

Top 100 Pesticide Enterprises in China

The Eighth Edition
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Executive summary

On 17 July, China disclosed the 2022 top 100 enterprise lists based on the overall sales performance of pesticide enterprises in 2021. In general, both total revenue and the entry threshold of top 100 pesticide and formulation producers have increased from last year's records. Moreover, the lists indicate increased industry concentration as the sales of the top 10 accounted for about 40% of the total.

Regarding the geographical distribution of the 2022 China top 100 pesticide enterprises, the top three provinces Jiangsu, Hubei and Shandong account for 56.22% of the total pesticide revenue in 2021. Of pesticide formulations, sales in the top 100 rise 17.31% year on year in 2021, with Shenzhen Noposion Agrochemicals Co., Ltd., Jiangxi Zhengbang Crop Protection Co., Ltd., Guangxi Tianyuan Biochemistry Co., Ltd. and Jiangsu Rotam Chemistry Co., Ltd., being the top 5.

China's pesticide industry has resumed stable production of pesticide technical gradually over the past two years, and the output of chemical pesticide technical in 2021 showed a year-on-year increase of 16.29%, out of the COVID-19 outbreak concerns to some extent. In 2021, as the global epidemic situation elevated, China's control on waves of infections was a success in general which helped grow the country's imports and exports of pesticides, herbicides particularly.

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. A lot of work has gone into the compilation and analysis of the obtained information. When necessary, checks have been made with Chinese agrochemical players.

- 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:

- China Crop Protection Industry Association
- 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.

Table 0-1 USD/CNY exchange rate, Jan. 2016-Dec. 2021

| Year | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Average |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| 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 |
| 2021 | 6.5408 | 6.4623 | 6.4754 | 6.5584 | 6.4895 | 6.3572 | 6.4709 | 6.4660 | 6.4680 | 6.4604 | 6.4192 | 6.3693 | 6.4615 |

Source: The People's Bank of China

- Unit

USD: US dollar, currency unit in the US

RMB: currency unit in China, also named Renminbi Tonne: ton, equals to metric ton in this report

/t: per tonne

t/a: tonne per year, tonne/annum

Table Abbreviations and full names

| Abbreviation | Full Name |
|--------------|--|
| ССРІА | China Crop Protection Industry Association |
| AS | Aqueous solution |
| DC | Dispersible concentrate |
| EC | Emulsifiable concentrate |
| EW | Emulsion, oil in water |
| FS | Flowable concentrate for seed treatment |
| FSC | Flowable concentrate for seed coating |
| ME | Micro-emulsion |
| OD | Oil dispersion |
| SC | Suspension concentrate |
| SE | Suspoemulsion |
| SG | Water soluble granule |
| SL | Soluble concentrate |
| SP | Water soluble powder |
| TK | Technical concentrate |
| WG | Water dispersible granule |
| WP | Wettable powder |
| ZC | Mixed formulations of CS and SC |

1 Review of China's pesticide industry in 2021

1.1 General situation of China's pesticide industry in 2021

Since 2015, with China governments' implementation of the action plan for achieving zero growth in the use of chemical fertilizers and pesticides by 2020, as well as for phasing out of highly toxic organophosphorus pesticides (insecticides in majority), the total output of domestic pesticides had decreased steadily from the 2016 peak before the rebound in 2019.

In Feb. 2020, extensive COVID-19 outbreaks posted different levels of threats onto the logistics and production of Chinese pesticide producers. For the rest of 2020 and whole 2021, the domestic producers released increased production capacity, with new production units built and benefited from the effective epidemic prevention and control.

Data from the National Bureau of Statistics show that, in 2020, most chemical pesticide technical producers above designated size (of total revenue above RMB20 million) had resumed production smoothly to the prepandemic level; in 2021, the total output of chemical pesticide technical (converted into 100% AI, hereinafter) reached around 2.50 million tonnes, with a year-on-year increase of 16.29%.

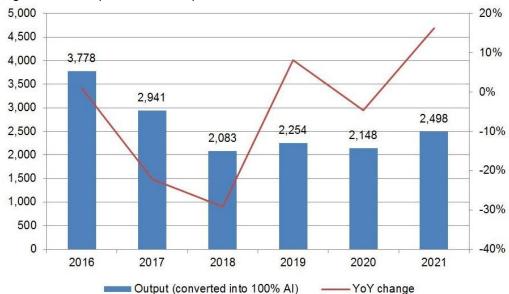


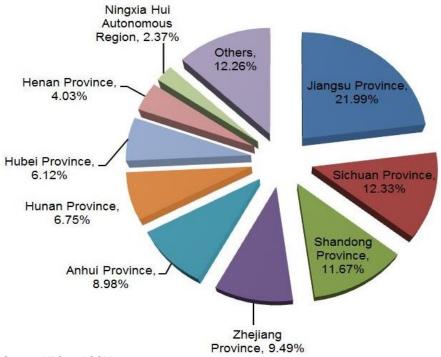
Figure 1.1-1 Output of chemical pesticide technical in China in 2016-2021, '000 tonnes

Source: National Bureau of Statistics (NBS) and CCM

As to the geographical output of chemical pesticide technical across China, the top 3 producing provinces (by volume) in 2021 were Jiangsu, Sichuan and Shandong provinces, accounting for 45.99% of the domestic total.

Gansu Province, Hunan Province and Ningxia Hui Autonomous Region saw growth in pesticide yield of 28.7%, 29.6% and 64.7% YoY respectively, which were the substantial results of the increased production capacity transferred from east to west in line with the environmental policies. In contrast, with the abrupt beats of Delta variant in Q3 2021 on the provinces/regions in North China, the overall output of Inner Mongolia Autonomous Region slumped in 2021, down by 18.4% YoY to 35,100 tonnes, pulling Inner Mongolia down from the 9th place in 2020 to the 12th place in 2021 among others across the country.

Figure 1.1-2 Geographical distribution of output of chemical pesticide technical (converted into 100% AI) in China, 2021



Source: NBS and CCM

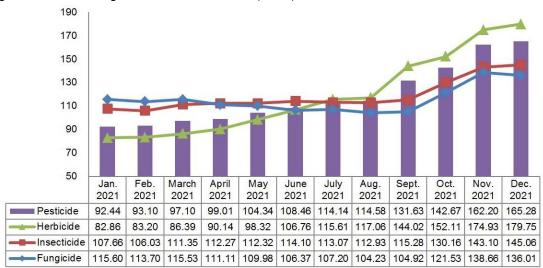
Table 1.1-1 Output ranking of China's mainstream pesticide production areas, 2017–2021

| Province/Region | 2021 | 2020 | 2019 | 2018 | 2017 |
|----------------------------------|------|------|------|------|------|
| Jiangsu Province | 1 | 1 | 1 | 1 | 1 |
| Sichuan Province | 2 | 3 | 2 | 3 | 5 |
| Shandong Province | 3 | 2 | 4 | 5 | 2 |
| Zhejiang Province | 4 | 4 | 3 | 2 | 3 |
| Anhui Province | 5 | 5 | 6 | 7 | 7 |
| Hunan Province | 6 | 7 | 12 | 8 | 9 |
| Hubei Province | 7 | 6 | 5 | 4 | 4 |
| Henan Province | 8 | 8 | 7 | 6 | 6 |
| Ningxia Hui Autonomous Region | 9 | 11 | 13 | 10 | 11 |
| Hebei Province | 10 | 12 | 10 | 11 | 8 |
| Gansu Province | 11 | 10 | 17 | 17 | 21 |
| Inner Mongolia Autonomous Region | 12 | 9 | 9 | 9 | 10 |

Source: NBS and CCM

Review of the pesticide industry focus in 2021

Figure 1.1-3 China Agrochemical Price Index (CAPI), Jan. 2021–Dec. 2021



Source: China Crop Protection Industry Association (CCPIA) and CCM

1. Price hikes of pesticides under carbon neutrality and energy control policies

2021 continued a strong growth momentum of agricultural chemical market that has been seen for recent decade. Last year, numbers of overseas orders flooded in China and there was a spike in electricity consumption which collided with the central government's carbon neutrality pledge and policies to control energy consumption & intensity by power rationing and production restriction. These factors along with raw materials' rises somehow led supply shortfalls and sent the pesticide prices high. According to the China Pesticide Industry Association (CCPIA), 85.57% of nearly 100 monitored pesticides have marked increases in prices—thereinto, 29.90% surged by above 40%.

2. Revised production safety law to regulate production practices

On 1 Sept., the newly revised *Work Safety Law of China* came into effect, further clarifying the responsibilities of the supervisory and administrative departments and strengthening the social supervision to improve the whole social production safety integrity level. New provisions to address the new situation and major problems derived from emerging industries such as platform economic are added. Safety management of pesticide is closely related to the safety and health of workers, and sustainable development of enterprises. It should always be the top priority for healthy development of the pesticide industry.

3. Defined management scope of pesticides and veterinary drugs

In view of the rising issues of unclear definition, and discrepancy in cognition and management standards in relation to pesticides and veterinary drugs at home, the General Office of the Ministry of Agriculture and Rural Affairs (MARA) published a letter on *Regulatory Management of Veterinary Drugs and Pesticides* on 8 June, clearing up the definition, functions, application scope and other related matters. Particularly, it rules that the following products are confined to the administrative range of pesticides: products certified for the use in prevention and control of diseases, pests, weeds, rodents and other pests like mosquitoes, flies, cockroaches, and ants that endanger agriculture and forestry.

4. Guidance for chemical industry parks across provinces

On 15 April, the Ministry of Industry and Information Technology of the People's Republic of China (MIIT) issued the *Conditions for Accreditation and Measures for Administration of Chemical Parks (Trial)*, regulating the park construction and standards for safety and green level in order to build a high-quality chemical industry. As of Oct. 2021, there are 543 approved chemical industrial parks or concentrated zones in China spanning over 24 provinces, municipalities, and autonomous regions. Among them, 51, 52, 58 and 85 are located in Hubei Province, Zhejiang, Inner Mongolia and Shandong.

5. M&A driving industry concentration

Along with intensified competition within the industry and rigorous enforcement of environmental protection measures, China's pesticide industry has entered a new round of integration with increasing number of M&A deals settled in the year, to boost adaptability to the ever changing environment and improve technology, product quality and innovation, business services, etc. For instance, on 31 March, Sinochem Group Co., Ltd. (Sinochem Group) merged with China National Chemical Corporation Ltd. (ChemChina); on 9 Aug., Jingzhou Sanonda Holding Co., Ltd. (Sanonda Holdings) transferred its 5.14% stakes in ADAMA to Syngenta Group.

6. Pesticide industrial relocation

Responding to the central government's industrial plans, Chinese pesticide enterprises have started to relocate their production operation since the end of 2018. Inner Mongolia Autonomous Region, Gansu Province, Ningxia Hui Autonomous Region come along as the major destinations of such relocations to the central and western regions. According to the statistics, the number of relocated projects totals 97 in China in 2019–2021, 62.9% (=61) of which focus on pesticide technical and/or its intermediates.

7. Widened application of soybean-corn compound planting technology

On 29 Dec., MARA issued a notice of the 14th Five-Year Plan (2021–2025) for National Planting Industry Development, summarising targets to guarantee current food planting areas and increase area for oil crops, expand overall crop-growing areas by deploying idle rural lands and ramp up yield per unit. Specifically, China aims to achieve the followings by 2025:

- Increasing soybean-corn compound areas to 3.33 million ha, thereinto, area for soybean to 1.67 million ha:
- Totalling area of soybean up to 10.67 million ha, with the annual production of 23.00 million tonnes, to raise the soybean self-sufficiency rate.

