

2,4-D Survey in China

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Kcomber Inc.

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1. Introduction

In China, the history of production and application of 2,4-D has exceeded 30 years, and the product has a stable market demand. Farmers prefer to use 2,4-D as a herbicide on wheat, corn and rice, and as a plant growth regulator on eggplant, tomato, pumpkin, watermelon and etc.

Increasing resistance of weeds to glyphosate in recent years and the withdrawal of paraquat aqueous solution (AS) from Chinese market starting on 1 July, 2016 brought 2,4-D products a new opportunity in China.

In recent years, 2,4-D industry in China has been confronted with barriers, including sluggish demand from overseas market, pressure from illegal producers, difficulty in pollutant treatment, etc. Pollutant treatment is a major problem for 2,4-D technical manufacturers.

Since 2019, the purchasing demand for 2,4-D in foreign countries has recovered, but domestic enterprises have gone through production suspension and restriction caused by environmental protection policies and then by the COVID-19. In general, overseas market provides an important outlet for China's superfluous output.

In 2020, the overall price of 2,4-D technical in China is relatively stable. But due to the rising cost of raw materials, it is predicted that the price will continue to rise in the near future.

In this report, CCM will do 2,4-D Survey in China 2020 from the following aspects:

- ✓ Production of 2,4-D
- ✓ Price & exports
- ✓ Consumption
- ✓ Forecast on 2,4-D industry in China

2. Scope and methodology

This report aims to demonstrate the development of 2,4-D industry in China and analyse the factors behind it. There are almost complete records and comments about technology, production, price, exports and consumption of this product in the report.

Region: China

Time scope: 2015–2020

Methodology

The report is drafted by diverse methods as follows:

1. Desk research

The sources of desk research are various, including published magazines, journals, government statistics, industrial statistics, customs 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. When necessary, checks have been made with Chinese suppliers regarding market information such as key producers, key end users, production and demand.

2. Telephone interview

CCM has carried out extensive telephone interviews in order to survey the actual market situation of 2,4-D industry in China.

Interviewees cover:

- Key producers
- Key traders
- Associations
- Experts

3. Network research

CCM adopted network to contact with players in the industry through B2B websites and software. CCM also obtained registration information via network.

Data processing and presentation

The data collected and compiled are sourced from:

- CCM's database
- Published articles from periodicals, magazines and journals, and third-party databases
- Statistics from governments and international institutes
- Telephone interviews with domestic producers, service suppliers, governments, etc.
- Third-party data providers
- Customs statistics
- 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 took place in order to analyse the data and draw conclusions from them.

Unit

USD: currency unit in the US

RMB: currency unit in China, also called Yuan

Tonne: ton, equal to metric ton in this report

t/a: tonne/annual or tonne/year

/t: per tonne

Table Abbreviations and full names

Abbreviation	Full name
AS	Aqueous solution
TC	Technical material
TK	Technical concentrate
EC	Emulsifiable concentrate
ICAMA	Institute for the Control of Agrochemicals, Ministry of Agriculture

Table 2-2 USD/CNY exchange rate, Jan. 2013–Dec. 2020

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
2013	6.2787	6.2842	6.2743	6.2471	6.1970	6.1718	6.1725	6.1708	6.1588	6.1393	6.1372	6.1160	6.1920
2014	6.1043	6.1128	6.1358	6.1553	6.1636	6.1557	6.1569	6.1606	6.1528	6.1441	6.1432	6.1238	6.1428
2015	6.1272	6.1339	6.1507	6.1302	6.1143	6.1161	6.1167	6.3056	6.3691	6.3486	6.3666	6.4476	6.2288
2016	6.5527	6.5311	6.5064	6.4762	6.5315	6.5874	6.6774	6.6474	6.6715	6.7442	6.8375	6.9182	6.6425
2017	6.8918	6.8713	6.8932	6.8845	6.8827	6.8019	6.7772	6.7148	6.5909	6.6493	6.6300	6.6067	6.7662
2018	6.5079	6.3045	6.3352	6.2764	6.3670	6.4078	6.6157	6.8293	6.8347	6.8957	6.9670	6.9431	6.6070
2019	6.8482	6.7081	6.6957	6.7193	6.7344	6.8896	6.8716	6.8938	7.0883	7.0726	7.0437	7.0262	6.8826
2020	6.9614	6.9249	6.9811	7.0771	7.0690	7.1315	7.0710	6.9980	6.8498	6.7796	6.7050	6.5921	6.9284

Source: The People's Bank of China

3. Executive summary

In China, the history of production and application of 2,4-D has exceeded 30 years, and the product has a stable market demand. Farmers prefer to use 2,4-D as a herbicide on wheat, corn and rice, and as a plant growth regulator on eggplant, tomato, pumpkin, watermelon and etc.

