

China's designated chemical parks for pesticide production

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Executive summary

In recent years, the Chinese government has proposed to strengthen the planning and guidance of China's chemical industry, carry out the identification and regulations of chemical parks and industrial transfer parks, and provide subsidies and other incentives for enterprises that relocate their business. By Sept. 2022, there are 597 designated chemical industrial parks/clusters in China.

Researches on 27 provinces/cities showed that chemical parks located in outside eastern provinces have greater potential for pesticide enterprises to develop sustainable large-scale projects in terms of land costs and resources. However, China's pesticide production capacities have been mainly distributed in Jiangsu Province, Zhejiang Province and Shandong Province for years, where stricter environmental protection supervision prevails. Three factors set the tone in entrance assessment for designated industrial parks in major agrochemical production bases, which are environmental protection, production safety and construction of industrial chains.

Since the end of 2018, production enterprises in China's pesticide industry have actively responded to national industrial planning policies and accelerated their external expansion. CCM's primary research ending September also shows that 59 (planning, constructing and operational) projects were located in China's designated chemical parks in Q1–Q3 2022. In addition, 28 technical products are underscored, including glufosinate-ammonium, diquat, clethodim and prothioconazole, etc.

Methodology

The report is drafted by diverse methods as follows:

- 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.

- Internet

CCM contacted with players in the domestic agrochemical industry through B2B websites and software as well as obtained registration information on the internet.

- Data processing and presentation

The data collected and compiled are sourced from:

- CCM's database
- China Customs
- 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 General situation of designated chemical parks in China

1.1 Policy trend of pesticide production

On 29 Jan., 2022, the Ministry of Agriculture and Rural Affairs of the People's Republic of China (MARA) and other departments officially published the *14th Five-year Plan for Pesticide Industry Development* (hereinafter referred to as the Plan). According to the Plan, efforts should be made in five directions to build up the comprehensive strength and sustainability of China's chemical industrial parks with a goal of facilitating the leap from standardised development to high-quality development in 2021–2025.

I. Promote the development of industrial clusters, and optimise & upgrade industrial structure in chemical parks

- Coastal area: Give full play to the geographical advantage, and develop a number of high-quality coastal petrochemical bases, especially large petrochemical parks with international influence in Daya Bay (Guangdong), Shanghai and Ningbo (Zhejiang).
- Inland area: Rely on resources advantage to develop a number of inland petrochemical bases, especially demonstration parks with prominent characteristics or going through industrial transformation and upgrade in Nanjing (Jiangsu), Shijiazhuang (Hebei) and Wuhai (western Inner Mongolia).
- Western region: Focus on the construction of four large-scale modern coal chemical industry bases in Ningdong (Ningxia), Yulin (Shaanxi), Ordos (western Inner Mongolia) and Zhundong (Xinjiang), strengthen the comprehensive utilisation of coal and foster demonstration zones of advanced coal chemical industry.

II. Strengthen the guiding role of planning and norms and implement access management system

The goal of industrial transformation and upgrading in chemical industrial parks is to rationally plan specialised industries, extend the industrial chain, encourage differentiated development, as well as build synergy, and apply energy supply and resources recycling between upstream and downstream companies in a park.

Introduce access management system and withdrawal mechanism, and encourage upgrade and transformation in enterprises in parks. Projects allowed to enter the parks should conform to requirements of the national industrial policies and the industrial plans of individual chemical park. Furthermore, hierarchical management of chemical parks in key provinces should be put in place.

III. Enhance risk prevention and control capability

Quantitative risk assessment and environmental impact assessment for chemical parks should be carried out. Three-tiered risk control system for production devices, enterprises and parks should be established and overall emergency plans be formulated, so as to reduce the possibility of major pollution accidents. The following establishments are essential, namely, professional institutions for safe production and environmental protection, safety supervision records of enterprises in park, as well as tiered risk control and hidden trouble investigation and management work arrangement. At the same time, a communication mechanism should be worked out with surrounding towns and communities, including release the information of industrial development prospect and environmental protection results to the public and accept supervisions from government agencies, the public and peer enterprises.

IV. Cultivate specialised and efficient management and services

Chemical industrial parks should improve on the mode of "government supervision + corporate-like services", to transform themselves from government-led parks to government-guided and market-led ones. Equip them with big data technology to push forward evolution. Speed up data connection between information systems in parks and public database, in order to gradually realise intelligent early warning on and analysis of production safety, environmental protection, emergency, energy consumption, logistics, and other public services.

