

Production and Market of Glufosinate-ammonium in China

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1. Introduction

Research scope and targets

Target: This study aims to discover the situation of production and producers, export, price, as well as consumption of glufosinate-ammonium technical and formulations in China.

Region scope: China

Time scope: 2015–2020, except export chapter with time scope of 2015–Apr. 2020 and domestic consumption chapter with time scope of 2015–2020.

2. Approach for this report

The report is formulated by methods as follows:

1. Desk research

The sources of desk research are various, including published magazines, journals, government statistics, industrial statistics, customs statistics, 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 production information.

2. Telephone interview

CCM has carried out extensive telephone interviews in order to survey the actual production and producers' situation of glufosinate-ammonium in China.

Interviewees include the following:

- Key producers
- Key traders
- Associations
- Experts

Data processing and presentation

The data collected and compiled are sourced from:

- CCM's database, ValoTracer
- 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
- 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.

3. Executive summary

China's production of glufosinate-ammonium has maintained a spectacular growth in 2015–2020. Soaring demand at home and abroad and technology improvement are the two most important factors contributing to the dramatic increase. However, the growth slowed down in 2019, due to strict environmental protection policies and slowing export growth.

China's capacity of glufosinate-ammonium TC increased from XXX t/a in 2015 to XXX t/a in 2020; and the output rose from XXX tonnes in 2015 to XXX tonnes in 2020, with a CAGR of XXX% during this period. Glufosinate-ammonium TC production has become more concentrated on top producers.

As of Dec. 2020, there were XXX active registrations of glufosinate-ammonium TC and XXX active registrations of glufosinate-ammonium TK in China. However, there were only XXX glufosinate-ammonium TC producers in 2020, among which XXX were active.

The registrations of glufosinate-ammonium formulations in China increased sharply. There were XXX registrations by XXX companies as of June 2017, and by December 2020 were XXX registrations by XXX companies. 200 g/L AS is the key specification with XXX registrations as of December 2020. In spite of a large increase in the number of registrations, there are just a few producers of glufosinate-ammonium formulations in China.

There are two main routes for the industrial production of glufosinate-ammonium TC, namely Hoechst route and Strecker route. Hoechst route, which is mastered by Bayer CropScience AG only, is of little pollution and low cost. Chinese producers mainly take Strecker route. With years of efforts, Chinese producers have improved the production technology, achieving lower production cost and better quality.

Lier Chemical claims that it has mastered the Hoechst route and decreased the production cost significantly, and it has kept increasing its glufosinate-ammonium TC capacity.

China's export volume of glufosinate-ammonium (converted to 95% TC) has witnessed considerable increases, surging from less than XXX tonnes in 2015 to over XXX tonnes in 2018, thanks to robust overseas demand. However, the growth has slowed down in 2019 and 2020 and the total export volume was XXX tonnes in the first four months of 2020. The number of export destinations of China's glufosinate-ammonium has been expanding, up from XXX in 2015 to XXX in 2017 and XXX in 2018–2019.

Domestic consumption of glufosinate-ammonium increased year by year, from XXX tonnes in 2015 to XXX tonnes in 2019, with a CAGR of XXX% in this period.