Increasing resistance of weeds to glyphosate in recent years and the withdrawal of paraquat aqueous solution (AS) from Chinese market starting on 1 July, 2016 brought 2,4-D products a new opportunity in China.

Using glyphosate alone would cause weeds' resistance to glyphosate, but if glyphosate is used with other herbicides, such as 2,4-D, dicamba, glyphosate's performance would be boosted effectively. The combinational use of herbicides becomes more and more acceptable to farmers in China.

According to the *No. 1745 Announcement* released by the Ministry of Agriculture of the People's Republic of China on 24 April, 2012, prohibition of the use and sales of paraquat AS in China had come into effect from 1 July, 2016. 2,4-D products and other herbicides would witness a broader space for development after the withdrawal of paraquat AS in China.

It is estimated that China's capacity and output of 2,4-D (converted to technical 96%) in 2020 are XXX t/a and XXX tonnes respectively.

In 2020, the overall price of 2,4-D technical in China is XXX. But due to XXX, it is predicted that the price will XXX in the near future.

In recent years, 2,4-D industry in China has been confronted with barriers, including sluggish demand from overseas market, pressure from illegal producers, difficulty in pollutant treatment, etc. Pollutant treatment is a major problem for 2,4-D technical manufacturers. A great deal of wastewater is generated during the production of 2,4-D technical. With stricter requirements on environmental protection, pollution problems would restrict the development of 2,4-D industry to some extent. For illegal 2,4-D producers, they gain an edge on price as they do not invest in the pollutant treatment devices, which severely disturbs the 2,4-D industry. With stricter and more frequent inspections, such disturbances have been relieved.

4. What's in this report

Note: Key data/information in this sample page is hidden, while in the report it is not.

1 Brief introduction to 2,4-D in China

- Brief introduction to herbicide industry

China is now the major global herbicide supplier. China's herbicide industry has developed rapidly in the past few years, which was reflected by sharply increasing output and the growing number of varieties available. However, the output of herbicides showed a general downward trend in recent years, with the implementation of stringent environmental protection policies in China. Yet in 2019, China's herbicide output (by 100% technical) was XXX tonnes, increasing by XXX year on year.

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- Position of 2,4-D in herbicide industry

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Table 1-2 Domestic output and consumption of 2,4-D technical and related shares in herbicides, 2015–2019

Year	Output, tonne		Output share	Consumption, tonne		Consumption share
	Herbicides (100% technical)	2,4-D (100% technical)		Herbicides (100% technical)	2,4-D (100% technical)	
2013	XXX	XXX	XXX	XXX	XXX	XXX
2014	XXX	XXX	XXX	XXX	XXX	XXX
...
2019	XXX	XXX	XXX	XXX	XXX	XXX

Source: CCM

2 Production of 2,4-D in China

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2.2 Key raw materials

Raw materials in the production of 2,4-D are outsourced by most domestic producers, mainly including chloroacetic acid and phenol.

- Chloroacetic acid

- Phenol

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2.3 Registration

As of Dec. 2020, there were XXX kinds of 2,4-D products got the certificate of registration approval.