V. Set demonstration projects to encourage overall high-quality improvement

Push forward the set-up of a standardisation system. By 2025, a number of high-quality demonstration

projects will be fostered, which have excellent management, good industrial coordination and strong innovation capacity, supported by large-scale, high-efficiency and high-level key projects, as well as by advanced producer service sector. And regard enhancing innovation ability as an important indicator and direction in improving the quality of chemical parks; by 2025, there will be at least 50 science and technology innovation centers in the parks.

1.2 Designated chemical parks in China, as of Sept. 2022

In China, the chemical parks have been improved through standardised development. On 28 Dec. 2021, the Ministry of Industry and Information Technology (MIIT) of the People's Republic of China, the Ministry of Natural Resources (MNR) of the People's Republic of China and other departments jointly issued the *Construction Standards of Chemical Parks, and Measures for Accreditation and Management of Chemical Parks (trial implementation)*. Since then, China has made great efforts to standardise construction, enhance evaluation and recognition management for the safe and green development of chemical parks.

By Sept. 2022, there are 597 identified (known as "designated" locally) chemical industrial parks/clusters—meaning they are in accordance with the related policies and standards for high-quality development—across 27 provinces/cities. Thereinto, 46% are located in Shandong, Zhejiang, Hubei, Henan and Anhui provinces; 57% are in East and Central China.

Table 1.2-1 Number of designated chemical industrial parks/clusters in China by province/autonomous region/municipality, as of Sept. 2022

No.	Province / Autonomous Region / Municipality	Number
1	Shandong Province	84
2	Zhejiang Province	52
3	Hubei Province	51
4	Henan Province	47
5	Anhui Province	40
6	Jiangsu Province	29
7	Hebei Province	29
8	Jiangxi Province	26
9	Fujian Province	25
10	Sichuan Province	23
11	Liaoning Province	22
12	Shaanxi Province	21
13	Gansu Province	15
14	Yunnan Province	15
15	Inner Mongolia Autonomous Region	14
16	Heilongjiang Province	14
17	Jilin Province	13

No.	Province / Autonomous Region / Municipality	Number
18	Guizhou Province	12
19	Guangxi Zhuang Autonomous Region	11
20	Chongqing Municipality	11
21	Hunan Province	10
22	Ningxia Hui Autonomous Region	10
23	Shanxi Province	10
24	Xinjiang Uygur Autonomous Region	7
25	Hainan Province	3
26	Tianjin Municipality	2
27	Beijing Municipality	1
Total		597

Source: CCM

Table 1.2-2 Number of designated chemical industrial parks/clusters in China by geographic region, as of Sept. 2022

No.	Geographic region	Provinces	Number
1	East China	5	231
2	Central China	3	108
3	Southwest	4	61
4	North China	5	56
5	Northwest	4	53
6	Northeast	3	49
7	South China	3	39
Total		27	597

Source: CCM

2 Comparison of chemical parks in eastern agrochemical provinces

2.1 Land costs and recourses for chemical parks

In China, the number of chemical parks in many provinces, especially in the eastern coastal region, is declining. Those stay on facing varying difficulties, including limited resources of land and energy, rising costs for operation and labour force, as well as insufficiency in addressing environmental pollution and production safety problems, along with restrictions on new projects or expansion.

Chemical parks in the central, western and northeast regions are growing in number, mainly due to relocation and transformation of Chinese chemical enterprises attracted by lower land cost, vast resources of all kinds and supportive government policies. CCM's recent research on more than 27 provinces/cities shows that chemical parks located outside eastern provinces have greater potential for pesticide enterprises to develop sustainable large-scale projects in terms of land costs and resources.

In addition, the western industrial parks which enjoy exemptions from rent for a certain period of time and preferential taxation, and Wuhai City of Inner Mongolia and Alxa High-tech Industrial Development Zone, as well as Guang'an City of Sichuan Province, where the land costs are lower than USD0.2 million/ha and large areas for industrial/commercial use.

