

# 86 Chinese Independent Innovation Pesticides from 1995 to Nov. 2016

**The Second Edition** 

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Researched & Prepared by:

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## 1. 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, association seminars as well as information from the Internet. A lot of work has gone into the compilation and analysis of the obtained information.

- 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
- 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 analyze the data and draw the conclusions.

Note: The exchange rate used in this report: USD/RMB=6.2272

Table Full name and abbreviation list of part of companies or research institutes

No.	Full name	Abbreviation
1	Zhongshan Lanju Daily Chemical Industrial Co., Ltd.	Zhongshan Lanju
2	Zhejiang Xinnong Chemical Co., Ltd.	Zhejiang Xinnong
3	Zhejiang Longwan Chemicals Co., Ltd.	Zhejiang Longwan
4	Zhejiang Hetian Chemical Co., Ltd.	Zhejiang Hetian
5	Zhejiang Dongfeng Chem. Ind Co., Ltd.	Zhejiang Dongfeng
6	Youth Chemical Co., Ltd.,	Youth Chemical
7	Wuhan Zhongxin Chemical Co., Ltd.	Wuhan Zhongxin
8	Wuhan Wangs Chemicals Co., Ltd.	Wuhan Wangs
9	Tianjin Green Agrochemical S&T Co., Ltd.	Tianjin Green
10	Sichuan Chemical Engineering Design Institute	SCEDI
11	Shenzhen Noposion Agrochemicals Co., Ltd.	Shenzhen Noposion
12	Shenyang Sciencreat Chemicals Co., Ltd.	Shenyang Sciencreat
13	Shanxi Pingyao Tenglong Science and Technology Co., Ltd.	Pingyao Tenglong
14	Shanghai Nongle Biological Products Co., Ltd.	Shanghai Nongle
15	Shanghai Shengnong Pesticide Co., Ltd.	Shanghai Shengnong



