

Outlook for China Glyphosate Industry 2024–2028

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1. Introduction

2. Approach for this report

The research for the report is carried out by the following steps:

-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 went into compiling and analyzing the information obtained. Where necessary, checks were made with the Chinese suppliers regarding market information such as production, demand, use, competition, etc.

-Telephone interview

The interviewees cover:

- Producers
- Agricultural experts
- Traders
- Local governments
- Researchers
- Associations
- Equipment suppliers
- Raw material suppliers

CCM carried out extensive telephone interviews with all manufacturers of glyphosate technical and PMIDA producers as well as some producers of glyphosate formulations. Detailed production information and market situation were sourced and verified. Furthermore, players' comments on glyphosate industry were obtained.

For directly analysing the imports and exports of glyphosate technical, its formulations and PMIDA, many importers and exporters were contacted whenever the verification was needed.

Raw material (glycine, DEA, IDAN, PMIDA, etc.) suppliers were also contacted to help understand the price, supply as well as governmental policies on raw materials and their impact on the glyphosate industry.

-Export analysis

Analysis of export data (HS code XXXXXXXXX, XXXXXXXXX, XXXXXXXXX and XXXXXXXXX) from the China Customs helps work out China's exports of glyphosate (glyphosate technical, glyphosate formulations and PMIDA) by producer, trader and destination.

-Data processing and presentation

The data collecting and complying are sourced from:

- Published articles from Chinese periodicals, magazines, journals, the third-party database
- Government statistics & customs statistics
- Telephone interviews with Chinese producers, traders, governments and farmers
- Comments from industrial experts
- CCM's database
- Professional database in other sources
- Information from internet

The data from various ways have been combined 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 it.

-Report generation

Logical analysis and scientific ratiocination were conducted to generate the report, such as supply & demand analysis and cross-checking of all data. All the data and findings obtained through the above methods will be presented in the report clearly.

-Glossary

In this report, there are many abbreviations for formulation type and glyphosate-related products, including various glyphosate formulations, glyphosate technical, intermediates/raw materials, etc. They are listed as follows:

AEA: aminoethanoic acid (glycine)

IDA: iminodiacetic acid

IDAN: iminodiacetonitrile

DEA: diethanolamine

HCN: hydrocyanic acid

DMP: dimethyl phosphite

PCLX: phosphorus trichloride

PMIDA: N-(phosphomethyl) iminodiacetic acid

IPA: isopropylamine

AI: active ingredient

SP: soluble powder

SL: soluble concentrate

WSG: water soluble granule

CAGR: compound annual growth rate

COD: chemical oxygen demand

BOD: biochemical oxygen demand

If not specified, glyphosate tech. (technical) in this report refers to glyphosate acid with a content of XX%, and glycine refers to industrial grade (tech-grade) glycine with a content of XX%.

-Unit

RMB: currency unit in China, also called yuan

USD: currency unit in the US, also called US dollar

Tonne: equals to metric ton in this report

/t: per tonne

t/a: tonne/annual, tonne per year

t/d: tonne per day

Note: As for the export data in this report, the export volumes in tonne were converted from those in kg and then rounded, influencing by this, totals in the tables may slightly differ from those calculated without decimal places.

Source: CCM

Source: The People's Bank of China

3. Executive summary

Glyphosate, the key active ingredient of Roundup, is one of the most commonly sold herbicides on the market today. With rapidly increasing demand, glyphosate has shared about X.XX% of the global herbicide market in terms of sales volume in XXXX. (随着需求的快速增长, XXXX 年草甘膦在全球除草剂市场的销售量份额约为 X.XX%。)

- Position of Chinese glyphosate in the world

China is the largest production base of glyphosate technical in the world and has been supplying over XX% of the global production of glyphosate. The output of glyphosate TC was about XXX,XXX tonnes in XXXX (converted to XX% technical), XX% of which was exported.