1.2 Imports and exports of pesticide technical in 2021

In 2021, China remained one of the stable pesticide suppliers for the world, as oppose to most of its foreign counterparts whose production operation have been pinched by the COVID-19 pandemic. Overseas demand rose in this context, driving up the trading volume & value of China's pesticides in the year.

The total import & export value of chemical pesticide in China grew 29.24% in 2021 from the previous year with a trade surplus up 31.95% YoY to over USD6.45 billion. By category, total import & export value and trade surplus in herbicide surged by 47.91% YoY and 47.93% YoY respectively, and in fungicide, the former figure picked up by 8.20% while the later one slipped 5.95% YoY to USD485 million.

Table 1.2-1 Total import & export value and trade surplus of chemical pesticide in China, 2021 vs 2020, million USD

| Category | Total import & export value, 2021 | Total import & export value, 2020 | Trend | Trade surplus | Trend |
|----------------|-----------------------------------|-----------------------------------|--------|---------------|--------|
| Pesticides | 7,730 | 5,981 | 29.24% | 6,453 | 31.95% |
| - Herbicides | 4,827 | 3,264 | 47.91% | 4,598 | 47.93% |
| - Insecticides | 1,765 | 1,666 | 5.94% | 1,369 | 8.15% |
| - Fungicides | 1,137 | 1,051 | 8.20% | 485 | -5.95% |

Source: Tranalysis

Exports

In 2021, more than half of the listed enterprises achieved growths in operating revenues and net profits, benefited from price hikes of major pesticide products and the recovery of international trade. 797,000 tonnes of chemical pesticides were exported from China in the year, increased by 3.46% YoY and valued USD7.09 billion. Note that the export volume for insecticides fell by 3.64% YoY, in contrast to the growths of other categories.

Table 1.2-2 Export volume and value of chemical pesticide in China, 2021 vs 2020

| Catamanu | Export | export volume, '000 tonnes | | | Export value, millio | |
|----------------|--------|----------------------------|--------|-------|----------------------|--------|
| Category | 2021 | 2020 | Trend | 2021 | 2020 | Trend |
| Pesticides | 797 | 771 | 3.46% | 7,091 | 5,436 | 30.46% |
| - Herbicides | 652 | 629 | 3.58% | 4,713 | 3,186 | 47.92% |
| - Insecticides | 65 | 67 | -3.64% | 1,567 | 1,466 | 6.89% |
| - Fungicides | 81 | 74 | 8.84% | 811 | 783 | 3.54% |

Source: Tranalysis

Imports

China's import volume and value of herbicides and fungicides from overseas marked double-digit increases. However, the country's demand for overseas insecticides went sluggish with import volume and value down 7.63% YoY and 1.06% YoY.

Table 1.2-3 Import volume and value of chemical pesticide in China, 2021 vs 2020

| Catagory | Import | volume, ' | 000 tonne | Import value, million USE | | |
|----------------|--------|-----------|-----------|---------------------------|------|--------|
| Category | 2021 | 2020 | Trend | 2021 | 2020 | Trend |
| Pesticides | 60 | 52 | 15.04% | 639 | 545 | 17.07% |
| - Herbicides | 17 | 14 | 27.11% | 114 | 78 | 47.43% |
| - Insecticides | 10 | 11 | -7.63% | 198 | 200 | -1.06% |
| - Fungicides | 32 | 27 | 18.36% | 326 | 267 | 21.85% |

Source: Tranalysis

2 Overview of 2022 China Top 100 Pesticide Enterprises

2.1 Top crop protection brands in China in 2021

Since 2015, the CCPIA has selected and awarded China crop protection popular pesticide brands based on multiple factors such as market sales, brand value, market share and product performance. These lists could not only reflect the market demand and development potential of the pesticide products, but also play an important role in measuring the strength of domestic products and predicting the domestic market. The list of popular pesticide brands in China in 2021 represents 89 products made by 75 enterprises. The listed brands cover 10 herbicide products, 10 plant growth regulator products, 13 insecticide products, 15 biopesticide products, 21 fungicide products and 20 blockbuster possible products.

Table 2.1-1 List of 2021 China Crop Protection Popular Herbicide Brands

| No. | Enterprise | Product | Brand |
|-----|--|---|-------------------|
| 1 | Hebei Veyong Bio-chemical Co., Ltd. | Glufosinate ammonium 200g/LAS | Zidian Qingshuang |
| 2 | Shandong Kesai Agrochem Holdings Co., Ltd. | Flumioxazin-Glufosinate-ammonium 66% WP | Kesai Baojie |
| 3 | Lianyungang Liben Crop Science Co., Ltd. | Atrazine 90% WG | Liben |
| 4 | Anhui Huaxing Chemical Industry Co., Ltd. | Glyphosate 41% IPA | Yinggelan |
| 5 | Henan Hansi Crop Protection Co., Ltd. | Mesotrione·Nicosulfuron·Atrazine 26% OD | Hansiyu Meihao |
| 6 | Hunan Xinchangshan Agriculture Development Co., Ltd. | Topramezone 4% OD | Yuzhou |
| 7 | FMC (China) Investment Co., Ltd. | Metamifop-Cyhalofop-butyl 10% EC | Daoqingqing |
| 8 | Anhui Huilong Group Youngsun Pesticides Co., Ltd. | Penoxsulam-Pretilachlor 31% OD | Yinshan Gongdao |
| 9 | Jiangsu State Farms Biochemistry Co., Ltd. | MCPA·Bentazone 38% SL | Nongduoxian |
| 10 | Hefei Xingyu Chemical Co., Ltd. | Oxadiargyl 400g/L SC | Daoguanjia-Feng |

Note: The product "Flumioxazin-Glufosinate-ammonium 66% WP is registered by Shandong Kesai Agrochem Co., Ltd., a wholly-owned subsidiary of Shandong Kesai Agrochem Holdings Co., Ltd.

Table 2.1-2 List of 2021 China Crop Protection Popular Insecticide Brands

| No. | Enterprise | Product | Brand |
|-----|---|--|-------------|
| 1 | Sinochem International Crop Care Company Limited | Cyetpyrafen 30% SC | Baozhuo |
| 2 | Jiangsu Rotam Chemistry Co., Ltd. | Cypermethrin-Imidacloprid 33% SC | Jinrong |
| 3 | Corteva Agriscience (Shanghai) Co., Ltd. | Triflumezopyrim 10% SC | Baijinglong |
| 4 | Bayer CropScience China Co., Ltd. | Spirotetramat 22.4% SC | Miaotewang |
| 5 | Syngenta (China) Investment Co., Ltd. | Thiamethoxam 30% FS | Ruisheng |
| 6 | Jinan Zhongke Green Biotechnology Co., Ltd. | Abamectin-Etoxazole 12% SC | Jiayu |
| 7 | BASF (China) Co., Ltd. | Afidopyropen 50g/L DC | Yingwei |
| 8 | Yixing Yizhou Chemical Products Co., Ltd. | Buprofezin 40% WG | Yizhou |
| 9 | Shandong Zhongxin Kenong Bio-technology Co., Ltd. | Emamectin benzoate-Chlorfenapyr 10% SC | Babiao |
| 10 | Hunan Haili Chemical Industry Co., Ltd. | Pirimiphos-methyl 55% EC | Cangying |
| 11 | Nantong Shizhuang Chemical Co., Ltd. | Indoxacarb 30% WG | Haihu |
| 12 | Shanghai Hulian Biological Pharmaceutical (Xiayi) Co., Ltd. | Nitenpyram-Pymetrozine 80% WG | Jianfei |
| 13 | Shaanxi Hengtian Biological Agriculture Co., Ltd. | Flonicamid-Acetamiprid 35% WG | Anjian |

Note: The product "Cyetpyrafen 30% SC" is registered by Shenyang Sciencreat Chemicals Co., Ltd., a subsidiary of Sinochem International Crop Care Company Limited.

Source: CCPIA & CCM

Table 2.1-3 List of 2021 China Crop Protection Popular Fungicide Brands

| No. | Enterprise | Product | Brand |
|-----|--|--|---------------------|
| 1 | Jiangsu Rotam Chemistry Co., Ltd. | Pyraclostrobin-Prochloraz 40% EW | Fuzhuo |
| 2 | Syngenta (China) Investment Co., Ltd. | Difenoconazole·Propiconazole 300g/L EC | Aimiao |
| 3 | Zhejiang Longwan Chemicals Co., Ltd. | Thiodiazole copper 20% SC | Long Kejun |
| 4 | Anhui Jiuyi Agriculture Co., Ltd. | Prothioconazole 30% OD | Jiuyaojiu |
| 5 | Syngenta (China) Investment Co., Ltd. | Propiconazole-Azoxystrobin 18.7% SE | Yangcai |
| 6 | BASF (China) Co., Ltd. | Mefentrifluconazole-Pyraclostrobin 400g/L SC | Ruishou Guoxiang |
| 7 | Shaanxi Xidahuate Co., Ltd. | Benzisothiazolinone 30% WG | Xisha |
| 8 | Limin Chemical Co., Ltd. | Mancozeb 80% WP | Limin Lingxiu |
| 9 | Dongguan Ruidefeng Biotechnology Co., Ltd. | Pyraclostrobin-Tebuconazole 40% SC | Bi'a |
| 10 | Jiangsu Pesticide Research Institute Co., Ltd. | Tebuconazole-Phenamacril 480g/L SC | Jinxing |
| 11 | Hebei Shuangji Chemicals Co., Ltd. | Pyraclostrobin Metiram 60% WG | Shuangji Fuyin |

| No. | Enterprise | Product | Brand |
|-----|--|---|----------------|
| 12 | ADAMA (Beijing) Agricultural Technology Co., Ltd. | Fluensulfone 40% EC | Nimite |
| 13 | Sinochem International Crop Care Company Limited | Flumorph 30% SC | Qilu |
| 14 | Corteva Agriscience (Shanghai) Co., Ltd. | Famoxadone-Oxathiapiprolin 31% SC | Zengwei Yinbei |
| 15 | Jiangxi Buffett Chemical Co., Ltd. | Difenoconazole-Fludioxonil-Thiamethoxam 25% FSC | Jingdun |
| 16 | Jiangxi Heyi Chemical Co., Ltd. | Ethirimol 25% SC | Fenxing |
| 17 | Zhejiang Welldone Chemicals Co., Ltd. | Thifluzamide 240g/L SC | Fulegu |
| 18 | Hangzhou Udragon Chemical Co., Ltd. | Metalaxyl-M-Fludioxonil-Azoxystrobin 11% FSC | Yulong Fuli |
| 19 | Shandong Kangqiao Biotechnology Co., Ltd. | Pyraclostrobin Epoxiconazole 38% SC | Xiduojin |
| 20 | Hainan Bosswell Biotechnology Co., Ltd. | Propamocarb hydrochloride Metalaxyl-M 60% AS | Caiyan |
| 21 | Shandong Sino-Agri United Biotechnology Co., Ltd. | Pyraclostrobin-Fluopimomide 30% ZC | Zengcai |