4. What's in this report?

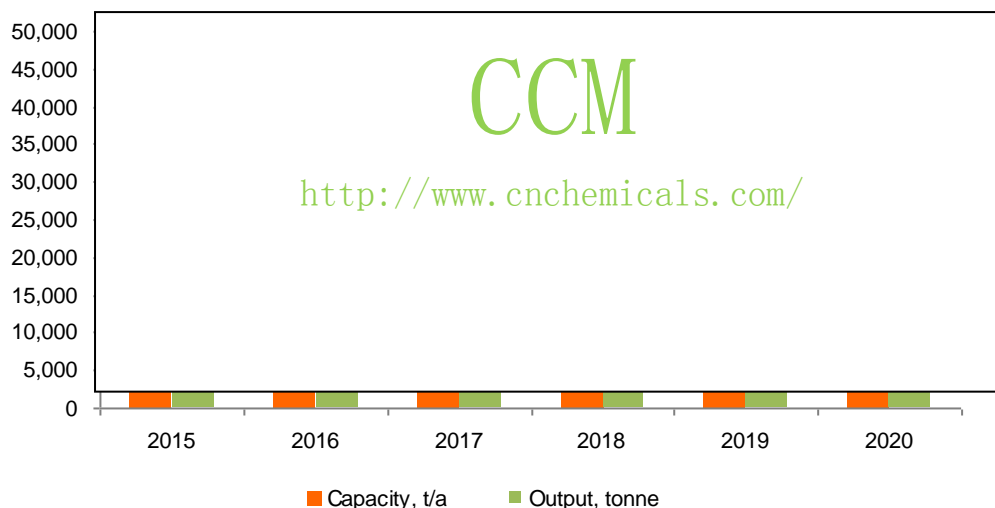
Note: Key data/information in this sample page is hidden, while in the report it is not.

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1 Production

1.1 Production of glufosinate-ammonium technical in China, 2015–2020

Figure 1.1-1 Capacity and output of glufosinate-ammonium technical in China, 2015–2020



*Note: There are two specifications of glufosinate-ammonium technical produced in China, 95% TC and 50% TK. The technical output here is the total output of both specifications converted to 95% TC. The actual output volume of 50% TK is converted into that of 95% TC here. The calculation formula is as follows: the output volume of 50% TK converted in 95% TC = the actual output volume of 50% TK * 0.5/0.95.*

Source: CCM

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2 Producer

2.1 Producers of glufosinate-ammonium technical in China, 2015–2020

Table 2.1-1 Capacity and output of glufosinate-ammonium technical producers in China, 2015–2020

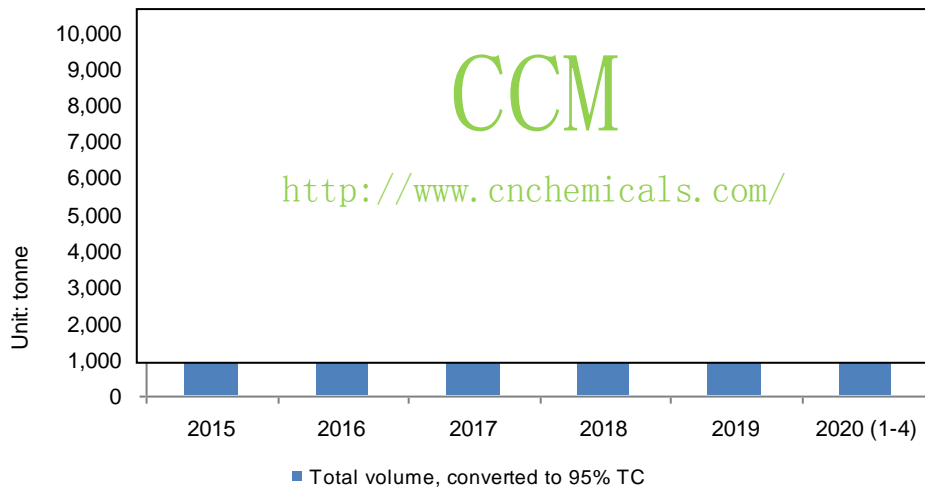
No.	Producer	Capacity, t/a						Output, tonne					
		2015	2016	2017	2018	2019	2020	2015	2016	2017	2018	2019	2020
1	Lier Chemical	600	600	XXX	XXX	XXX	XXX	200	300	XXX	XXX	XXX	XXX
2	Yongnong BioSciences	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
3	Hebei Veyong	500	500	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
...	...	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Total		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