- Production

The domestic output of glyphosate technical increased greatly from XXX,XXX tonnes in XXXX to XXX,XXX tonnes in XXXX, and since XXXX, it has fluctuated around XXX,XXX tonnes.

Glyphosate production adopting the AEA pathway remains dominant in China, with its output reaching XXX,XXX tonnes and taking up XX.XX% of national total in XXXX.

In the past few years, the domestic production of glyphosate technical tended to transfer from East China to Central China (Hubei Province) and Southwest China (Sichuan Province), and North China (Inner Mongolia Region). The output of glyphosate technical in Sichuan, Hubei, and Inner Mongolia increased from less than XXX,XXX tonnes before XXXX, to over XXX,XXX tonnes in XXXX.

The number of glyphosate technical producers in China (both active and idle are included) declined from over XX in XXXX to only XX in XXXX, which was caused by stricter environmental protection requirements and fierce competition.

Chinese glyphosate industry is dominated by the companies that own the latest technology, large-scale production capacity, strong financial and sales strength and a complete industrial chain, etc. Leading producers of glyphosate technical in the country include Fuhua Tongda (XXX,XXX t/a), Hubei Trisun (XXX,XXX t/a), Zhejiang Wynca (XX,XXX t/a), Nantong Jiangshan (XX,XXX t/a), Jiangsu Good Harvest (XX,XXX t/a), Leshan Hebang (XX,XXX t/a glyphosate technical, XXX,XXX t/a PMIDA), Jiangsu Yangnong (XX,XXX t/a), etc.

- Export

Glyphosate is one of the largest export commodities in the pesticide sector in China regarding both volume and value, China's glyphosate industry highly depends on the overseas market. Besides, China is the largest exporter of glyphosate in the world.

The major export destinations of Chinese glyphosate technical are Argentina, the US, Brazil, Malaysia, Indonesia, Australia, and Russia, and the major destinations of glyphosate formulations are Australia, Vietnam, the US, Ghana, Nigeria, Russia, Brazil, Uruguay, the Philippines, Japan, Mexico, Indonesia, Ukraine, etc.

The main exporters of glyphosate formulation in China include Xingfa (Shanghai) International Trade Co., Ltd., Shandong Weifang Rainbow Chemical Co., Ltd., Zhejiang Wynca Chemical Industrial Group Co., Ltd., etc. The main exporters of glyphosate technical in China include Fuhua Tongda Agro-Chemical Technology Co., Ltd., Nantong Jiangshan Agrochemical & Chemicals Co., Ltd., etc.

- Demand

Glyphosate has taken an irreplaceable position in the control of weeds in China, and its consumption grew at a CAGR of X.X% in XXXX–XXXX, reaching about XXX,XXX tonnes (converted to XX% technical) in XXXX.

In China, glyphosate is quite important for the weeding in orchards, vegetables, wasteland reclamation and traditional crop fields in the period of pre-seeding. Orchard is the largest consumption field of glyphosate, with a demand share of about XX.XX% in XXXX, followed by vegetables, corn, rice, wheat, tea, rubber, etc.

- Production technology

There are two pathways for glyphosate production in China including the iminodiacetic acid (IDA) pathway and the aminoethanoic acid (AEA) pathway. According to the starting raw material, the former can also be subdivided into two routes, namely the diethanolamine (DEA) route and the iminodiacetonitrile (IDAN) route.

The IDA pathway had been developing rapidly in XXXX–XXXX, and many domestic companies set up glyphosate technical production lines adopting the IDA pathway, especially the IDAN route. After that, the DEA route showed a downtrend with the number of producers decreasing from XX in XXXX to only X in

XXXX because of the strong competitiveness of the IDAN route stemming from its advantages such as low cost, sufficient IDAN supply, etc.

The AEA pathway is widely adopted in China's glyphosate industry. In XXXX, the capacity of glyphosate technical by this pathway was about XXX,XXX t/a, accounting for XX.XX% of China's total capacity.