Note: 1. The product "Flumorph 30% SC" is registered by Shenyang Sciencreat Chemicals Co., Ltd., a subsidiary of Sinochem International Crop Care Company Limited. 2. The product "Pyraclostrobin-Fluopimomide 30% ZC" is registered by Shandong United Pesticide Industry Co., Ltd., a subsidiary of Shandong Sino-Agri United Biotechnology Co., Ltd. Source: CCPIA & CCM

Table 2.1-4 List of 2021 China Crop Protection Popular Plant Growth Regulator Brands

| No. | Enterprise | Product | Brand |
|-----|---|--|--------------------------|
| 1 | Jiangsu Repont Agrochemical Co., Ltd. | Thidiazuron-Diuron 540g/L SC | Ruibang Mianyeluoqing |
| 2 | Jiangxi New Reyphon Biochemical Co., Ltd. | Gibberellic acid 3% EC | Ruifeng |
| 3 | Jiangsu Fengshan Group Co., Ltd. | 14-Hydroxylated brassinosteroid 0.01% AS | Sufengyuan |
| 4 | Shaanxi Yitianfeng Crop Technology Co., Ltd. | Sodium nitrophenolate-Diethyl aminoethyl hexanoate 3% AS | Juxing |
| 5 | Jiangsu Sevencontinent Green Chemical Co., Ltd. | Paclobutrazol 25% SC | Qizhou |
| 6 | Pilar (Shanghai) Biotech Co., Ltd. | 14-Hydroxylated brassinosteroid-Indol-3-ylacetic acid-Gibberellic acid 0.136% WP | Biyi |
| 7 | Zhejiang Corechem Co., Ltd. | Ethephon 40% SL | Qinliyu |
| 8 | Shanxi Haozhida Biotechnology Co., Ltd. | Prohexadione calcium-Uniconazole 15% WG | Daoshuojin |
| 9 | Zhejiang Longyou Eastern Anasac Crop Science Co., Ltd. | Cyanamide 50% AS | Youmeiya |
| 10 | Sichuan Guoguang Agricultural Materials Co., Ltd. | Sodium 4-CPA 8% SP | Guoguang Beijia |

Note: 1. The product "14-Hydroxylated brassinosteroid-Indol-3-ylacetic acid-Gibberellic acid 0.136% WP" is registered by Pilarquim (Jiangsu) Co., Ltd., a subsidiary of Pilar (Shanghai) Biotech Co., Ltd. 2. The product "Ethephon 40% SL" is registered by Jiangsu Corechem Co., Ltd., a subsidiary of Zhejiang Corechem Co., Ltd. 3. The product "Sodium 4-CPA 8% SP" is registered by Sichuan Runer Technology Co., Ltd., a subsidiary of Sichuan Guoguang Agricultural Materials Co., Ltd. Source: CCPIA & CCM

Table 2.1-5 List of 2021 China Crop Protection Popular Biopesticide Brands

| No. | Enterprise | Product | Brand |
|-----|---|---|----------------------|
| NO. | Enterprise | Product | Brand |
| 1 | Hainan Zhengye Zhongnong High-tech Co., Ltd. | Oligosaccharins 5% AS | Zhengye Haidaosu |
| 2 | Bayer CropScience China Co., Ltd. | Bacillus amyloliquefaciens strain QST713 1 billion CFU/g SC | Zhuorun |
| 3 | Liaoning Wkioc Bioengineering Co., Ltd. | Tetramycin 0.3% AS | Shuanggong Miding |
| 4 | Hunan Xinchangshan Agricultural Development Co., Ltd. | Rhodovulum sulfidophilum HNI-1 200 million CFU/ML SC | Yasili |
| 5 | Deqiang Biology Co., Ltd. | Bacillus subtilis 10 billion CFU/g WP | Qiangpin |
| 6 | Jiangmen Plant Protection Co., Ltd. | Kasugamycin 2% AS | Cailong |
| 7 | Jiangxi Zhengbang Crop Protection Co., Ltd. | Zhongshengmycin 3% WP | Xianrun |
| 8 | Chengdu Newsun Crop Science Co., Ltd. | Veratramine 0.1% SL | Lemanyuan |
| 9 | Chengdu Green Gold Biotechnology Co., Ltd. | Azadirachtin 1% WG | Awala |
| 10 | Shandong Shengpeng Technology Co., Ltd. | Fungous proteoglycan 2% AS | Shouzhan |
| 11 | Shaanxi Hengtian Biological Agriculture Co., Ltd. | Bacillus methylotro-phicus LW-6 8 billion CFU/g WP | Anwanxi |
| 12 | Chengdu Tepu Biotech Co., Ltd. | Trichoderma harzianum 100 million CFU/g WG | Taikang |
| 13 | Shanghai Wanlihua Biotechnology Co., Ltd. | Trichoderma SP 200 million CFU/g WP | Dongfang Nongyun |
| 14 | Shanghai Nongle Biological Products Co., Ltd. | Jingangmycin 2%-Bacillus cereus 800 million CFU/g SC | Wenquling |
| 15 | Wuhan Kernel Bio-tech Co., Ltd. | Bacillus thuringiensis HAN055 20 billion CFU/g WP | Bilei |

Note: The product "Jingangmycin 2%-Bacillus cereus 800 million CFU/g SC" is registered as "Jingangmycin 4%-Bacillus cereus 1.6 billion CFU/g SC" in CCPIA.
Source: CCPIA & CCM

Table 2.1-6 List of 2021 China Crop Protection Blockbuster Possible Products

| No. | Enterprise | Product | Brand |
|-----|--|---|------------------------|
| 1 | Syngenta (China) Investment Co., Ltd. | Pydiflumetofen 200g/L SC | Maitian |
| 2 | Bayer CropScience China Co., Ltd. | Tetraniliprole 200g/L SC | Guoteng |
| 3 | BASF (China) Co., Ltd. | Broflanilide 100g/L SC | Geligao |
| 4 | Yongnong BioSciences Co., Ltd. | Glufosinate-P 10% SL | Jinbaisu |
| 5 | Jiangxi Windeal Biotechnology Co., Ltd. | 28-Homobrassinolide-Gibberellic acid A4, A7 0.5% SL | Guohaomai |
| 6 | Shandong Runyang Chemical Co., Ltd. | Flumioxazin-Glufosinate-ammonium 20% OD | Liangong |
| 7 | Anhui Zhongbang Biological Engineering Co., Ltd. | Metamifop-Cyhalofop-butyl 20% EC | Zho ngbang Qiuxiang |
| 8 | Jiangxi Zhongxun Agro-Chemical Co., Ltd. | Chlorfenapyr-Chlorantraniliprole 30% SC | Hudun |
| 9 | Hailir Pesticides and Chemicals Group Co., Ltd. | Chlorfenapyr 360g/L SC | Feixiu |
| 10 | Anhui Meilan Agricultural Development Co., Ltd. | Thiamethoxam·Lambda-cyhalothrin 25% SC | Zhenfu |
| 11 | Sinochem International Crop Care Company Limited | Pyrisoxazole 25% EW | Chuanglu |
| 12 | Qingdao Jin'er Agriculture Chemical Research and Development Co., Ltd. | Fludioxonil-Thifluzamide-Clothianidin 6.2% FS | Jin'erdi Zhuangyuan |
| 13 | Jiangxi Zhengbang Crop Protection Co., Ltd. | Tetraconazole-Bupirimate 30% EW | Yefeng |
| 14 | Jingbo Agrochemicals Technology Co., Ltd. | Flonicamid-Spirotetramat 40% SC | Jingbo Dukadi |
| 15 | Jiangmen Plant Protection Co., Ltd. | Kasugamycin-Oxine-copper 36% SC | Chunxian |
| 16 | Yanhua Yoloo (Laoting) Biotechnology Co., Ltd. | Spinosad-Emamectin benzoate 10% WG | Jina |
| 17 | Guangxi Beijiaer Biological Chemistry Product Co., Ltd. | Indoxacarb·Chlorfenapyr 30% SC | Tianyue |
| 18 | Jiangsu Kwin Group Co., Ltd. | Spirotetramat·Thiamethoxam 30% SC | Kesheng Wanjian |
| 19 | Anhui Fengle Agrochemical Co., Ltd. | Diflufenican-Isoproturon 55% SC | Fengle Yinliantou |
| 20 | Yancheng Limin Chemical Co., Ltd. | Thifluzamide-Azoxystrobin 40% SC | Huanglongquanna |

Note: 1. The product "Pyrisoxazole 25% EW" is registered by Shenyang Sciencreat Chemicals Co., Ltd., a subsidiary of Sinochem International Crop Care Company Limited. 2. The product "Chlorfenapyr 360g/L SC" is registered by Shandong Hailir Chemical Co., Ltd., a subsidiary of Hailir Pesticides and Chemicals Group Co., Ltd.

Source: CCPIA & CCM

2.2 China's pesticide enterprise lists by sales revenue in 2021

The China Crop Protection Industry Association (CCPIA) pushed the List of 2022 China Top 100 Pesticide Enterprises (hereinafter referred to as the pesticide list) and the List of 2022 China Top 100 Pesticide Formulation Enterprises ((hereinafter referred to as the formulation list) ranking by sales in 2021 on the 9th Analysis Meeting of Economic Operation in Pesticide Industry held on 7 July, 2022.

In general, both total revenue and the entry thresholds for the 2022 listed top 100 pesticide/formulation enterprises increased and the sales of the top 10 for both lists accounted for about 40% of the total. Statistics show that the scale of formulation manufacturers was small on average, but the overall sales performance has increased significantly.

Regarding the enterprises to be overlapping in the two 2022 Top 100 enterprise lists, 31 companies were listed in both. Thereinto, the companies included in one list but owned by the same group are considered as the overlapped names. Besides, some were subsidiaries owned by the parents, which are listed as well. Cases in point:

- Syngenta Group China: Syngenta Nantong Crop Protection Co., Ltd. (27th in the pesticide list) and Syngenta (Suzhou) Crop Protection Co., Ltd. (99th in the pesticide list and 26th in the formulation list)
- FMC China Investment: FMC (Shanghai) Agricultural Sciences Co., Ltd. (43th in the pesticide list) and FMC (Suzhou) Crop Care Co., Ltd. (74th in the pesticide list and 11th in the formulation list)
- Shandong Kesai Agrochem Co., Ltd. (12th in the formulation list), owned by Shandong Kesai Agrochem Holdings Co., Ltd. (58th in the pesticide list)
- Qilu Pharmaceutical (Inner Mongolia) Co., Ltd. (36th in the pesticide list), owned by Qilu Synva Pharmaceutical Co., Ltd. (91st in the pesticide list)