Source: CCM

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4 Export

Figure 4-1 China's export of glufosinate-ammonium, 2015–Apr. 2020



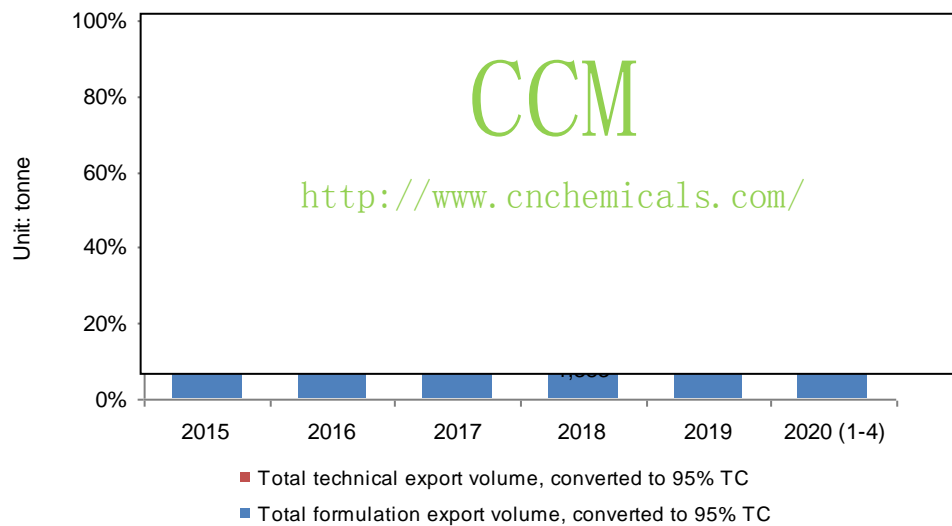
Note: 1) The export volume here means the volume converted to 95% TC of all specifications, including both technical and formulations of glufosinate-ammonium.

2) The export volume of the specification converted in 95% TC = the actual export volume of the specification * its content rate of active ingredient of glufosinate-ammonium/0.95

Source: CCM & China Customs

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Figure 4-4 China's export volume of glufosinate-ammonium technical and formulation, 2015–Apr. 2020



Note: 1) The export volume here means the volume converted to 95% TC of all specifications, including both technical and formulations of glufosinate-ammonium.

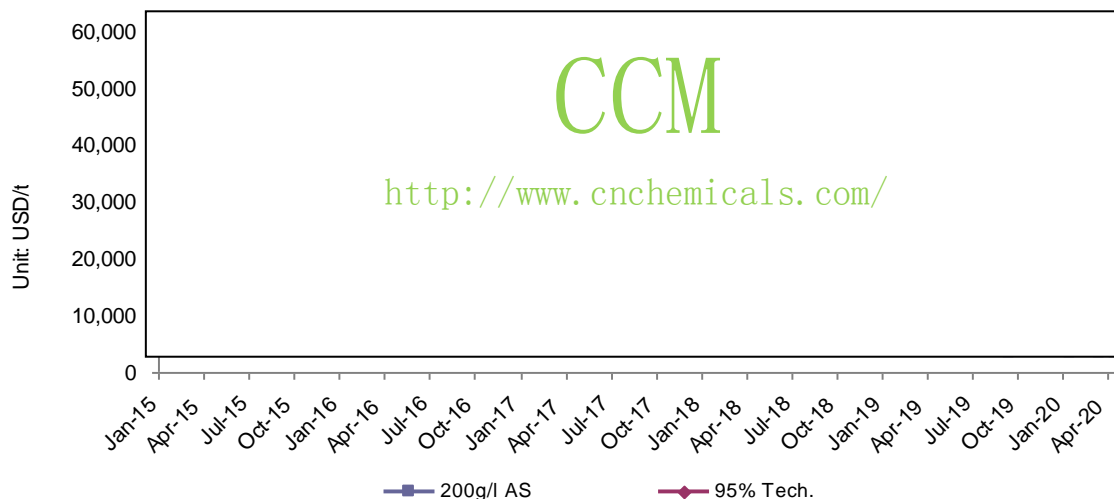
2) The export volume of the specification converted in 95% TC = the actual export volume of the specification * its content rate of active ingredient of glufosinate-ammonium/0.95.