Table 2.1-1 Land cost in chemical parks around China, as of Sept. 2022

No.	Province /Region	Address of chemical park	Unit price of industrial land, '000 USD/ha	Industrial land available, ha	Unit price of commercial land, '000 USD/ha	Commercial land available, ha
1	Zhejiang Province	Ningbo City	1,390.56	319.57	8,689.93	20.49
2	Shaanxi Province	Pucheng County	1,307.74	11.20	7,704.77	4.11
3	Jiangxi Province	Leping Town	1,118.12	119.29	9,093.15	0.70
4	Hebei Province	Shijiazhuang City	734.51	592.72	4,932.36	73.97
5	Shandong Province	Shanghe County	610.28	5.75	6,172.53	1.25
6	Shandong Province	Liaocheng City	407.58	248.41	1,320.82	53.22
7	Jiangsu Province	Rudong County	405.40	82.41	3,116.78	40.34
8	Anhui Province	Anqing City	396.68	332.26	3,075.37	7.57
9	Liaoning Province	Huludao City	372.71	58.87	2,210.08	0.95
10	Guangdong Province	Nanxiong, Shaoguan City	320.40	11.41	/	/
11	Shandong Province	Wenshang Town	309.50	104.67	2,282.01	13.83
12	Anhui Province	Huaibei City	298.60	194.35	3,476.41	2.99
13	Hubei Province	Yidu City	292.06	155.71	1,307.74	34.13
14	Jiangsu Province	Huaian City	287.70	497.31	1,998.66	19.05
15	Henan Province	Zhumadian City	257.19	290.73	2,018.28	83.33
16	Liaoning Province	Fuxin City	252.83	34.79	536.17	1.91

No.	Province /Region	Address of chemical park	Unit price of industrial land, '000 USD/ha	Industrial land available, ha	Unit price of commercial land, '000 USD/ha	Commercial land available, ha
17	Heilongjiang Province	Anda Town	228.85	25.95	1,525.70	0.50
18	Hubei Province	Jingmen County	222.32	540.93	2,035.72	44.95
19	Jiangsu Province	Xinyi City	209.24	182.01	/	1.96
20	Heilongjiang Province	Jiamusi City	198.34	115.75	584.12	0.66
21	Sichuan Province	Guang'an City	189.62	112.53	/	6.11
22	Jiangxi Province	Yongxiu County	176.54	48.43	8,506.85	9.19
23	Guangxi Zhuang Autonomous Region	Guigang City	172.19	228.24	826.06	29.98
24	Inner Mongolia Autonomous Region	Wuda Industrial Park, Wuhai City	126.41	241.65	2,037.90	4.31
25	Inner Mongolia Autonomous Region	Alxa High-tech Industrial Development Zone	91.54	270.09	289.88	31.93
26	Gansu Province	Yumen East Town	89.36	50.89	706.18	0.84

Source: CCM

-Maintenance cost of production bases, Jiangsu Province vs Shandong Province vs Zhejiang Province

Take a look at three parks (namely, Huai'an High-tech Industrial Development Zone (Jiangsu), Weifang Binhai Chemical Industrial Park (Shandong) and Huzhou Moganshan High-tech Industrial Development Zone (Zhejiang)) in the following table. Pesticide producers located in Zhejiang Province would cost most compared with their counterparts in Jiangsu Province or Shandong Province. More money for parks located in the latter provinces are needed on land and taxes, natural gas, and treatment of water pollutants, etc.

Table 2.1-2 Item cost in selected chemical parks of Jiangsu, Shandong and Zhejiang, as of Sept. 2022

No.	Item	Unit	Huai'an High-tech Industrial Development Zone, Jiangsu	Weifang Binhai Chemical Industrial Park, Shandong	Huzhou Moganshan High-tech Industrial Development Zone, Zhejiang
1	Water	USD/m ³	0.50	0.46	0.65
2	Electricity	USD/kw·h	0.12	0.10	0.13
3	Natural gas	USD/m ³	0.46	0.36	0.49
4	Steam	USD/tonne	31.97	32.69	29.79
5	Water pollutant	USD/tonne	0.16	0.12	0.28
6	Usufruct Tax for land	'000 USD/ha	217.96	653.87	784.64
7	Land	'000 USD/ha	187.44	274.63	653.87

Source: CCM

2.2 Process status of three eastern provinces in 2021

Most Chinese pesticide enterprises are concentrated in the east coastal, central and western regions, and the latter two became more and more popular these years. Besides the higher environmental protection requirements, soaring land price in the eastern coastal cities is one of the main reasons for the industrial relocation to the central and western regions in the country.