Table 2.2-1 Overlapping names in the two 2022 Top 100 Pesticide Enterprise Lists

| No. | Name | 2021 Revenue, million USD | YoY Change based on RMB | Ranking in the pesticide list | Ranking in the formulation list |
|-----|---|------------------------------|----------------------------|-------------------------------|---------------------------------|
| 1 | Shenzhen Noposion Agrochemicals Co., Ltd. | 3,249 | 16.70% | 23 | 1 |
| 2 | Guangdong Zhongxun Agri- science Corporation | 3,176 | 46.97% | 25 | 2 |
| 3 | Syngenta Nantong Crop Protection Co., Ltd. | 2,701 | 27.11% | 27 | / |
| 4 | Syngenta (Suzhou) Crop Protection Co., Ltd. | 511 | 3.44% | 99 | 26 |
| 5 | Jiangxi Zhengbang Crop Protection Co., Ltd. | 2,134 | 21.25% | 34 | 3 |
| 6 | Qilu Pharmaceutical (Inner Mongolia) Co., Ltd. | 1,958 | -2.30% | 36 | / |
| 7 | Qilu Synva Pharmaceutical Co., Ltd. | 565 | -11.30% | 91 | / |
| 8 | Guangxi Tianyuan Biochemistry Co., Ltd. | 1,619 | 6.09% | 45 | 4 |
| 9 | Jiangsu Rotam Chemistry Co., Ltd. | 1,493 | 18.49% | 52 | 5 |
| 10 | BASF Crop Protection (Jiangsu) Co., Ltd. | 1,296 | 22.50% | 57 | 6 |
| 11 | Jiangsu Essence Agrochemicals Co., Ltd. | 1,257 | 19.15% | 59 | 7 |
| 12 | Qiaochang Modern Agriculture Co., Ltd. | 1,166 | 6.29% | 63 | 8 |
| 13 | Sichuan Guoguang Agrochemical Co., Ltd. | 949 | 17.31% | 69 | 9 |
| 14 | Chongqing Shurong Crop Science Co., Ltd. | 928 | 13.03% | 73 | 10 |
| 15 | FMC (Shanghai) Agricultural Sciences Co., Ltd. | 1,676 | 1 | 43 | 1 |

| No. | Name | 2021 Revenue, million USD | YoY Change based on RMB | Ranking in the pesticide list | Ranking in the formulation list |
|-----|---|------------------------------|----------------------------|-------------------------------|---------------------------------|
| 16 | FMC (Suzhou) Crop Care Co., Ltd. | 925 | -3.44% | 74 | 11 |
| 17 | Shandong Kesai Agrochem Co., Ltd. | 920 | 13.44% | / | 12 |
| 18 | Shandong Kesai Agrochem Holdings Co., Ltd. | 1,289 | 18.69% | 58 | / |
| 19 | Zhejiang Welldone Chemicals Co., Ltd. | 908 | 6.70% | 76 | 13 |
| 20 | Pilar (Shanghai) Biotech Co., Ltd. | 845 | 18.02% | 79 | 14 |
| 21 | Shaanxi Meibang Pharmaceutical Group Co., Ltd. | 842 | / | 81 | 15 |
| 22 | Guangxi Yiduoshou Bio- technology Co., Ltd. | 779 | 5.56% | 82 | 16 |
| 23 | Anhui Zhongbang Biological Engineering Co., Ltd. | 735 | 11.87% | 83 | 17 |
| 24 | Jinan Tianbang Chemical Co., Ltd. | 683 | 4.92% | 86 | 18 |
| 25 | Anhui Yinong Chemical Co., Ltd. | 627 | 11.57% | 90 | 19 |
| 26 | Sunong (Guangde) Biotechnology Co., Ltd. | 558 | 173.53% | 92 | 20 |
| 27 | Shaanxi Sunger Road Bio-science Co., Ltd. | 544 | 8.15% | 93 | 21 |
| 28 | Jilin Bada Pesticide Co., Ltd. | 532 | 1.14% | 94 | 22 |
| 29 | Yixing Xingnong Chemical Products Co., Ltd. | 528 | 17.07% | 96 | 23 |
| 30 | Hainan Zhengye Zhongnong Hightech Stock Co., Ltd. | 517 | 14.89% | 97 | 24 |
| 31 | Shandong Vicome Greenland Chemical Co., Ltd. | 515 | 0.59% | 98 | 25 |

There are 10 new entrants in the pesticide list and 15 new ones in the formulation list, compared with the lists of the previous year.

Key takeaway:

- Sunong (Guangde) Biotechnology Co., Ltd., Yixing Xingnong Chemical Products Co., Ltd., and Hainan Zhengye Zhongnong High-tech Stock Co., Ltd. broke into the 2022 pesticide list as the 92nd (and 20th in the formulation list), 96th (and 23rd in the formulation list) and 97th (and 24th in the formulation list), respectively—the three only entered the 2021 formulation list before.
- Shaanxi Meibang Pharmaceutical Group Co., Ltd. appeared in both lists for the first time, with the annual sales of USD130 million (RMB842 million) in 2021, claiming the 81st in the pesticide list (and 15th in the formulation list).
- In addition, Beijing Kangbang Fuze Biotech Co., Ltd. broke into the 2022 pesticide list as the 60th, yet its subsidiary Hebei Yetian Agrochemicals Co., Ltd. entered the 2021 pesticide list before as the 77th.

Table 2.2-2 New entrants in the 2022 Pesticide Enterprise List

| No. | Enterprise | Pesticide revenue in 2021, million RMB | Pesticide revenue in 2021, million USD | Ranking |
|-----|---|--|---|---------|
| 1 | FMC (Shanghai) Agricultural Sciences Co., Ltd. | 1,676 | 259 | 43 |
| 2 | Zhejiang Tide CropScience Co., Ltd. | 1,562 | 242 | 48 |
| 3 | Beijing Kangbang Fuze Biotech Co., Ltd. | 1,243 | 192 | 60 |
| 4 | Jiangsu Baozong & Baoda Pharmaceutical Co., Ltd. | 845 | 131 | 79 |
| 5 | Shaanxi Meibang Pharmaceutical Group Co., Ltd. | 842 | 130 | 81 |
| 6 | Yingde Greatchem Chemicals Co., Ltd. | 645 | 100 | 88 |
| 7 | Sunong (Guangde) Biotechnology Co., Ltd. | 558 | 86 | 92 |
| 8 | Jiangsu Yong'an Chemical Co., Ltd. | 530 | 82 | 95 |
| 9 | Yixing Xingnong Chemical Products Co., Ltd. | 528 | 82 | 96 |
| 10 | Hainan Zhengye Zhongnong High-Tech Co., Ltd. | 517 | 80 | 97 |

Table 2.2-3 New entrants in the 2022 Pesticide Formulation Enterprise List

| No. | Enterprise | Pesticide revenue in 2021, million RMB | Pesticide revenue in 2021, million USD | Ranking |
|-----|---|---|---|---------|
| 1 | Shaanxi Meibang Pharmaceutical Group Co., Ltd. | 842 | 130 | 15 |
| 2 | Zhejiang Tianfeng Biological Science Co., Ltd. | 338 | 52 | 42 |
| 3 | Yancheng Limin Chemical Co., Ltd. | 247 | 38 | 50 |
| 4 | Tongzhou Zhengda Pesticides & Chemicals Co., Ltd. | 214 | 33 | 60 |
| 5 | Chengdu Newsun Crop Science Co., Ltd. | 200 | 31 | 63 |
| 6 | Hangzhou Bonghua Biological Technology Co. Ltd. | 198 | 31 | 65 |
| 7 | Tianjin Boke Baisheng Technology Co., Ltd. | 154 | 24 | 80 |
| 8 | Anhui Richen Plant Protection Engineering Co., Ltd. | 151 | 23 | 81 |
| 9 | Jiangmen Daguangming Agrochemical Xinhui Co., Ltd. | 137 | 21 | 86 |
| 10 | Nanjing BaoFeng Pesticide Co., Ltd. | 125 | 19 | 89 |
| 11 | Xianglin Mefront Biotechnology (Huai'an) Co., Ltd. | 125 | 19 | 89 |
| 12 | Liyang Zhongnan Chemical Industry Co., Ltd. | 115 | 18 | 95 |
| 13 | Jiangsu Futian Agrochemical Co., Ltd. | 114 | 18 | 96 |
| 14 | Shanghai Shenglian Chemical Co., Ltd. | 112 | 17 | 98 |
| 15 | Nanjing NAU Pesticide Technology Co., Ltd. | 110 | 17 | 99 |

3 2022 Top Pesticide Enterprises in China

3.1 China's Top 100 Pesticide Enterprises

In the pesticide list, at least 81 among the top 100 achieved an increase in sales revenue over 2020. Statistics show that the total sales of the top 100 pesticide enterprises reached USD39.37 billion (RMB254.41 billion), with a yearly increase (based on RMB, the same as below) of 22.00% vs. the growth of 13.57% in the previous year; In 2022, the threshold for entry rose to USD78 million (RMB504 million), up 11.75% from the previous USD65 million (RMB451 million).

In terms of sales performance in 2021, the top 11 enterprises meet sales above the level of USD774 million (RMB5 billion). 57 enterprises' sales in the year were within the range of USD155 million (RMB1 billion) to USD774 million (RMB5 billion).

The 2022 top four enterprises remained the same compared with the 2021 list and the top 10 raked in USD15.60 billion (RMB100.79 billion) in pesticide business, up by 28.53% over the previous year, accounting for 39.62% of the total sales on the list.

- ADAMA Ltd. takes the lead with over USD4.34 billion (RMB28 billion) of revenue, which more than double its followers Jiangsu Yangnong Chemical Co., Ltd. (2nd)'s USD1.81 billion (RMB11.71 billion) of revenue.
- The 3rd and 4th go to Shandong Weifang Rainbow Chemical Co., Ltd. and Sino-Agri Leading Biosciences Co., Ltd., with sales of USD1.50 billion (RMB9.68 billion) and USD1.36 billion (RMB8.81 billion) in 2021, separately. Both of them registered a yearly increase over 33%.

Table 3.1-1 List of 2022 China Top 100 Pesticide Enterprises

| | | Pesticide | Pesticide | YoY C | hange | Ranking | Ranking |
|-----|--|---------------------------------|---------------------------------|-----------------|--------------------|---------|---------|
| No. | Enterprise | revenue in 2021, million RMB | revenue in 2021, million USD | based on RMB | Ranking in 2021 | in 2021 | change |
| 1 | ADAMA Ltd. | 28,047 | 4,341 | 8.89% | 16.75% | 1 | 0 |
| 2 | Jiangsu Yangnong Chemical Co., Ltd. | 11,710 | 1,812 | 20.05% | 28.73% | 2 | 0 |
| 3 | Shandong Weifang Rainbow Chemical Co., Ltd. | 9,681 | 1,498 | 33.79% | 43.46% | 3 | 0 |
| 4 | Sino-Agri Leading Biosciences Co., Ltd. | 8,806 | 1,363 | 33.20% | 42.83% | 4 | 0 |
| 5 | Zhejiang Wynca Chemical Industrial Group Co., Ltd. | 7,640 | 1,182 | 25.64% | 34.72% | 6 | 1 |
| 6 | Lianyungang Liben Crop Science Co., Ltd. | 7,599 | 1,176 | 61.75% | 73.44% | 7 | 1 |
| 7 | Hubei Xingfa Chemicals Group Co., Ltd. | 7,548 | 1,168 | 72.05% | 84.49% | 9 | 2 |
| 8 | Nutrichem Co., Ltd. | 7,288 | 1,128 | 17.81% | 26.33% | 5 | -3 |
| 9 | Fuhua Tongda Agro- chemical Technology Co., Ltd. | 6,470 | 1,001 | 111.37% | 126.64% | 16 | 7 |
| 10 | Lier Chemical Co., Ltd. | 5,999 | 928 | 29.18% | 38.51% | 8 | -2 |
| 11 | Sichuan Hebang Biotechnology Co., Ltd. | 5,249 | 812 | 74.62% | 87.24% | 18 | 7 |
| 12 | Nanjing Red Sun Co., Ltd. | 4,672 | 723 | 17.21% | 25.68% | 10 | -2 |

