvest of grains (wheat, rice, corn, etc.) via giving broader supports to farmers.
- Challenge and new opportunity: High food prices are very likely to endow China with new opportunities in tapping new markets, and spur domestic innovation of high-efficacy or featured pesticide products.

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