- Price

The annual average ex-works price of XX% glyphosate technical kept decreasing, from USDX,XXX/t in XXXX to USDX,XXX/t in XXXX, and then rebounded significantly, reaching USDX,XXX/t in XXXX. However, in XXXX and the first half of XXXX it was again on a downward trend, and as of July XXXX, the price reached USDX,XXX.XX/t.

4. What is in the report?

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

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3.1 Economic environment

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Table 3.1-1 China's policies to boost farmers' income in recent years

Item	Content
XXXXXXXXXXXXXXXXXXXX	XXXXXXXX subsidies XXX XXXXX XXXXXXXXXXXX XXXXXXXXXXX XXXXX XXXXXXXXXXXXXXXX mechanisation XXX XXXXXXXXXXXX XXXXX XX XXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXX	XXXXXXXX XXXXXXXXXXX XXXXXXX XXX XXXXXXXXXXXX XX XXXXXXX XXXXXXXXXXXXXXXX XXXXXXXXXXX XXXXXXX XXXXXXXXXXXX XX XXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX XXXXXXX XXXXXXXXXXX XXXXXXX XXXXXXXXXXXX XXX XXXXXXX XXXXXXX
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XXXXXXXXXXXX XXXX	Protect XXXXXXXXXXX XXXXX XXXXXXXXXXX XXX XXXXXXX
XXXXXX	XXXXXXXXXXXX XXX XXXXXXXXXXX XXX XXXXXXXXXXX XX XXXXXXXXXXXXXXX XXXXXXXX XXXXXXX

Source:CCM

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3.2 Government policy

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- Policies on export

China's export tax rebates on glyphosate and PMIDA have been cancelled since XX July, XXXX and X Jan. , XXXX respectively.

...

- Unfavourable policies on glyphosate enterprises

Newly constructed glyphosate technical installations have been listed as a restricted project in the *Catalogue for Guiding Industry Restructuring* (XXXX Version), which means that no new glyphosate technical projects have been permitted in China since May XXXX.

Among all the policies, the impact of environmental policies is the most direct and significant for the Chinese glyphosate industry at the time being, because the increasingly stricter environmental policies have led to a significant increase in the production cost of the product during the past few years.

Based on *the Guidance of Industrial Structure Adjustment* (XXXX Version), glyphosate production equipment continues to be categorised as restricted, and highly toxic pesticide products including AS containing less than XX% glyphosate, are phased out. As early as Oct. XXXX, National Development and Reform Commission released the revision of the *Guidance Catalogue for Industrial Structure Adjustment* (XXXX Edition), which proposed the phase-out of XX% glyphosate AS. In order to comply with the environmental protection requirements of economic development, the low concentration of glyphosate AS will be gradually phased out, and the high concentration of glyphosate DP, GR or other green and efficient formulations enjoy more space for development.

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4.6 PMIDA

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Before XXXX, domestically produced PMIDA (circulated in the market) was mainly for export. Since then, especially after the launch of Leshan Hebang's XXX,XXX t/a PMIDA installations, some domestic producers of glyphosate technical started to purchase homemade PMIDA instead of IDAN to produce glyphosate technical because of shortened production flow, reduced waste discharge, low cost with PMIDA as starting material, and more and more PMIDA supply. Therefore, the domestic output of PMIDA

(circulated in the market including both for domestic sales and export) increased rapidly from XXX,XXX tonnes in XXXX to XXX,XXX tonnes in XXXX, with a CAGR of XX.X%.

The output grew slowly in XXXX–XXXX, reaching XXX,XXX tonnes in XXXX. In XXXX–XXXX, the output dropped significantly, to less than XXX,XXX tonnes in XXXX, and the number of producers decreased from eight in XXXX to three in XXXX. Among the producers, only Leshan Hebang have established a complete integrated chain of glyphosate (IDAN route), with a market share of more than XX%. This is mainly due to its advantages of easy access to natural gas and low raw material costs.