| | | Pesticide | Pesticide | YoY C | hange | | |
|-----|--|---------------------------------|---------------------------------|--------------|--------------------|----|-------------------|
| No. | Enterprise | revenue in 2021, million RMB | revenue in 2021, million USD | based on RMB | Ranking in 2021 | | Ranking change |
| 13 | Jiangsu Sevencontinent Green Chemical Co., Ltd. | 4,573 | 708 | 20.79% | 29.52% | 12 | -1 |
| 14 | Lianhe Chemical Technology Co., Ltd. | 4,277 | 662 | 57.82% | 69.23% | 23 | 9 |
| 15 | Limin Group Co., Ltd. | 4,240 | 656 | 9.05% | 16.93% | 11 | -4 |
| 16 | Nantong Jiangshan Agrochemical & Chemicals Co., Ltd. | 3,907 | 605 | 29.50% | 38.86% | 17 | 1 |
| 17 | Shandong Binnong Technology Co., Ltd. | 3,891 | 602 | 10.63% | 18.63% | 13 | -4 |
| 18 | Zhejiang Zhongshan Chemical Industry Group Co., Ltd. | 3,808 | 589 | 31.45% | 40.94% | 21 | 3 |
| 19 | Jiangsu Changqing Agrochemical Co., Ltd. | 3,683 | 570 | 25.79% | 34.87% | 20 | 1 |
| 20 | Hailir Pesticides and Chemicals Group Co., Ltd. | 3,607 | 558 | 14.73% | 23.02% | 15 | -5 |
| 21 | Anhui Guangxin Agrochemical Co., Ltd. | 3,361 | 520 | -1.21% | 5.93% | 14 | -7 |
| 22 | CAC Nantong Chemical Co., Ltd. | 3,354 | 519 | 13.23% | 21.42% | 19 | -3 |
| 23 | Shenzhen Noposion Agrochemicals Co., Ltd. | 3,249 | 503 | 16.70% | 25.14% | 22 | -1 |
| 24 | Yongnong BioSciences Co., Ltd. | 3,239 | 501 | 40.64% | 50.81% | 25 | 1 |
| 25 | Guangdong Zhongxun Agriscience Corporation | 3,176 | 492 | 46.97% | 57.59% | 26 | 1 |
| 26 | Shandong Luba Chemical Co., Ltd. | 2,914 | 451 | 25.39% | 34.45% | 24 | -2 |
| 27 | Syngenta Nantong Crop Protection Co., Ltd. | 2,701 | 418 | 27.11% | 36.29% | 27 | 0 |
| 28 | Guangdong Liwei Chemical Industry Co., Ltd. | 2,626 | 406 | 34.12% | 43.81% | 33 | 5 |
| 29 | Yifan Biotechnology Group Co., Ltd. | 2,486 | 385 | 42.14% | 52.41% | 38 | 9 |
| 30 | Ningbo Sunjoy Agroscience Co., Ltd. | 2,245 | 347 | 14.25% | 22.50% | 32 | 2 |
| 31 | Shandong Cynda Chemical Co., Ltd. | 2,179 | 337 | 15.90% | 24.28% | 34 | 3 |
| 32 | Jiangsu Flag Chemical Industry Co., Ltd. | 2,169 | 336 | 17.31% | 25.78% | 35 | 3 |
| 33 | Hebei Xingbai Agricultural Technology Co., Ltd. | 2,151 | 333 | 7.44% | 15.21% | 31 | -2 |

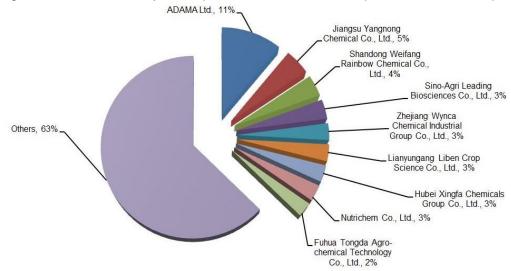
| | | Pesticide | Pesticide | YoY C | hange | | |
|-----|--|---------------------------------|---------------------------------|-----------------|--------------------|--------------------|-------------------|
| No. | Enterprise | revenue in 2021, million RMB | revenue in 2021, million USD | based on RMB | Ranking in 2021 | Ranking in 2021 | Ranking change |
| 34 | Jiangxi Zhengbang Crop Protection Co., Ltd. | 2,134 | 330 | 21.25% | 30.01% | 36 | 2 |
| 35 | Bayer CropScience China Co., Ltd. | 2,099 | 325 | 1.89% | 9.26% | 28 | -7 |
| 36 | Qilu Pharmaceutical (Inner Mongolia) Co., Ltd. | 1,958 | 303 | -2.30% | 4.76% | 30 | -6 |
| 37 | Corteva Agriscience (Shanghai) Co., Ltd. | 1,927 | 298 | -4.27% | 2.64% | 29 | -8 |
| 38 | Jingbo Agrochemicals Technology Co., Ltd. | 1,870 | 289 | 7.47% | 15.24% | 39 | 1 |
| 39 | Hunan Haili Chemical Industry Co., Ltd. | 1,825 | 282 | 16.09% | 24.48% | 40 | 1 |
| 40 | Jiangsu Agrochem Laboratory Co., Ltd. | 1,767 | 273 | 18.43% | 26.99% | 44 | 4 |
| 41 | Trust Crop Protection Technology Co., Ltd. | 1,745 | 270 | 43.74% | 54.13% | 55 | 14 |
| 42 | Jiangsu Good Harvest- Weien Agrochemical Co., Ltd. | 1,744 | 270 | 36.25% | 46.10% | 51 | 9 |
| 43 | FMC (Shanghai) Agricultural Sciences Co., Ltd. | 1,676 | 259 | / | / | 1 | / |
| 44 | Anhui Huaxing Chemical Industry Co., Ltd. | 1,650 | 255 | 14.50% | 22.78% | 48 | 4 |
| 45 | Guangxi Tianyuan Biochemistry Co., Ltd. | 1,619 | 251 | 6.09% | 13.76% | 41 | -4 |
| 46 | Qingdao Hansen Biologic Science Co., Ltd. | 1,613 | 250 | 5.84% | 13.49% | 42 | -4 |
| 47 | Zhejiang Heben Pesticide & Chemicals Co., Ltd. | 1,597 | 247 | 6.25% | 13.93% | 43 | -4 |
| 48 | Zhejiang Tide CropScience Co., Ltd. | 1,562 | 242 | 1 | / | / | / |
| 49 | Hubei Benxing Agrochemical Co., Ltd. | 1,550 | 240 | 195.24% | 216.57% | 94 | 45 |
| 50 | Shandong Sino-Agri United Biotechnology Co., Ltd. | 1,530 | 237 | 4.29% | 11.83% | 47 | -3 |
| 51 | Jiangsu Fengshan Group Co., Ltd. | 1,518 | 235 | 1.74% | 9.09% | 45 | -6 |
| 52 | Jiangsu Rotam Chemistry Co., Ltd. | 1,493 | 231 | 18.49% | 27.05% | 53 | 1 |
| 53 | Synwill Co., Ltd. | 1,458 | 226 | 17.77% | 26.28% | 54 | 1 |
| 54 | Jiangsu Lanfeng Bio- chemical Co., Ltd. | 1,444 | 223 | 24.27% | 33.25% | 57 | 3 |

| | | Pesticide | Pesticide | YoY C | hange | | |
|-----|--|---------------------------------|---------------------------------|--------------|--------------------|--------------------|-------------------|
| No. | Enterprise | revenue in 2021, million RMB | revenue in 2021, million USD | based on RMB | Ranking in 2021 | Ranking in 2021 | Ranking change |
| 55 | Zhejiang Jinfanda Biochemical Co., Ltd. | 1,373 | 212 | 53.24% | 64.31% | 67 | 12 |
| 56 | Anhui Fengle Agrochemical Co., Ltd. | 1,372 | 212 | -21.73% | -16.08% | 37 | -19 |
| 57 | BASF Crop Protection (Jiangsu) Co., Ltd. | 1,296 | 201 | 22.50% | 31.35% | 62 | 5 |
| 58 | Shandong Kesai Agrochem Holdings Co., Ltd. | 1,289 | 199 | 18.69% | 27.27% | 61 | 3 |
| 59 | Jiangsu Essence Agrochemicals Co., Ltd. | 1,257 | 195 | 19.15% | 27.76% | 63 | 4 |
| 60 | Beijing Kangbang Fuze Biotech Co., Ltd. | 1,243 | 192 | / | / | / | / |
| 61 | Hebei Lansen Biotech Co., Ltd. | 1,230 | 190 | 19.53% | 28.17% | 64 | 3 |
| 62 | Shandong Huayang Pesticide Chemical Industry Group Co., Ltd. | 1,171 | 181 | 2.36% | 9.76% | 58 | -4 |
| 63 | Qiaochang Modern Agriculture Co., Ltd. | 1,166 | 180 | 6.29% | 13.97% | 59 | -4 |
| 64 | Suli Co., Ltd. | 1,125 | 174 | 20.45% | 29.15% | 66 | 2 |
| 65 | Zhejiang Xinnong Chemical Co., Ltd. | 1,119 | 173 | -4.85% | 2.03% | 56 | -9 |
| 66 | Maxunitech Inc. | 1,102 | 171 | -25.99% | -20.64% | 46 | -20 |
| 67 | Jiangsu Repont Agrochemical Co., Ltd. | 1,046 | 162 | -4.30% | 2.62% | 60 | -7 |
| 68 | Shandong A & Fine Agrochemicals Co., Ltd. | 1,012 | 157 | -20.38% | -14.62% | 52 | -16 |
| 69 | Sichuan Guoguang Agrochemical Co., Ltd. | 949 | 147 | 17.31% | 25.78% | 73 | 4 |
| 70 | Henan HDF Chemical Co., Ltd. | 948 | 147 | 94.66% | 108.73% | 98 | 28 |
| 71 | Lion Agrevo (Jiangsu) Co., Ltd. | 947 | 147 | 18.08% | 26.61% | 74 | 3 |
| 72 | Jiangsu Sword Agrochemicals Co., Ltd. | 930 | 144 | 6.90% | 14.62% | 69 | -3 |
| 73 | Chongqing Shurong Crop Science Co., Ltd. | 928 | 144 | 13.03% | 21.20% | 72 | -1 |
| 74 | FMC (Suzhou) Crop Care Co., Ltd. | 925 | 143 | -3.44% | 3.53% | 65 | -9 |
| 75 | Hangzhou Udragon Chemical Co., Ltd. | 913 | 141 | 1.90% | 9.26% | 68 | -7 |
| 76 | Zhejiang Welldone Chemicals Co., Ltd. | 908 | 141 | 6.70% | 14.41% | 70 | -6 |