16         Shanghai Nanshen Science & Technology Development Co., Ltd.         Shandong United           17         Shandong United Pesticide Industry Co., Ltd.         Shandong Sino-Agri United Biotechnology Co., Ltd.         Shandong Sino-Agri United Biotechnology Co., Ltd.         Shandong Sino-Agri United Biotechnology Co., Ltd.         Shandong Qiaochang Modern Agriculture Co., Ltd.         Shandong Qiaochang Chemical Co., Ltd.         Shandong Chemical Co., Ltd.         Shandong Shang Good Gester Co., Ltd.         Shandong Shang Chemical Co., Ltd.         Shandong Shang Chemical Co., Ltd.         Shandong Shang Chemical Co., Ltd.         Shandong Chemical Co., Ltd.         Shandong Chemical Chemical Co., Ltd.         Shandong Chemical Ch	No.	Full name	Abbreviation
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Jiangsu Sanxiao Group Co., Ltd.  Jiangsu Sanxiao  Jiangsu Mindleader Agroscience Co., Ltd.  Jiangsu Lvdun Plant Protection Agrochemical Experiment Co., Ltd.  Jiangsu Lanfeng Biochemical Co., Ltd.  Jiangsu Lanfeng Biochemical Co., Ltd.  Jiangsu Kwin Group Co., Ltd.  Jiangsu Kwin Group Co., Ltd.  Jiangsu Greenscie Chemical Co., Ltd.  Jiangsu Baoling Chemical Co., Ltd.  Jiangsu Baoling Chemical Co., Ltd.  Jiangsu Baoling  Hunan Haili Chemical Industry Co., Ltd.  Hunan Haili Chemical Industry Co., Ltd.  Hubei Tianzenong Bioengineering Co., Ltd.  Hubei Jinhaichao  Hubei Jinhaichao Science & Technology Co., Ltd.  Hebei Xinxing  Hebei Wanquim Agrochemical Co., Ltd.  Hebei Wanquim  Hebei Shuangji Chemical Co., Ltd.  Hebei Sanlen  Hebei Sanlen Agrochemical Co., Ltd.  Hebei Kongda  Hebei Chinally International Trade Co., Ltd.  Hebei Chinally  Hainan Zhengye	37	Jiangsu Tenglong Biological & Medicinal Co., Ltd.	Jiangsu Tenglong
Jiangsu Mindleader Agroscience Co., Ltd.  Jiangsu Lvdun Plant Protection Agrochemical Experiment Co., Ltd.  Jiangsu Lvdun  Jiangsu Lanfeng Biochemical Co., Ltd.  Jiangsu Lanfeng  Jiangsu Kwin Group Co., Ltd.  Jiangsu Kwin  Jiangsu Kwin  Jiangsu Greenscie Chemical Co., Ltd.  Jiangsu Baoling Chemical Co., Ltd.  Jiangsu Baoling Chemical Co., Ltd.  Jiangsu Baoling  Hunan Haili Chemical Industry Co., Ltd.  Hunan Haili  Hubei Tianzenong Bioengineering Co., Ltd.  Hubei Jinhaichao Science & Technology Co., Ltd.  Hebei Xinxing  Hebei Wanquim Agrochemical Co., Ltd.  Hebei Wanquim Agrochemical Co., Ltd.  Hebei Shuangji Chemical Co., Ltd.  Hebei Shuangji Chemical Co., Ltd.  Hebei Kongda  Hebei Kongda  Hebei Chinally International Trade Co., Ltd.  Hebei Chinally  Hainan Zhengye	38	Jiangsu Sevencontinent Green Chemical Co., Ltd.	Jiangsu Sevencontinent
Jiangsu Lvdun Plant Protection Agrochemical Experiment Co., Ltd.  Jiangsu Lanfeng Biochemical Co., Ltd.  Jiangsu Lanfeng Biochemical Co., Ltd.  Jiangsu Kwin  Jiangsu Kwin  Jiangsu Kwin  Jiangsu Greenscie  Jiangsu Greenscie  Jiangsu Baoling Chemical Co., Ltd.  Jiangsu Baoling  Jiangsu Baoling  Jiangsu Baoling  Jiangsu Baoling  Hubai Jiangsu Baoling  Hubai Tianzenong Bioengineering Co., Ltd.  Hunan Haili  Hubei Tianzenong Bioengineering Co., Ltd.  Hubei Jinhaichao  Hubei Jinhaichao  Hebei Xinxing Chemicals Co., Ltd.  Hebei Wanquim Agrochemical Co., Ltd.  Hebei Wanquim Agrochemical Co., Ltd.  Hebei Shuangji Chemical Co., Ltd.  Hebei Shuangji Chemical Co., Ltd.  Hebei Sanlen Agrochemical Co., Ltd.  Hebei Kongda  Hebei Kongda  Hebei Chinally International Trade Co., Ltd.  Hebei Chinally  Hebei Chinally  Hainan Zhengye	39	Jiangsu Sanxiao Group Co., Ltd.	Jiangsu Sanxiao