In 2021, Jiangsu, Shandong and Zhejiang Provinces had 2,400, 2,350 and 1,703 industrial enterprises "above designated size" (meaning their annual revenue equating to/above RMB20 million), respectively. Jiangsu Province's chemical production enterprises earned total revenues of USD125.83 billion, the largest amount among them.

Table 2.2-1 Comparison of Jiangsu, Shandong and Zhejiang, as of 2021

Item	Jiangsu	Shandong	Zhejiang
Distribution of chemical parks	29	84	52
Number of chemical production enterprises above designated size, 2021	2,400	2,350	1,703
Total revenue in 2021, billion USD	125.83	120.21	81.35

Source: CCM

Table 2.2-2 Parks listed in the 2021 China's Top 30 Chemical Industry Parks in Jiangsu, Shandong and Zhejiang

No.	Jiangsu	Shandong	Zhejiang
1	Nanjing Jiangbei New Materials Science and Technology Park	Qilu Chemical Industry Zone	Ningbo Petrochemical Economic and Technological Development Zone
2	Taixing Economic Development Zone	Dongying Port Chemical Industry Park	Ningbo Daxie Development Zone
3	Yangzhou Chemical Industry Park	Jining Chemical Industry Park	China Chemical New Materials (Jiaxing) Park
4	Jiangsu Yangzijiang International Chemical Industry Park	Yantai Chemical Industry Park	Hangzhou Bay Shangyu Economic and Technological Development Zone
5	Changzhou Binjiang Economic Development Zone	Liaocheng Chemical Industry Park	Quzhou National High-tech Industrial Development Zone
6	High-tech Fluorine Chemical Industry Park	/	/
7	Zhenjiang New District New Materials Industrial Park	/	/
8	Lianyungang Petrochemical Base	/	/
9	Rudong County Yangkou Chemical Industry Park	/	/

Source: CCM

2.3 Factors in chemical park assessment

China's policies and regulations for industrial parks come down to one, the standards for evaluation of whether the industrial enterprises could enter the designated park and whether they could continue to stay, and another, guidance for local governments and park management departments to improve the management level and upgrade the overall park production. Three primary factors in assessment of chemical parks in the country's major agrochemical production bases are environmental protection, production safety, as well as infrastructure conditions throughout industrial chains.

2.3.1 Environmental protection

The eastern region is the traditional pesticide production area in China, represented by Jiangsu, Shandong and Zhejiang provinces in terms of production scale and technological level. Policies for environmental protection in chemical parks in these three provinces are closely related to forbidden area, emission & discharge of pollutants, measure & capability for pollution prevention and control.

Table 2.3.1-1 Environmental protection considerations in chemical parks in Jiangsu, Shandong and Zhejiang, as of 2021

Item	Jiangsu	Shandong	Zhejiang
Forbidden area	Permanent farmland	Village, school	School, hospital, residential area
	Ecological redline area	Prevailing wind direction area	Ecological redline area
	Within 1km range of the coastline of the main stream & tributaries of the Yangtze River	Inter-reaction zone between enterprises in the park	
	Natural reserve	/	/
	First-grade protection zone of drinking water source		
	Protection zone of aquatic products and germplasm resources		
	National wetland park		
Emission & discharge control	Set the total emission quota of major pollutants	Control wastewater concentration before discharge	The discharge of wastewater, waste gas and solid pollutants shall be below the national standards.
	Ban volatile organic compounds (VOC)	Control air pollutant concentration and emission;	
		Control concentration and chemical oxygen demand (COD) discharge of major pollutants, ammonia nitrogen, nitrogen and phosphorus;	
	Acquire sewage discharge permit or registration		
Measures & capabilities for pollution prevention and control	Projects without measures for the utilisation & disposal of hazardous waste will be banned.	The park shall build hazardous waste disposal facilities, and lay out disposal flow of hazardous waste from generation, storage, transfer, utilisation to being treated.	The construction and operating rate of centralised sewage treatment facilities / waste gas treatment facilities / safe utilisation & disposal rate of hazardous waste shall be assessed.
	Projects producing large amount of hazardous waste or without own capability of treating waste shall be examined closely and work responsively with district- and city-level governments.		Enterprises are required to submit: 1. Statistical table of temporary storage, treatment and disposal of hazardous waste 2. Name and business license 3. Description of assessment standards for hazardous waste

Source: CCM

Jiangsu Province: In nearby areas of chemical parks and those easily affected places in the park, atmospheric monitoring stations should be deployed to check on non-methane hydrocarbon, particular pollutants and other inorganic poisonous gases. On the land vacated after company closure or relocation, risk survey and restoration work should be carried out. Heavily-polluted land or those unsuitable for development should never be allowed to come into the market.