| | | Pesticide | Pesticide | YoY C | hange | - | Panking |
|-----|--|---------------------------------|---------------------------------|-----------------|--------------------|--------------------|-------------------|
| No. | Enterprise | revenue in 2021, million RMB | revenue in 2021, million USD | based on RMB | Ranking in 2021 | Ranking in 2021 | Ranking change |
| 77 | Hebei Guanlong Agrochemical Co., Ltd. | 906 | 140 | 9.16% | 17.04% | 71 | -6 |
| 78 | Anhui Jiuyi Agriculture Co., Ltd. | 886 | 137 | 34.86% | 44.60% | 80 | 2 |
| 79 | Pilar (Shanghai) Biotech Co., Ltd. | 845 | 131 | 18.02% | 26.54% | 78 | -1 |
| 79 | Jiangsu Baozong & Baoda Pharmaceutical Co., Ltd. | 845 | 131 | / | / | / | / |
| 81 | Shaanxi Meibang Pharmaceutical Group Co., Ltd. | 842 | 130 | / | 1 | 1 | 1 |
| 82 | Guangxi Yiduoshou Bio- technology Co., Ltd. | 779 | 121 | 5.56% | 13.18% | 76 | -6 |
| 83 | Anhui Zhongbang Biological Engineering Co., Ltd. | 735 | 114 | 11.87% | 19.96% | 79 | -4 |
| 84 | Zibo NAB Agrochemicals Limited | 719 | 111 | 15.97% | 24.35% | 85 | 1 |
| 85 | Jiangsu Huifeng Bio Agriculture Co., Ltd. | 711 | 110 | -49.57% | -45.93% | 49 | -36 |
| 86 | Jinan Tianbang Chemical Co., Ltd. | 683 | 106 | 4.92% | 12.50% | 81 | -5 |
| 87 | Jilin Jinqiu Pesticide Co., Ltd. | 675 | 104 | 22.73% | 31.60% | 90 | 3 |
| 88 | Yingde Greatchem Chemicals Co., Ltd. | 645 | 100 | / | / | / | / |
| 89 | Ningxia Ruitai Technology Co., Ltd. | 639 | 99 | 13.50% | 21.70% | 88 | -1 |
| 90 | Anhui Yinong Chemical Co., Ltd. | 627 | 97 | 11.57% | 19.63% | 89 | -1 |
| 91 | Qilu Synva Pharmaceutical Co., Ltd. | 565 | 87 | -11.30% | -4.89% | 82 | -9 |
| 92 | Sunong (Guangde) Biotechnology Co., Ltd. | 558 | 86 | 173.53% | 193.29% | / | / |
| 93 | Shaanxi Sunger Road Bioscience Co., Ltd. | 544 | 84 | 8.15% | 15.97% | 96 | 3 |
| 94 | Jilin Bada Pesticide Co., Ltd. | 532 | 82 | 1.14% | 8.45% | 93 | -1 |
| 95 | Jiangsu Yong'an Chemical Co., Ltd. | 530 | 82 | / | / | / | / |
| 96 | Yixing Xingnong Chemical Products Co., Ltd. | 528 | 82 | 17.07% | 25.72% | / | / |
| 97 | Hainan Zhengye Zhongnong High-tech Stock Co., Ltd. | 517 | 80 | 14.89% | 23.10% | / | / |

| No. | | Pesticide | Pesticide | YoY C | Change | Ranking | Ranking |
|-----|--|---------------------------------|---------------------------------|-----------------|--------------------|---------|---------|
| | Enterprise | revenue in 2021, million RMB | revenue in 2021, million USD | based on RMB | Ranking in 2021 | in 2021 | change |
| 98 | Shandong Vicome Greenland Chemical Co., Ltd. | 515 | 80 | 0.59% | 7.85% | 95 | -3 |
| 99 | Syngenta (Suzhou) Crop Protection Co., Ltd. | 511 | 79 | 3.44% | 10.92% | 97 | -2 |
| 100 | Jiangsu Weunite Fine Chemical Co., Ltd. | 504 | 78 | -14.86% | -8.71% | 86 | -14 |

Figure 3.1-1 Shares of major enterprises of the 2022 China Top 100 Pesticide Enterprise List



Source: CCM

By annual growth, 8 listed here reported over 50% increases in 2021 sales; while 12 marked sales decline—this number is down by 7 compared with the list for one year before.

Table 3.1-2 List of the pesticide enterprises with growth rate of annual revenue exceeding 50%, 2021

| | | Y | oY Change | Pesticide revenue in | Ranking in | Ranking |
|-----|---|-----------------|--|----------------------|------------|---------|
| No. | Enterprise | based on RMB | Pesticide revenue in 2021, million USD | 2021, million USD | 2022 | change |
| 1 | Hubei Benxing Agrochemical Co., Ltd. | 195.24% | 216.57% | 240 | 49 | 45 |
| 2 | Fuhua Tongda Agro-chemical Technology Co., Ltd. | 111.37% | 126.64% | 1,001 | 9 | 7 |
| 3 | Henan HDF Chemical Co., Ltd. | 94.66% | 108.73% | 147 | 70 | 28 |
| 4 | Sichuan Hebang Biotechnology Co., Ltd. | 74.62% | 87.24% | 812 | 11 | 7 |
| 5 | Hubei Xingfa Chemicals Group Co., Ltd. | 72.05% | 84.49% | 1,168 | 7 | 2 |
| 6 | Lianyungang Liben Crop Science and Technology Co., Ltd. | 61.75% | 73.44% | 1,176 | 6 | 1 |

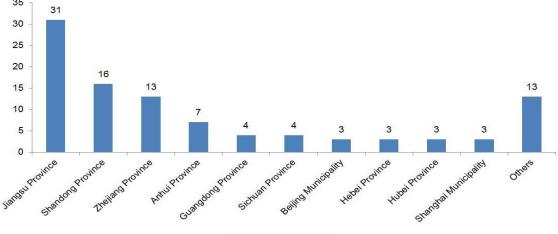
| No. | Enterprise | Y | oY Change | Pesticide revenue in | Ranking in | Ranking |
|-----|--|-----------------|--|----------------------|------------|---------|
| | | based on RMB | Pesticide revenue in 2021, million USD | 2021, million USD | 2022 | change |
| 7 | Lianhe Chemical Technology Co., Ltd. | 57.82% | 69.23% | 662 | 14 | 9 |
| 8 | Zhejiang Jinfanda Biochemical Co., Ltd. | 53.24% | 64.31% | 212 | 55 | 12 |

3.2 Geographical distribution of 2022 China Top 100 Pesticide Enterprises

Analysis of the geographical distribution of 2022 China Top 100 pesticide enterprises shows that the top three provinces ranked by pesticide revenue in 2021 are Jiangsu Province, Hubei Province and Shandong Province. The pesticide revenue of the three provinces accounts for 56.22% of the total.

In the 2022 list, the total pesticide revenue in Jiangsu Province in 2021 was USD11.06 billion (RMB71.49 billion), accounting for 28.10% of the total. Jiangsu Province has 31 enterprises in the 2022 top 100 list, such number up by 3 from the 2021 listed ones. Hubei Province, raked in pesticide revenue of USD5.75 billion (RMB37.15 billion) and ranks the second here, with just three enterprises in the list, including ADAMA Ltd. Shandong Province holds the third, with 16 enterprises listed totalling pesticide revenue of USD5.33 billion (RMB34.41 billion).

Figure 3.2-1 Number of 2022 Top 100 Pesticide Enterprises in China by province/region, 2021



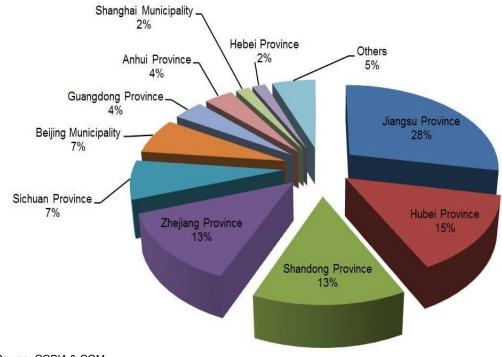
■ Number of enterprises

Table 3.2-1 Revenue of 2022 China Top 100 Pesticide Enterprises by province/region, 2021

| No. | Province/Region | Pesticide revenue in 2021, million RMB | Pesticide revenue in 2021, million USD |
|-----|----------------------|--|--|
| 1 | Jiangsu Province | 71,489 | 11,064 |
| 2 | Hubei Province | 37,145 | 5,749 |
| 3 | Shandong Province | 34,405 | 5,325 |
| 4 | Zhejiang Province | 33,811 | 5,233 |
| 5 | Sichuan Province | 18,667 | 2,889 |
| 6 | Beijing Municipality | 17,337 | 2,683 |

| No. | Province/Region | Pesticide revenue in 2021, million RMB | Pesticide revenue in 2021, million USD |
|-----|----------------------------------|--|--|
| 7 | Guangdong Province | 9,696 | 1,501 |
| 8 | Anhui Province | 9,189 | 1,422 |
| 9 | Shanghai Municipality | 4,448 | 688 |
| 10 | Hebei Province | 4,287 | 663 |
| 11 | Guangxi Zhuang Autonomous Region | 2,398 | 371 |
| 12 | Jiangxi Province | 2,134 | 330 |
| 13 | Inner Mongolia Autonomous Region | 1,958 | 303 |
| 14 | Hunan Province | 1,825 | 282 |
| 15 | Shaanxi Province | 1,386 | 215 |
| 16 | Jilin Province | 1,207 | 187 |
| 17 | Henan Province | 948 | 147 |
| 18 | Chongqing Municipality | 928 | 144 |
| 19 | Ningxia Hui Autonomous Region | 639 | 99 |
| 20 | Hainan Province | 517 | 80 |
| | Total | 254,414 | 39,374 |

Figure 3.2-2 Share of pesticide revenue of 2022 China Top 100 Pesticide Enterprises by province/region, 2021



4 2022 Top Pesticide Formulation Enterprises in China

4.1 China's Top 100 Pesticide Formulation Enterprises

Taking advantages of industry transformation and upgrading of pesticide formulation business promoted in China last year, the 2022 top 100 China formulation enterprises achieved total revenue of USD7.10 billion (RMB45.53 billion), a yearly increase of 17.31%.

The average revenue of the top 100 enterprises from formulation business was USD70 million (RMB455 million) in 2021, 18% less than what amount the top 100 pesticide enterprises earned (=RMB2,544 million on average) in the same year. The overall sales from formulations have increased significantly last year, though there are only 8 at the higher range, each with sales of above USD155 million (RMB1 billion). The aggregate sales of the top 10 formulation enterprises approached USD2.67 billion (RMB17.27 billion), accounting for 37.93% of the total, with an increase of 20.49% over the previous year. The sales of the top 27 stay above USD78 million (RMB500 million). The threshold for entry to the 2022 formulation list reaches USD17 million (RMB110 million), up by 8.91% year-on-year.

Specifically, Shenzhen Noposion Agrochemicals Co., Ltd. (Shenzhen Noposion) catches the first place again, with sales of USD503 million (RMB3.25 billion) in 2021. Guangdong Zhongxun Agri-science Corporation came second, with sales of USD492 million (RMB3.18 billion). The 3rd, 4th and 5th places are claimed by Jiangxi Zhengbang Crop Protection Co., Ltd., Guangxi Tianyuan Biochemistry Co., Ltd. and Jiangsu Rotam Chemistry Co., Ltd. The top 5 remain the same as 2021.