Jiangsu Lanfeng Biochemical Co., Ltd.  Jiangsu Kwin Group Co., Ltd.  Jiangsu Kwin Group Co., Ltd.  Jiangsu Greenscie Chemical Co., Ltd.  Jiangsu Baoling Chemical Co., Ltd.  Jiangsu Baoling Chemical Co., Ltd.  Jiangsu Baoling  Jiangsu Baoling  Jiangsu Baoling  Jiangsu Baoling  Hunan Haili Chemical Industry Co., Ltd.  Hunan Haili Chemical Industry Co., Ltd.  Hubei Tianzenong Bioengineering Co., Ltd.  Hubei Tianzenong  Hubei Jinhaichao Science & Technology Co., Ltd.  Hebei Xinxing Chemicals Co., Ltd.  Hebei Xinxing  Hebei Wanquim Agrochemical Co., Ltd.  Hebei Shuangji Chemical Co., Ltd.  Hebei Shuangji Chemical Co., Ltd.  Hebei Sanlen  Hebei Kongda Co., Ltd.  Hebei Kongda  Hebei Chinally International Trade Co., Ltd.  Hebei Chinally  Hainan Zhengye Zhongnong High-Tech Co., Ltd.	40	Jiangsu Mindleader Agroscience Co., Ltd.	Jiangsu Mindleader
Jiangsu Kwin Group Co., Ltd.  Jiangsu Greenscie Chemical Co., Ltd.  Jiangsu Baoling Chemical Co., Ltd.  Jiangsu Baoling  Jiangsu Greenscie  Jiangsu Baoling  Jiangsu Greenscie  Jiangsu Baoling  Jiangsu Greenscie  Jiangsu Greenscie  Jiangsu Greenscie  Jiangsu Greenscie  Jiangsu Greenscie  Jiangsu Baoling  Jiangsu Greenscie  Jiangsu Baoling  Jiang	41	Jiangsu Lvdun Plant Protection Agrochemical Experiment Co., Ltd.	Jiangsu Lvdun
Jiangsu Greenscie Chemical Co., Ltd.  Jiangsu Baoling Chemical Co., Ltd.  Jiangsu Baoling Chemical Co., Ltd.  Jiangsu Baoling  Jianusi Xingyu Biotechnique Development Co., Ltd.  Jianusi Xingyu  Hunan Haili Chemical Industry Co., Ltd.  Hunan Haili  Hubei Tianzenong Bioengineering Co., Ltd.  Hubei Tianzenong  Hubei Jinhaichao Science & Technology Co., Ltd.  Hebei Xinxing Chemicals Co., Ltd.  Hebei Xinxing Chemical Co., Ltd.  Hebei Wanquim Agrochemical Co., Ltd.  Hebei Shuangji Chemical Co., Ltd.  Hebei Sanlen Agrochemical Co., Ltd.  Hebei Kongda  Hebei Kongda Co., Ltd.  Hebei Chinally International Trade Co., Ltd.  Hebei Chinally  Hainan Zhengye	42	Jiangsu Lanfeng Biochemical Co., Ltd.	Jiangsu Lanfeng
Jiangsu Baoling Chemical Co., Ltd.  Jiangsu Baoling  Hubei Tianzenong  Hubei Jinhaichao  Hebei Xinxing  Hebei Xinxing  Hebei Xinxing  Hebei Sanlen  Jiangsu Baoling  Jiangsu Bao	43	Jiangsu Kwin Group Co., Ltd.	Jiangsu Kwin
46 Jiamusi Xingyu Biotechnique Development Co., Ltd.  47 Hunan Haili Chemical Industry Co., Ltd.  48 Hubei Tianzenong Bioengineering Co., Ltd.  49 Hubei Jinhaichao Science & Technology Co., Ltd.  50 Hebei Xinxing Chemicals Co., Ltd.  51 Hebei Wanquim Agrochemical Co., Ltd.  52 Hebei Shuangji Chemical Co., Ltd.  53 Hebei Sanlen Agrochemical Co., Ltd.  54 Hebei Kongda Co., Ltd.  55 Hebei Chinally International Trade Co., Ltd.  56 Hainan Zhengye Zhongnong High-Tech Co., Ltd.  57 Hainan Zhengye	44	Jiangsu Greenscie Chemical Co., Ltd.	Jiangsu Greenscie
Hunan Haili Chemical Industry Co., Ltd.  Hunan Haili  Hubei Tianzenong Bioengineering Co., Ltd.  Hubei Tianzenong  Hubei Jinhaichao Science & Technology Co., Ltd.  Hubei Jinhaichao  Hebei Xinxing Chemicals Co., Ltd.  Hebei Wanquim Agrochemical Co., Ltd.  Hebei Wanquim  Hebei Shuangji Chemical Co., Ltd.  Hebei Shuangji  Hebei Sanlen Agrochemical Co., Ltd.  Hebei Kongda Co., Ltd.  Hebei Kongda  Hebei Chinally International Trade Co., Ltd.  Hebei Chinally  Hainan Zhengye	45	Jiangsu Baoling Chemical Co., Ltd.	Jiangsu Baoling