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Table 2.3-1 Valid registrations of 2,4-D in China, as of Dec. 2020

Specification		Number of registrations
Single formulations	EC	XXX
	AS	XXX
	Others	XXX
Mixed formulations		XXX
Technical	2,4-D	XXX
	2,4-D-ethylhexyl	XXX
	2,4-D butylate	XXX
	2,4-D Na	XXX
	2,4-DB	XXX
Total		XXX

Source: Institute for the Control of Agrochemicals, Ministry of Agriculture (ICAMA)

Table 2.3-2 Valid registration of 2,4-D technical in China, as of Dec. 2020

No.	Registration Code	Company (CN)	Company	Active ingredients	Content	Expiry Date
1	XXX	XXX	XXX	XXX	XXX%	XXX
2	XXX	XXX	XXX	XXX	XXX%	XXX
...
50	XXX	XXX	XXX	XXX	XXX%	XXX

Source: ICAMA

2.4 Capacity and output, 2015–2020

The capacity of 2,4-D grew rapidly from XXX t/a in 2018 to XXX t/a in 2019, up by XXX %. It XXX in 2020. However, since 2018, facing environmental protection pressures, many domestic 2,4-D producers have suspended or even stopped production. In 2018, the output dropped to XXX tonnes, the lowest in 2015–2020, a sharp drop of XXX % from that in 2017. As domestic production recovered,

the output in 2019 increased to XXX tonnes and is expected at XXX tonnes in 2020, though the market demand is relatively low affected by the COVID-19.

2.5 Key producers

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Table 2.5-1 Production of major 2,4-D technical producers in China, 2016–2020

No.	Producer	Location	Status, as of Nov. 2020	Capacity, t/a					Output, tonne				
				2020	2019	2018	2017	2016	2020E	2019	2018	2017	2016
1	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
3	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
4	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
...

Source: CCM

3 Price & exports of 2,4-D in China

3.1 Price

From 2013 to 2016, the annual ex-works price of 2,4-D was on decline in China. Then the annual price rebounded, reaching USDXXX/t in 2018.

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3.2 Exports, H1 2020

-Exports of 2,4-D, H1 2020

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Table 3.2-1 Monthly exports of 2,4-D technical and formulations in China, H1 2020

Month	2,4-D amine salt 600g/L SL		2,4-D amine salt 720g/L SL		2,4-D amine salt 80% SG		2,4-D amine salt 860g/L SL		2,4-D amine salt 96% SG		95% 2,4-D technical		96% 2,4-D technical		98% 2,4-D technical		Value, million USD
	Volume, tonne	Price, USD/kg	Volume, tonne	Price, USD/kg	Volume, tonne	Price, USD/kg	Volume, tonne	Price, USD/kg	Volume, tonne	Price, USD/kg	Volume, tonne	Price, USD/kg	Volume, tonne	Price, USD/kg	Volume, tonne	Price, USD/kg	
Jan.	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Feb.	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
March	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
April	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
May	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
June	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Total/Ave	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

Source: China Customs & CCM

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3.2 Exports

Export price of 2,4-D, 2015–2019

Table 3.3-1 Monthly exports of 2,4-D technical and formulations in China, 2019

Month	2,4-D amine salt 600g/L SL		2,4-D amine salt 720g/L SL		2,4-D amine salt 80% SG		2,4-D amine salt 860g/L SL		2,4-D amine salt 96% SG		95% 2,4-D technical		96% 2,4-D technical		98% 2,4-D technical		Value, million USD
	Volume, tonne	Price, USD/kg	Volume, tonne	Price, USD/kg	Volume, tonne	Price, USD/kg	Volume, tonne	Price, USD/kg	Volume, tonne	Price, USD/kg	Volume, tonne	Price, USD/kg	Volume, tonne	Price, USD/kg	Volume, tonne	Price, USD/kg	
Jan.	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Feb.	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
March	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
April	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
...
Dec.	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Total/Ave	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

Source: China Customs & CCM

Table 3.3-11 Export volume of 2,4-D technical and formulations from China by exporter, 2019

No.	Exporter	Volume, tonne								
		2,4-D amine salt 600g/L SL	2,4-D amine salt 720g/L SL	2,4-D amine salt 80% SG	2,4-D amine salt 860g/L SL	2,4-D amine salt 96% SG	95% 2,4-D technical	96% 2,4-D technical	98% 2,4-D technical	Total
1	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
3	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
4	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
...	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
19	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
20	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Others		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Total		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

Source: China Customs & CCM

4 Consumption of 2,4-D in China, 2013–2020

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5 Forecast on 2,4-D industry in China, 2021–2025

5.1 Key influencing factors

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6 Conclusion

From Jan. 2019 to March 2020, with production resumption and back-to-normal operation of 2,4-D manufacturers, the price XXX in China.

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