Table 4.1-1 List of 2022 China Top 100 Pesticide Formulation Enterprises

| | Futamaia | Pesticide | Pesticide | YoY C | hange | Ranking | Ranking |
|-----|--|---------------------------------|---------------------------------|-----------------|--------------------|---------|---------|
| No. | Enterprise | revenue in 2021, million RMB | revenue in 2021, million USD | based on RMB | Ranking in 2021 | in 2021 | change |
| 1 | Shenzhen Noposion Agrochemicals Co., Ltd. | 3,249 | 503 | 16.70% | 25.14% | 1 | 0 |
| 2 | Guangdong Zhongxun Agriscience Corporation | 3,176 | 492 | 46.97% | 57.59% | 2 | 0 |
| 3 | Jiangxi Zhengbang Crop Protection Co., Ltd. | 2,134 | 330 | 21.25% | 30.01% | 3 | 0 |
| 4 | Guangxi Tianyuan Biochemistry Co., Ltd. | 1,619 | 251 | 6.09% | 13.76% | 4 | 0 |
| 5 | Jiangsu Rotam Chemistry Co., Ltd. | 1,493 | 231 | 18.49% | 27.05% | 5 | 0 |
| 6 | BASF Crop Protection (Jiangsu) Co., Ltd. | 1,296 | 201 | 22.50% | 31.35% | 7 | 1 |
| 7 | Jiangsu Essence Agrochemicals Co., Ltd. | 1,257 | 195 | 19.15% | 27.76% | 8 | 1 |
| 8 | Qiaochang Modern Agriculture Co., Ltd. | 1,166 | 180 | 6.29% | 13.97% | 6 | -2 |
| 9 | Sichuan Guoguang Agrochemical Co., Ltd. | 949 | 147 | 17.31% | 25.78% | 13 | 4 |
| 10 | Chongqing Shurong Crop Science Co., Ltd. | 928 | 144 | 13.03% | 21.20% | 11 | 1 |
| 11 | FMC (Suzhou) Crop Care Co., Ltd. | 925 | 143 | -3.44% | 3.53% | 9 | -2 |

| | | Pesticide | Pesticide | YoY C | hange | Panking | Doubing |
|-----|--|---------------------------------|---------------------------------|--------------|--------------------|--------------------|-------------------|
| No. | Enterprise | revenue in 2021, million RMB | revenue in 2021, million USD | based on RMB | Ranking in 2021 | Ranking in 2021 | Ranking change |
| 12 | Shandong Kesai Agrochem Co., Ltd. | 920 | 142 | 13.44% | 21.64% | 12 | 0 |
| 13 | Zhejiang Welldone Chemicals Co., Ltd. | 908 | 141 | 6.70% | 14.41% | 10 | -3 |
| 14 | Pilar (Shanghai) Biotech Co., Ltd. | 845 | 131 | 18.02% | 26.54% | 15 | 1 |
| 15 | Shaanxi Meibang Pharmaceutical Group Co., Ltd. | 842 | 130 | / | / | / | / |
| 16 | Guangxi Yiduoshou Biotechnology Co., Ltd. | 779 | 121 | 5.56% | 13.18% | 14 | -2 |
| 17 | Anhui Zhongbang Biological Engineering Co., Ltd. | 735 | 114 | 11.87% | 19.96% | 16 | -1 |
| 18 | Jinan Tianbang Chemical Co., Ltd. | 683 | 106 | 4.92% | 12.50% | 17 | -1 |
| 19 | Anhui Yinong Chemical Co., Ltd. | 627 | 97 | 11.57% | 19.63% | 18 | -1 |
| 20 | Sunong (Guangde) Biotechnology Co., Ltd. | 558 | 86 | 173.53% | 193.29% | 53 | 33 |
| 21 | Shaanxi Sunger Road Bioscience Co., Ltd. | 544 | 84 | 8.15% | 15.97% | 21 | 0 |
| 22 | Jilin Bada Pesticide Co., Ltd. | 532 | 82 | 1.14% | 8.45% | 19 | -3 |
| 23 | Yixing Xingnong Chemical Products Co., Ltd. | 528 | 82 | 17.07% | 25.53% | 24 | 1 |
| 24 | Hainan Zhengye Zhongnong High-tech Stock Co., Ltd. | 517 | 80 | 14.89% | 23.19% | 25 | 1 |
| 25 | Shandong Vicome Greenland Chemical Co., Ltd. | 515 | 80 | 0.59% | 7.85% | 20 | -5 |
| 26 | Syngenta (Suzhou) Crop Protection Co., Ltd. | 511 | 79 | 3.44% | 10.92% | 22 | -4 |
| 27 | Sinon Chemical (China) Co., Ltd. | 504 | 78 | 12.25% | 20.36% | 26 | -1 |
| 28 | Qingdao Jin'er Agriculture Chemical Research and Development Co., Ltd. | 495 | 77 | 41.43% | 51.65% | 33 | 5 |
| 29 | Jixixian Qingfeng Tianying Biochemical Co., Ltd. | 470 | 73 | 56.67% | 67.99% | 38 | 9 |
| 30 | Jiangmen Plant Protection Co., Ltd. | 458 | 71 | 0.66% | 7.93% | 23 | -7 |
| 31 | Anhui Huilong Group Youngsun Pesticides Co., Ltd. | 456 | 71 | 18.44% | 27.00% | 29 | -2 |
| 32 | Yixing Yizhou Chemical Products Co., Ltd. | 454 | 70 | 8.87% | 16.74% | 27 | -5 |

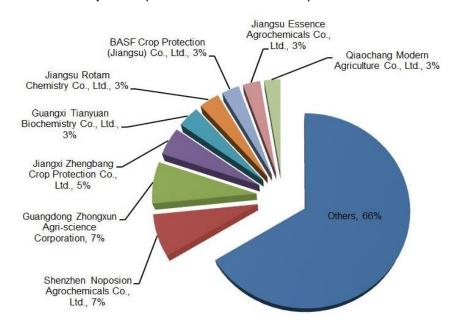
| | | Pesticide | Pesticide | YoY C | hange | Ranking | Ranking |
|-----|--|---------------------------------|---------------------------------|-----------------|--------------------|---------|---------|
| No. | Enterprise | revenue in 2021, million RMB | revenue in 2021, million USD | based on RMB | Ranking in 2021 | in 2021 | change |
| 33 | Shanghai Yuelian Biological Technology Co., Ltd. | 422 | 65 | 13.44% | 21.64% | 30 | -3 |
| 34 | Jinan Zhongke Green Biotechnology Co., Ltd. | 420 | 65 | 6.33% | 14.01% | 28 | -6 |
| 35 | Hebei Zhongtian Bangzheng Biological Technology Co., Ltd. | 402 | 62 | 9.54% | 17.45% | 31 | -4 |
| 36 | Hunan Xinchangshan Agricultural Development Co., Ltd. | 384 | 59 | 20.38% | 29.07% | 35 | -1 |
| 37 | Shandong Zhongxin Kenong Bio-technology Co., Ltd. | 369 | 57 | 37.17% | 47.09% | 41 | 4 |
| 38 | Xiamen Yizhi Biotechnology Co., Ltd. | 357 | 55 | 125.95% | 142.28% | 71 | 33 |
| 39 | Tianjin Huayu Pesticide Co., Ltd. | 356 | 55 | 16.72% | 25.16% | 37 | -2 |
| 40 | Zhejiang Sega Science and Technology Co., Ltd. | 352 | 54 | 8.64% | 16.49% | 34 | -6 |
| 41 | Hebei Zhongbao Green Agricultural Science and Technology Co., Ltd. | 351 | 54 | 12.86% | 21.02% | 36 | -5 |
| 42 | Zhejiang Tianfeng Biological Science Co., Ltd. | 338 | 52 | / | / | / | / |
| 43 | Jiangxi Windeal Biotechnology Co., Ltd. | 330 | 51 | 26.44% | 35.57% | 42 | -1 |
| 44 | Shanghai Hujiang Biochemical Co., Ltd. | 308 | 48 | 5.48% | 13.10% | 39 | -5 |
| 45 | Shandong Runyang Chemical Co., Ltd. | 300 | 46 | 17.65% | 26.15% | 44 | -1 |
| 46 | Hebei Rongwei Biological Pharmaceutical Co., Ltd. | 270 | 42 | 12.03% | 20.13% | 45 | -1 |
| 47 | Shandong Lvbang Crop Science Co., Ltd. | 266 | 41 | 23.15% | 32.05% | 49 | 2 |
| 47 | Shandong Zouping Pesticides Co., Ltd. | 266 | 41 | 45.36% | 55.86% | 61 | 14 |
| 49 | Jiangxi Buffett Chemical Co., Ltd. | 258 | 40 | 56.36% | 67.66% | 65 | 16 |
| 50 | Yancheng Limin Chemical Co., Ltd. | 247 | 38 | / | / | / | / |
| 50 | Shaanxi Xidahuate Co., Ltd. | 247 | 38 | 14.35% | 22.61% | 50 | 0 |
| 52 | Nantong Lihua Agrochemical Co., Ltd. | 245 | 38 | 63.33% | 75.14% | 77 | 25 |
| 53 | Jiangsu Dongbao Agrochemical Co., Ltd. | 231 | 36 | 19.69% | 28.34% | 58 | 5 |

| | _ | Pesticide | Pesticide | YoY C | hange | Ranking | Doubin a |
|-----|--|---------------------------------|---------------------------------|--------------|--------------------|---------|-------------------|
| No. | Enterprise | revenue in 2021, million RMB | revenue in 2021, million USD | based on RMB | Ranking in 2021 | in 2021 | Ranking change |
| 53 | Hebei Nongxin Agrochemical Group Co., Ltd. | 231 | 36 | 8.96% | 16.84% | 51 | -2 |
| 55 | Tianjin Highpoint Plant Protection Co., Ltd. | 226 | 35 | 0.89% | 8.18% | 48 | -7 |
| 56 | Shanghai HKC Ltd. | 225 | 35 | 7.66% | 15.43% | 52 | -4 |
| 57 | Shaanxi Kanghelifeng Biotechnology Pesticide Co., Ltd. | 220 | 34 | 23.60% | 32.53% | 62 | 5 |
| 58 | Anhui Chaonong High-tech Chemical Co., Ltd. | 218 | 34 | 105.66% | 120.52% | 94 | 36 |
| 59 | Shanghai Shengnong Pesticide Co., Ltd. | 215 | 33 | 9.69% | 17.62% | 56 | -3 |
| 60 | Dezhou Xianglong Biochemical Co., Ltd. | 214 | 33 | 30.49% | 39.92% | 66 | 6 |
| 60 | Tongzhou Zhengda Pesticides & Chemicals Co., Ltd. | 214 | 33 | / | / | 1 | / |
| 62 | Jinan Yinong Chemical Co., Ltd. | 210 | 33 | 17.98% | 26.50% | 63 | 1 |
| 63 | Zhejiang Jishun Plant Technology Co., Ltd. | 200 | 31 | 12.99% | 21.16% | 64 | 1 |
| 63 | Chengdu Newsun Crop Science Co., Ltd. | 200 | 31 | / | / | / | / |
| 65 | Hangzho u Bonghua Biological Technology Co. Ltd. | 198 | 31 | / | / | 1 | / |
| 66 | Guangdong ZhenGe Biotechnology Co., Ltd. | 195 | 30 | 4.84% | 12.41% | 59 | -7 |
| 67 | Shandong Shengpeng Technology Co., Ltd. | 187 | 29 | 23.03% | 31.92% | 72 | 5 |
| 68 | Anhui Meilan Agricultural Development Co., Ltd. | 184 | 28 | 14.29% | 22.54% | 70 | 2 |
| 69 | Huizhou Yinnong Technology Co., Ltd. | 181 | 28 | 19.87% | 28.53% | 74 | 5 |
| 70 | Anhui Shengdan Biochemical Co., Ltd. | 180 | 28 | 11.11% | 19.14% | 69 | -1 |
| 70 | Henan Changjian Biotechnology Co., Ltd. | 180 | 28 | 25.87% | 34.97% | 79 | 9 |
| 72 | Hefei Henong Pesticide Co., Ltd. | 179 | 28 | 10.49% | 18.48% | 67 | -5 |
| 73 | Jiangsu State Farms Biochemistry Co., Ltd. | 178 | 28 | 17.88% | 26.40% | 75 | 2 |
| 74 | Shandong Changqing Pesticide Factory Co., Ltd. | 177 | 27 | 17.22% | 25.69% | 76 | 2 |