Shandong Province: Chemical parks should achieve 100% safe disposal for hazardous waste. Concentrated supervision system of safety and environmental protection should be set up. Keeping a track of the underground water quality and the normal operation of such a monitoring work should be guaranteed, as required by review reports of environment impact appraisal.

2.3.2 Production safety

Considering safety risk factors in chemical parks, Jiangsu, Shandong and Zhejiang provinces took strict measures, while parks in these three provinces must reach the safety risk level of C or D.

Table 2.3.2-1 Safety risk considerations in chemical parks of Jiangsu, Shandong and Zhejiang provinces, as of 2021

Province /Region	Safety risk
Jiangsu	The safety risk level of the park must reach C or D. If it still fails to reach C (moderate safety risk) or D (low safety risk) by the end of 2022, the chemical industry positioning will be cancelled.
Shandong	In principle, the park with safety risk grade A shall not build or expand hazardous chemicals construction projects; for parks with safety risk grade B, new and expanded construction projects of hazardous chemicals are restricted.
Zhejiang	1. The overall safety risk assessment of the park shall be within the validity period of approval. 2. The park should have safety and environmental monitoring system. 3. The safety risk level of the park must be C or D. 4. There is no major or above production safety accident in the past three years, otherwise vetoed; No major or above environmental emergencies have been found in the past three years and no malicious illegal behavior, otherwise vetoed.

Source: CCM

Jiangsu Province: regular assessment of safety risks in different areas within a park should be conducted. An emergency command centre and information platform should be set up, which is responsible for daily management, monitoring, forecast and warning, as well as joint emergency response. To this end, safety production supervision institution and fire station should be set up within each park; pre-arranged plan for emergency rescue of dangerous chemical accidents should be prepared and aligned with such rescue plan prescribed by the local governments.

Shandong Province: There are 12 prerequisites for chemical park accreditation, including:

- The build-up area in a chemical park should cover more than 5 km² without any interruption or the planned area covers more than 8 km² without interruption and has more than 3 km² already constructed.
- Chemical parks shall be kept at an appropriate distance from the urban center and away from the upwind area where the prevailing wind often occurs.
- Chemical production enterprises and their chemical storage devices in the park was required to keep a safe distance from places such as schools, hospitals and residential areas near the park and provide corresponding protection (it would still be deemed qualified if required relocation work could be finished before 30 June, 2020).
- Park management departments shall obtain the overall safety risk assessment results, environmental impact assessment results, water resources demonstration report and other documents, all of which shall be valid within the approved time limit.

2.3.3 Construction of industrial chains

As to the construction of industrial chains, focuses were placed on capacity, industrial plans, threshold access, as well as infrastructure and proficiency, etc.

Table 2.3.3-1 Construction conditions in chemical parks of Jiangsu, Shandong and Zhejiang, as of 2021

Item	Jiangsu	Shandong	Zhejiang
Capacity	Ban backward capacities	Encourage capacities with high technology, high output efficiency, low energy consumption, low pollutant emissions and low safety risks	/
	Ban severe excess capacities		Strictly control restricted projects, and restrict the construction of highly toxic chemical projects
Industrial plans	Formulate, revise and improve industrial development plans	The park shall draw up an industrial development plan.	The park shall draw up an industrial development plan, specify the key points of industrial development, and the industrial plan shall be verified by experts.
	Focus on developing 1–2 characteristic industrial chains		
Access threshold	No more new chemical industrial park or chemical enterprise shall be allowed to enter the chemical industrial parks.	No new non-chemical projects or projects unrelated to the chemical industry shall be launched in the park.	/
Infrastructure and proficiency	/	Transportation	Strict requirements on safety
	/	Industrial experts	Professional regulatory agency

Source: CCM

3 31 Key chemical parks for pesticide production, 2021–2025

3.1 Overview

Since the end of 2018, production enterprises in China's pesticide industry have actively responded to national industrial planning policies and accelerated the industry relocation. Therefore, in the Plan, 31 key chemical parks are identified for the development of pesticide production in 2021–2025. Among them, 10 are located in East China, 6 in the Northeastern, and 5 in the Northwestern.