48 Hubei Tianzenong Bioengineering Co., Ltd.  49 Hubei Jinhaichao Science & Technology Co., Ltd.  50 Hebei Xinxing Chemicals Co., Ltd.  51 Hebei Wanquim Agrochemical Co., Ltd.  52 Hebei Shuangji Chemical Co., Ltd.  53 Hebei Sanlen Agrochemical Co., Ltd.  54 Hebei Kongda Co., Ltd.  55 Hebei Chinally International Trade Co., Ltd.  56 Hainan Zhengye Zhongnong High-Tech Co., Ltd.  Hubei Tianzenong  Hubei Tianzenong  Hubei Jinhaichao  Hebei Wanquim  Hebei Wanquim  Hebei Wanquim  Hebei Shuangji  Hebei Sanlen  Hebei Sanlen  Hebei Chinally  Hebei Kongda  Hebei Chinally  Hebei Chinally	46	Jiamusi Xingyu Biotechnique Development Co., Ltd.	Jiamusi Xingyu
49 Hubei Jinhaichao Science & Technology Co., Ltd. 50 Hebei Xinxing Chemicals Co., Ltd. 51 Hebei Wanquim Agrochemical Co., Ltd. 52 Hebei Shuangji Chemical Co., Ltd. 53 Hebei Sanlen Agrochemical Co., Ltd. 54 Hebei Kongda Co., Ltd. 55 Hebei Chinally International Trade Co., Ltd. 56 Hainan Zhengye Zhongnong High-Tech Co., Ltd. 57 Hubei Jinhaichao 58 Hubei Jinhaichao 59 Hebei Wanquim 50 Hebei Shuangji 51 Hebei Sanlen 52 Hebei Sanlen Agrochemical Co., Ltd. 53 Hebei Chinally International Trade Co., Ltd. 54 Hebei Chinally International Trade Co., Ltd. 55 Hainan Zhengye Zhongnong High-Tech Co., Ltd. 56 Hainan Zhengye	47	Hunan Haili Chemical Industry Co., Ltd.	Hunan Haili
Hebei Xinxing Chemicals Co., Ltd.  Hebei Wanquim Agrochemical Co., Ltd.  Hebei Wanquim Hebei Wanquim Hebei Shuangji Chemical Co., Ltd.  Hebei Shuangji Hebei Sanlen Agrochemical Co., Ltd.  Hebei Sanlen Hebei Kongda Co., Ltd.  Hebei Kongda Hebei Chinally International Trade Co., Ltd.  Hebei Chinally Hainan Zhengye Zhongnong High-Tech Co., Ltd.	48	Hubei Tianzenong Bioengineering Co., Ltd.	Hubei Tianzenong
51 Hebei Wanquim Agrochemical Co., Ltd.  Hebei Shuangji Chemical Co., Ltd.  Hebei Shuangji  Hebei Sanlen Agrochemical Co., Ltd.  Hebei Sanlen  Hebei Kongda Co., Ltd.  Hebei Kongda  Hebei Kongda  Hebei Chinally International Trade Co., Ltd.  Hainan Zhengye Zhongnong High-Tech Co., Ltd.  Hebei Wanquim  Hebei Wanquim  Hebei Shuangji  Hebei Sanlen  Hebei Kongda  Hebei Kongda  Hebei Chinally  Hainan Zhengye	49	Hubei Jinhaichao Science & Technology Co., Ltd.	Hubei Jinhaichao
52 Hebei Shuangji Chemical Co., Ltd.  Hebei Shuangji  53 Hebei Sanlen Agrochemical Co., Ltd.  Hebei Sanlen  54 Hebei Kongda Co., Ltd.  Hebei Kongda  55 Hebei Chinally International Trade Co., Ltd.  Hebei Chinally  Hainan Zhengye Zhongnong High-Tech Co., Ltd.  Hebei Shuangji  Hebei Sanlen  Hebei Chinally  Hebei Chinally  Hebei Chinally	50	Hebei Xinxing Chemicals Co., Ltd.	Hebei Xinxing
53 Hebei Sanlen Agrochemical Co., Ltd.  Hebei Sanlen  Hebei Kongda Co., Ltd.  Hebei Kongda  Hebei Chinally International Trade Co., Ltd.  Hainan Zhengye Zhongnong High-Tech Co., Ltd.  Hebei Chinally  Hainan Zhengye	51	Hebei Wanquim Agrochemical Co., Ltd.	Hebei Wanquim
54 Hebei Kongda Co., Ltd. Hebei Kongda  55 Hebei Chinally International Trade Co., Ltd. Hebei Chinally  56 Hainan Zhengye Zhongnong High-Tech Co., Ltd. Hainan Zhengye	52	Hebei Shuangji Chemical Co., Ltd.	Hebei Shuangji
55 Hebei Chinally International Trade Co., Ltd. Hebei Chinally 56 Hainan Zhengye Zhongnong High-Tech Co., Ltd. Hainan Zhengye	53	Hebei Sanlen Agrochemical Co., Ltd.	Hebei Sanlen
56 Hainan Zhengye Zhongnong High-Tech Co., Ltd. Hainan Zhengye	54	Hebei Kongda Co., Ltd.	Hebei Kongda
	55	Hebei Chinally International Trade Co., Ltd.	Hebei Chinally
57 Guangzhou Chaowei Daily Chemical Products Co., Ltd. Guangzhou Chaowei	56	Hainan Zhengye Zhongnong High-Tech Co., Ltd.	Hainan Zhengye
	57	Guangzhou Chaowei Daily Chemical Products Co., Ltd.	Guangzhou Chaowei