| | | Pesticide | Pesticide | YoY C | hange | Panking | Doubing |
|-----|--|---------------------------------|---------------------------------|--------------|--------------------|--------------------|-------------------|
| No. | Enterprise | revenue in 2021, million RMB | revenue in 2021, million USD | based on RMB | Ranking in 2021 | Ranking in 2021 | Ranking change |
| 75 | Lanxi Jinghang Biotechnology Co., Ltd. | 171 | 26 | 23.91% | 32.87% | 81 | 6 |
| 76 | Zhejiang Tianyi Biotechnology Co., Ltd. | 167 | 26 | 9.87% | 17.81% | 73 | -3 |
| 77 | Anhui Lanmpin Agricultural Development Co., Ltd. | 164 | 25 | -17.17% | -11.19% | 55 | -22 |
| 78 | Anyang Ruipu Agrochemical Co., Ltd. | 160 | 25 | -1.23% | 5.90% | 68 | -10 |
| 79 | Anhui Shengfeng Biochemical Co., Ltd. | 155 | 24 | 10.71% | 18.71% | 80 | 1 |
| 80 | Tianjin Boke Baisheng Technology Co., Ltd. | 154 | 24 | / | / | / | / |
| 81 | Anhui Richen Plant Protection Engineering Co., Ltd. | 151 | 23 | / | / | / | / |
| 82 | Shandong Yannong Biotechnology Co., Ltd. | 149 | 23 | 41.90% | 52.16% | 95 | 13 |
| 83 | Shandong Danong Pharmaceutical Co., Ltd. | 148 | 23 | 2.07% | 9.44% | 78 | -5 |
| 84 | Hengshui Hengwei Chemical Co., Ltd. | 147 | 23 | 9.70% | 17.63% | 82 | -2 |
| 85 | Shaanxi Xiannong Biology Science Co., Ltd. | 142 | 22 | 24.56% | 33.56% | 91 | 6 |
| 86 | Jiangmen Daguangming Agrochemical Xinhui Co., Ltd. | 137 | 21 | / | / | / | / |
| 87 | Hebei Boken Agriculture Co., Ltd. | 136 | 21 | 8.80% | 16.66% | 88 | 1 |
| 88 | Zhejiang Longyou Eastern Anasac Crop Science Co., Ltd. | 130 | 20 | 13.04% | 21.21% | 90 | 2 |
| 89 | Xianglin Mefront Biotechnology (Huai'an) Co., Ltd. | 125 | 19 | / | / | / | 1 |
| 89 | Nanjing BaoFeng Pesticide Co., Ltd. | 125 | 19 | / | / | / | / |
| 91 | Liuzhou Huinong Chemical Co., Ltd. | 124 | 19 | 9.73% | 17.66% | 92 | 1 |
| 92 | Nanjing Ronch Chemical Co., Ltd. | 121 | 19 | -5.47% | 1.36% | 86 | -6 |
| 92 | Zibo Meitian Pesticide Co., Ltd. | 121 | 19 | -5.47% | 1.36% | 87 | -5 |
| 94 | Shanxi Qixing Pesticide Co., Ltd. | 120 | 19 | -38.78% | -34.35% | 57 | -37 |
| 95 | Liyang Zhongnan Chemical Industry Co., Ltd. | 115 | 18 | / | / | / | / |

| | Enterprise | Pesticide | Pesticide | YoY C | hange | Ranking | Ranking |
|-----|---|---------------------------------|---------------------------------|-----------------|--------------------|---------|---------|
| No. | | revenue in 2021, million RMB | revenue in 2021, million USD | based on RMB | Ranking in 2021 | in 2021 | change |
| 96 | Jiangsu Futian Agrochemical Co., Ltd. | 114 | 18 | / | / | / | / |
| 97 | Zhenjiang Pioneer Cropscience Co., Ltd. | 113 | 17 | -44.06% | -40.02% | 54 | -43 |
| 98 | Shanghai Shenglian Chemical Co., Ltd. | 112 | 17 | / | / | / | / |
| 99 | Yangzhou Suling Agrochemicals Co., Ltd. | 110 | 17 | 8.91% | 16.78% | 99 | 0 |
| 99 | Nanjing NAU Pesticide Technology Co., Ltd. | 110 | 17 | / | / | / | / |

Figure 4.1-1 Shares of major enterprises of the 2022 China Top 100 Pesticide Formulation Enterprises



Source: CCM

As to annual growth, 12 formulation enterprises reported 30%+ increases of sales; while 7 saw sales decline—this number is down by 3 compared with the list for one year before.

Table 4.1-2 List of the formulation enterprises with annual growth rate of revenue exceeding 30%, 2022

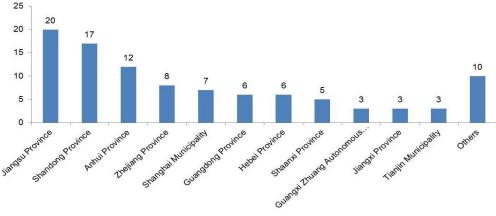
| | | YoY Change | | Pesticide revenue in | Pesticide revenue in | Ranking | Ranking |
|-----|---|-----------------|--|----------------------|----------------------|---------|---------|
| No. | Enterprise | based on RMB | Pesticide revenue in 2021, million RMB | 2021, million RMB | 2021, million USD | in 2022 | change |
| 1 | Sunong (Guangde) Biotechnology Co., Ltd. | 173.53% | 193.29% | 558 | 86 | 20 | 33 |
| 2 | Xiamen Yizhi Biotechnology Co., Ltd. | 125.95% | 142.28% | 357 | 55 | 38 | 33 |
| 3 | Anhui Chaonong High- tech Chemical Co., Ltd. | 105.66% | 120.52% | 218 | 34 | 58 | 36 |

| | | | YoY Change | Pesticide revenue in | Pesticide revenue in | Ranking | Ranking |
|-----|---|--------------|--|----------------------|----------------------|---------|---------|
| No. | Enterprise | based on RMB | Pesticide revenue in 2021, million RMB | 2021, million RMB | 2021, million USD | in 2022 | change |
| 4 | Nantong Lihua Agrochemical Co., Ltd. | 63.33% | 75.14% | 245 | 38 | 52 | 25 |
| 5 | Jixixian Qingfeng Tianying Biochemical Co., Ltd. | 56.67% | 67.99% | 470 | 73 | 29 | 9 |
| 6 | Jiangxi Buffett Chemical Co., Ltd. | 56.36% | 67.66% | 258 | 40 | 49 | 16 |
| 7 | Guangdong Zhongxun Agri-science Corporation | 46.97% | 57.59% | 3,176 | 492 | 2 | 0 |
| 8 | Shandong Zouping Pesticides Co., Ltd. | 45.36% | 55.86% | 266 | 41 | 47 | 14 |
| 9 | Shandong Yannong Biotechnology Co., Ltd. | 41.90% | 52.16% | 149 | 23 | 82 | 13 |
| 10 | Qingdao Jiner Agrochemicals (Group) R&D Co., Ltd. | 41.43% | 51.65% | 495 | 77 | 28 | 5 |
| 11 | Shandong Zhongxin Kenong Bio-Technology Co., Ltd. | 37.17% | 47.09% | 369 | 57 | 37 | 4 |
| 12 | Dezhou Xianglong Biochemical Co., Ltd. | 30.49% | 39.92% | 214 | 33 | 60 | 6 |

4.2 Geographical distribution of 2022 China Top 100 Pesticide Formulation Enterprises

Through the analysis of the geographical distribution of 2022 China Top 100 pesticide formulation enterprises, it is known to us that the sales of Jiangsu Province was USD1.32 billion (RMB8.51 billion), 18.70% of the total, ranking the first. Jiangsu Province has 20 companies entering the list of Top 100 pesticide formulation enterprises, 4 more over last list. Although Shandong Province had 17 companies into the list, their combined revenue reached USD1.02 billion (RMB6.61 billion), 16.25% of the total, ranking the third. Guangdong Province ranked the second, with only 6 companies on the list and the revenue of USD1.15 billion (RMB7.40 billion). It's worth noting that Shenzhen Noposion Agrochemicals Co., Ltd. and Guangdong Zhongxun Agri-science Corporation ranked first and second separately in the list, both of them are from Guangdong Province.

Figure 4.2-1 Number of 2022 Top 100 Pesticide Formulation Enterprises in China by province/region, 2021

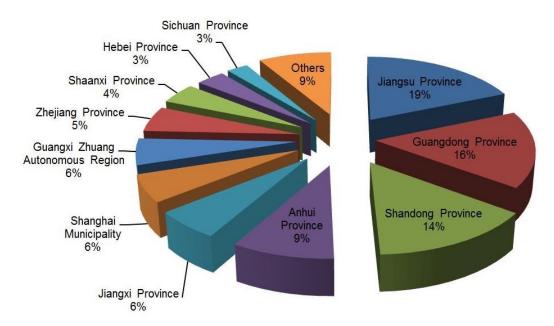


■ Number of enterprises

Table 4.2-1 Revenue of 2022 China Top 100 Pesticide Formulation Enterprises by province/region, 2021

| No. | Province/Region | Pesticide revenue in 2021, million RMB | Pesticide revenue in 2021, million USD |
|-------|----------------------------------|--|--|
| 1 | Jiangsu Province | 8,512 | 1,317 |
| 2 | Guangdong Province | 7,396 | 1,145 |
| 3 | Shandong Province | 6,606 | 1,022 |
| 4 | Anhui Province | 4,077 | 631 |
| 5 | Jiangxi Province | 2,722 | 421 |
| 6 | Shanghai Municipality | 2,631 | 407 |
| 7 | Guangxi Zhuang Autonomous Region | 2,522 | 390 |
| 8 | Zhejiang Province | 2,464 | 381 |
| 9 | Shaanxi Province | 1,995 | 309 |
| 10 | Hebei Province | 1,537 | 238 |
| 11 | Sichuan Province | 1,149 | 178 |
| 12 | Chongqing Municipality | 928 | 144 |
| 13 | Tianjin Municipality | 736 | 114 |
| 14 | Jilin Province | 532 | 82 |
| 15 | Hainan Province | 517 | 80 |
| 16 | Hunan Province | 384 | 59 |
| 17 | Fujian Province | 357 | 55 |
| 18 | Henan Province | 340 | 53 |
| 19 | Shanxi Province | 120 | 19 |
| Total | | 45,525 | 7,046 |

Figure 4.2-2 Share of revenue of 2022 China Top 100 Pesticide Formulation Enterprises by province/region, 2021



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