On XX April, XXXX, Leshan Hebang announced that it was planning to invest RMBXX.X billion to build XXX,XXX t/a PMIDA production line; On XX October, XXXX, the project commenced construction in the Xinqiao Chemical Industry Park in Guang'an City, Sichuan Province.

In Nov. XXXX, Shandong Ruili Biotechnology Co., Ltd. announced to build a XX,XXX t/a PMIDA project in Dongying Port Economic Development Area, which was proposed to come into operation in July XXXX.

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5.1 Glyphosate registration situation

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Table 5.1-1 Registrations of glyphosate in China as of June 2024

Specification		Number of registration						
		Aug. 2017	Oct. 2018	Dec. 2019	Feb. 2021	March 22	March 23	June 2024
XXXXXX XXXXXXXXXXXXXX	XXXXXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
	XX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
	XXXXXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
XXXXXX XXXXXXXXXXXXXXXX		XXX	XXX	XXX	XXX	XXX	XXX	XXX
XXXXXXXXXX		XXX	XXX	XXX	XXX	XXX	XXX	XXX
XXXXXX		XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX

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

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Table 5.1-2 Registrations of glyphosate technical by AI in China, as of June 2024

Active ingredient	Number of registration
XXXXXXXXXX XXXX	XXX
XXXXXXXXXX XXXXXXXX	XX
XXXXXXXXXX XXXXXXXXXXXXXXXX	X
XXXXXXXXXX XXXXXXXX	X
XXXXXXXXXX XXX	XX
XXXXX	XXX

Source: ICAMA & CCM

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5.2.1 Total supply

In XXXX, the domestic capacity of glyphosate technical was XXX,XXX t/a, and the output decreased to XXX,XXX tonne.

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6.2 Trade barriers involving Chinese glyphosate

In recent years, China's international trade has faced challenges, mainly from anti-dumping and tariff barriers.

Anti-dumping

Many countries and regions, such as Australia, Brazil and the EU, have implemented anti-dumping investigations against Chinese glyphosate products in order to protect their own glyphosate industry. Most initiations of such investigations concentrated before XXXX, and by now, Chinese glyphosate industry has basically overcome obstacles caused by the anti-dumping tax and stays competitive in the global market.

Tariff barriers

The US-China Trade War of XXXX has resulted in a XX% additional tariff of the US on USDXX billion worth of imports from China and China's responsive XX% tariffs on some of the US's goods, which is accompanied by price increase and volume decline of China's soybean imports from the US, and has had

impacted the US's demand for Chinese glyphosate with increasing soybean stock in the country. China is the world's largest soybean importer. Before the US-China trade conflict, China registered about one-third of its soybean imports from the US, which represented about XX% of the US's total soybean exports.

Though weakening glyphosate trade between China and the US, the tariff barriers have induced China's attention to upgrade its agricultural production of soybean, corn and other crops, to reduce its imports, and has facilitated China's trade relations with other countries, for example with the major exporters of agricultural products Brazil.

Brazil is one of the three major soybean-producing countries in the world, accounting for about XX% of the world's soybean stock, and is now China's biggest soybean trading partner. The acreage of soybeans in Brazil has continued to increase in recent years, exceeding XXX million acres for the first time in XXXX, which will help improve China's exports of glyphosate products to Brazil. Additionally, Brazil adjusted the anti-dumping tax rate on glyphosate products imported from China in XXXX, gradually reducing it to X.X% with a specified validity period. This policy change facilitates the entry of Chinese glyphosate products into the Brazilian market, although its effectiveness may be impacted by exchange rates and other factors. Nevertheless, in the long run, it is expected to benefit Chinese glyphosate producers in their efforts to expand in Brazil.