Table 3.1-1 31 key country- and province-level chemical parks of pesticide production

No.	Region	Province/Autonomous Region	Name
1	East China	Jiangsu	Xinyi Chemical Industry Cluster
2		Jiangsu	Rudong County Yangkou Chemical Industry Park
3		Jiangsu	Huai'an Industrial Park
4		Anhui	New Coal Chemical Synthetic Materials Base, Huabei City
5		Jiangxi	Leping Industrial Park
6		Jiangxi	Xinkan Salt and Chemical Industry Park
7		Jiangxi	Yongxiu Yunshan Economic Development Zone Starfire Industrial Park
8		Shandong	Weifang Binhai Chemical Industry Park
9		Shandong	Shanghe Chemical Industry Park
10		Shandong	Wenshang Chemical Industry Park
11	Northeastern	Liaoning	Chemical Industry Park of Huludao Economic Development Zone
12		Liaoning	Fuxin Fluorine Industry Development Zone
13		Jilin	Chemical Industry Circular Economy Demonstration Park
14		Jilin	Jilin Economic and Technological Development Zone
15		Heilongjiang	Anda Economic Development Zone
16		Heilongjiang	Jiamusi High-tech Industrial Development Zone
17	Northwestern	Shaanxi	Qingshui Industrial Park of Yushen Industry Zone
18		Shaanxi	Pucheng County High-tech Industrial Development Zone
19		Gansu	Yumen East Building Materials Chemical Industry Park of Yumen Economic Development Zone
20		Gansu	Jinchang Hexibao Chemical Circular Economy Industrial Park
21		Xinjiang	Seventh Division Huyang River Economic and Technological Development Zone

No.	Region	Province/Autonomous Region	Name
22	North China	Hebei	Shijiazhuang Circular and Chemical Industry Park
23		Hebei	Zhao County Bio-industry Park/Zhao County Economic Development Zone East of Shijiazhuang Economic and Technological Development Zone
24		Inner Mongolia	Alxa High-Tech Industrial Development Zone
25		Inner Mongolia	Wuda Industrial Park of Wuhai High-Tech Industrial Development Zone
26	Central China	Henan	Zhumadian City Industry Cluster of Zhumadian High-Tech Industrial Development Zone Chemical Industry Park
27		Hubei	Jingmen Chemical and Circular Industrial Park
28		Hubei	Yidu Chemical Industry Park
29	South China	Guangdong	Shaoguan Nanxiong High-tech Industrial Development Zone
30		Guangxi	Guigang Qiantang District New Materials Science and Technology Park
31	Southwestern	Sichuan	Guang'an Xinqiao Industrial Park

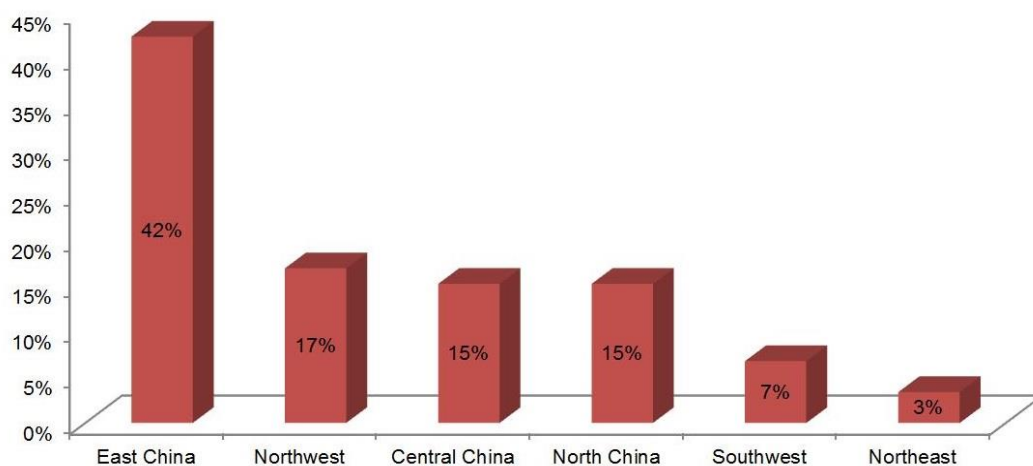
Source: MARA

3.2 Projects of China's designated industrial parks, Q1–Q3 2022

CCM's primary research ending Q3 2022 shows there are 59 (planning, constructing and operational) projects in China's designated chemical parks—25 (=42% of the total) are located in East China (including provinces like Shandong, Jiangsu, Zhejiang, Jiangxi and Anhui), 14 in West China (10 in Northwestern (=17% of the total) and 4 in Southwestern (=7% of the total)), 9 each (=15% of the total) in Central China and North China. Those set in Southwest (Sichuan Province) and North China (Hubei Province and Inner Mongolia Autonomous Region) are of higher scale.