Source: China Customs & CCM

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5 Price

Figure 5-1 Monthly export prices of 95% glufosinate-ammonium technical and glufosinate-ammonium 200g/L AS in China, Jan. 2015–Apr. 2020



Note: 1. The price in total is weighted average price.

2. These data are obtained by CCM's analysis on 8 digit HS code of China Customs data. The Customs data consist of many shipments, and the prices can be FOB prices, C&F prices or CIF prices. However, it is very hard to distinguish which shipment is FOB price, C&F price or CIF price as there is no precise explanation in 8 digit HS code Customs data. So the prices in above figure are weighted average prices of FOB prices, CIF prices and C&F prices, and the relevant weight is the export volume of each shipment. Here is the calculation formula: $\text{Weighted average prices} = (\text{export volume}_1 \times \text{price}_1 + \text{export volume}_2 \times \text{price}_2 + \dots + \text{export volume}_n \times \text{price}_n) / (\text{export volume}_1 + \text{export volume}_2 + \dots + \text{export volume}_n)$.

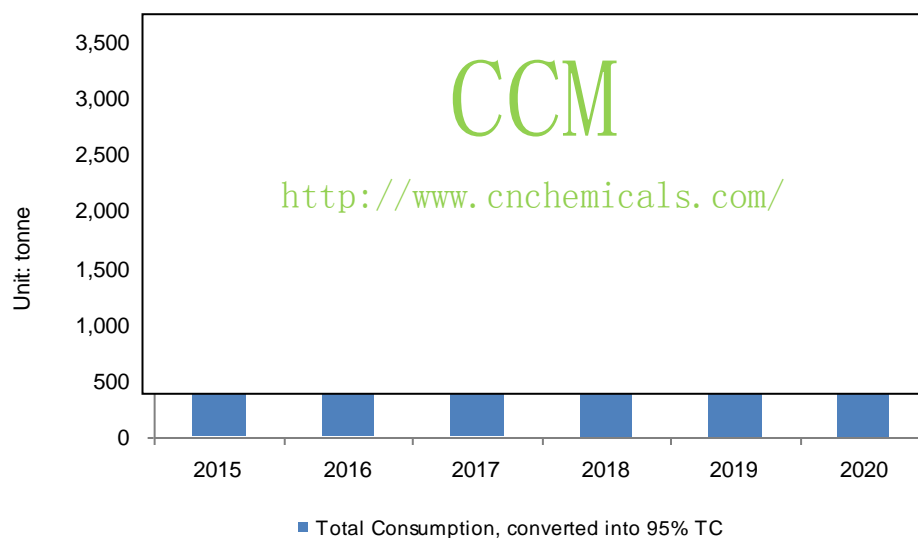
3. 95% TC is the dominant specification of glufosinate-ammonium technical produced and exported in China, while 200g/L AS is the dominant specification of Chinese glufosinate-ammonium formulations.

Source: China Customs & CCM

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6 Domestic consumption

Figure 6-1 Consumption of glufosinate-ammonium in China, 2015–2020



Note: 1) The consumption in this figure is all the specifications' consumption converted to 95% TC, including both technical and formulations of glufosinate-ammonium.

2) The consumption of the specification converted in 95% TC = the actual consumption of the specification * its content rate of active ingredient of glufosinate-ammonium / 0.95.

3) The resulting consumption is rounded up.

Source: CCM

Table 6-2 Application parameters of glufosinate-ammonium in main target crops in China, 2019

Crop	Annual application frequency	Usage, g(AI)/ha	Rate per application
Orchard	XXX	XXX	XXX
Vegetables	XXX	XXX	XXX
Corn	XXX	XXX	XXX
Wheat	XXX	XXX	XXX
Tea	XXX	XXX	XXX
Rubber	XXX	XXX	XXX
Cotton	XXX	XXX	XXX
Sugarcane	XXX	XXX	XXX

Source: CCM

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