6.3 Export situation of PMIDA and glyphosate

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Table 6.3-1 Export value of glyphosate and PMIDA in China, 2019–2023

Year	Export value, million USD		
	Glyphosate technical	Glyphosate formulations	PMIDA
XXXX	XXXXXX	XXXXXX	XXX
XXXX	XXX	XXX	XX
XXXX	XXXXXX	XXX	XXX
XXXX	XXXXXX	XXX	XXX
XXXX	XXXXXX	XXXXXX	XX

Source: China Customs & CCM

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7.1 Price changes in the past and key factors

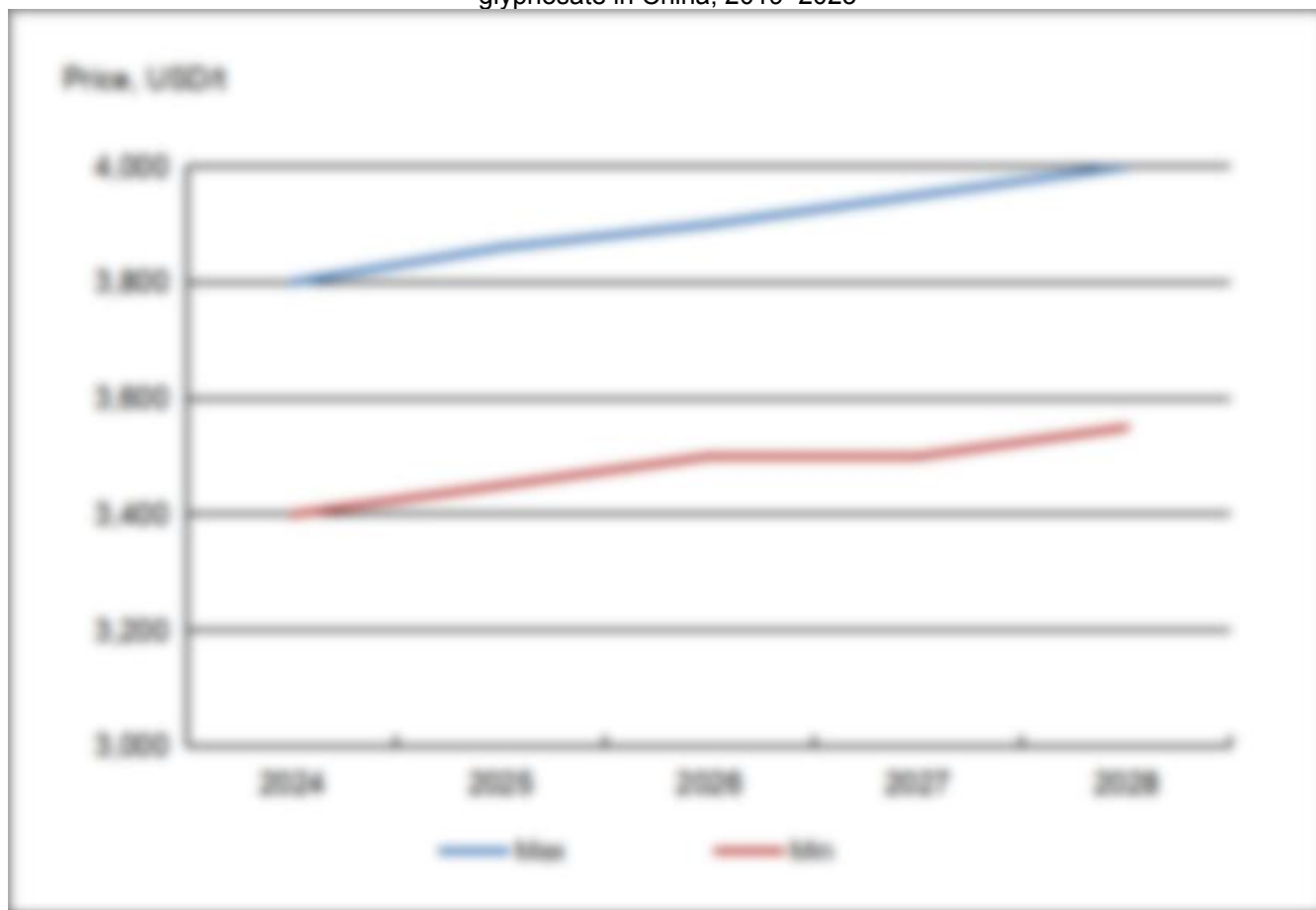
...