Of the total, 30 projects are related to pesticide technical and/or the intermediates and are still at the planning phase or under construction, totalling capacity of around 240,000 t/a. These new pesticide projects or expansion projects are generally invested by enterprises from the traditional pesticide production provinces in eastern coastal region which are with solid industrial background and developed production structure and technology. 13 (planning, constructing and operational) projects are placed in the 31 key chemical parks, 9 of which are in eastern provinces.

Figure 3.2-1 Proportion of 59 projects in China by geographic regions, Q1–Q3 2022



Source: CCM

Table 3.2-1 Product capacity of 59 projects in Q1–Q3 2022, t/a

Region	Province / Autonomous Region	Pesticide intermediates	Pesticide technical & its intermediates	Pesticide technical	Pesticide technical and formulations	Pesticide formulations	Pesticide technical & formulations and their intermediates	Total
Southwest	Sichuan and Yunnan	595,700	/	1,700	/	/	12,800	610,200
North China	Inner Mongolia and Hubei	97,700	50,000	/	39,000	11,600	24,000	222,300
East China	Anhui, Jiangsu, Jiangxi, Shandong and Zhejiang	111,000	44,350	50,600	10,300	36,000	/	252,250
Central China	Henan, Hubei and Chongqing Municipality	181,000	13,600	3,500	8,800	10,000	/	216,900
Northwest	Liaoning	/	38,000	26,880	7,000	3,000	4,000	78,880
Northeast	Gansu and Ningxia	/	5,000	2,000	/	/	/	7,000
Total		985,400	150,950	84,680	65,100	60,600	40,800	1,387,530

Source: CCM

3.3 Popular pesticide products

Based on the disclosed projects of pesticide enterprises in China in Q1–Q3, 28 technical products are underscored, including glufosinate-ammonium, diquat, clethodim and prothioconazole, etc.

Apart from the trending products, Guang'an Bimeida Biotechnology Co., Ltd., a subsidiary of Sichuan Hebang Biotechnology Co., Ltd., is drafting the EIA for the construction of a 500,000 t/a PMIDA production line in Guang'an Xinqiao Industry Park of Sichuan Province, aiming to enhance its glyphosate TC production scale for business at home and abroad.

Table 3.3-1 Popular pesticide products and the capacities in 59 projects in Q1–Q3 2022

No.	Category	Name of pesticide	Capacity, t/a
1	Herbicide	Glufosinate-ammonium	50,000
2	Herbicide	Diquat	23,000
3	Herbicide	Clethodim	14,400
4	Herbicide	Diquat dichloride	10,000
5	Fungicide	Prothioconazole	8,000
6	Insecticide	Chlorantraniliprole	6,000
7	Herbicide	L-glufosinate	5,500
8	Fungicide	Thiophanate-methyl	5,000

No.	Category	Name of pesticide	Capacity, t/a
9	Insecticide	Carbaryl	4,000
10	Insecticide	Bifenthrin	4,000
11	Herbicide	Bentazone	3,200
12	Herbicide	Trifluralin	3,000
13	Herbicide	Hexazinone	3,000
14	Herbicide	Triclopyr-butotyl	3,000
15	Insecticide	Lambda-cyhalothrin acid	3,000
16	Herbicide	Nicosulfuron	2,800
17	Herbicide	Quizalofop-P-ethyl	2,700
18	Insecticide	Cyhalothrin	2,000
19	Insecticide	Spinetoram	1,500
20	Herbicide	Propyzamide	1,200
21	Fungicide	Cyazofamid	1,000
22	Herbicide	Diflufenican	1,000
23	Herbicide	Thifensulfuron-methyl	1,000
24	Herbicide	Metamifop	1,000
25	Insecticide	Etoxazole	1,000
26	Insecticide	Lambda-cyhalothrin	1,000
27	Insecticide	Pyriproxifen	1,000
28	Acaricide	Hexythiazox	1,000

Source: CCM

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