- Supply and demand

Since around XX% of the glyphosate products made in China are exported annually, the demand for glyphosate technical overseas influences the ex-works price in China. Though China plays an important role in the global glyphosate market (the capacity of glyphosate technical in China was about XXX,XXX t/a, and that beyond China was less than XXX,XXX t/a as of XXXX), its bargaining power is relatively weak because China's glyphosate formulations are less competitive in overseas market.

In XXXX, overseas buyers stocked up excessively, leading to an oversupply in the market. Consequently, demand for China's glyphosate TC slowed down in the first half of XXXX. In HX XXXX, with stocks nearly depleted and overseas demand for replenishment surging, the ex-works price of glyphosate TC saw a short-term rise in QX. However, lacking substantial demand, the price eventually dropped again by the end of XXXX, despite Chinese glyphosate TC producers reducing their operating rates to varying extents.

Figure 7.1-1 Annual average ex-works price of glyphosate technical and annual export volume of glyphosate in China, 2019–2023



Note:1. Export volume of glyphosate covers both technical and formulations.2. All the export data here are calculated by 100% AI volume.

Source:China Customs & CCM

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8.1 Introduction of AEA pathway

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Table 8.1-1 Raw material costs of AEA pathway for glyphosate technical production in China, March 2024

Item	Unit consumption, t/t	Price, USD/t	Unit cost, USD/t
XXXXXXXXXXXXXXXXXXXX	XXXX	XXXXX	XXX
XXXXXXXXXXXXXXXXXXXX	XXXX	XXXXX	1,678
XXXXXXXXXXXXXXXXXXXX	XXXX	XXX	XXX
XXXXXXXXXXXXXXXXXXXX	XXXX	XXXXX	XX
XXXXXXXXXXXX	XXXX	XXX	XXX
XXXXXXXXXXXXXXXXXXXX	XXXX	XX	XX
XXXXXX XXXXXXXX XXXXX	XXXXX	XXX	XXXX
XXXXX	X	X	2,964

Note: The unit price is not only based on the ordinary market price but also the degree of economic scale, operating rate and backward integration of glyphosate manufacturers.

Source:CCM

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9.2 Position and market size of glyphosate in herbicide industry

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As a non-selective herbicide, after so many years' promotion, glyphosate has taken an irreplaceable position in the weeding for orchard, wasteland reclamation and traditional crop fields in pre-seeding period. Its consumption grew at a CAGR of X.XX% in XXXX–XXXX, reaching about XXX,XXX tonnes (calculated by XX% technical) in XXXX accounting for XX.XX% of the total herbicide consumption in China (converted to the most frequently used technical of each herbicide).

In XXXX, the most popular herbicides in China with annual consumption volume exceeding X,XXX tonnes each (calculated by XXX% technical) included glyphosate, acetochlor, atrazine, X,X-D, and butachlor; among which, those with annual consumption volume of above XX,XXX tonnes each were glyphosate, acetochlor, atrazine and X,X-D.

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9.3.2 By crop

From XXXX to XXXX, there was little change in the crop planting area in China. The main crops include corn, rice, wheat, beans and cotton, with the total planting area accounting for about XX.XX% of the total in XXXX.

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10.5 Jiangsu Good Harvest-Weien Agrochemical Co., Ltd.

Address: Binjiang Fine Chemical Park, Qidong City, Jiangsu Province, P. R. China

Postcode: XXXXXX

Tel: +XX-XXX-XXXXXXXX

Fax: +XX-XXX-XXXXXXXX

Email: wechem@pub.nt.jsinfo.net

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