No.	Full name	Abbreviation
58	Guangxi Tianyuan Biochemistry Co., Ltd.	Guangxi Tianyuan
59	Guangdong Yuanfeng Bioengineering Co., Ltd.	Guangdong Yuanfeng
60	Fujian Shuangfei Daily Chemicals Co., Ltd.	Fujian Shuangfei
61	Fujian Kaili Biotechnology Co., Ltd.	Fujian Kaili
62	Fujian Jinlu Daily Chemicals Co., Ltd.	Fujian Jinlu
63	Fujian Gaoke Daily Chemical Co., Ltd.	Fujian Gaoke
64	Dongguan Ruidefeng Biologic Science Co., Ltd.	Dongguan Ruidefeng
65	Deqiang Biology Co., Ltd.	Deqiang Biology
66	Dalian Raiser Pesticides Co., Ltd.	Dalian Raiser
67	Dalian Chemphy Chemical Co., Ltd.	Dalian Chemphy
68	Dalian Aode Pharmaceutical Plant Protection Co., Ltd.	Dalian Aode
69	Chengdu Rainbow Electronics Group Co., Ltd.	Chengdu Rainbow
70	CAC Nantong Chemical Co., Ltd.	CAC Nantong
71	Beijing Yoloo Bio-Technology Corp., Ltd.	Beijing Yoloo
72	Beijing Green Leaf Century Daily-use Chemicals Co., Ltd.	Beijing Green Leaf

Source: CCM



#### 2. Executive summary

During the 12<sup>th</sup> Five-Year Plan (2011–2015), supported by the project of R&D and Industrialization of Green Ecological Pesticides (National Key Technology R&D Program of China), the Chinese pesticide industry has made fruitful achievements in technology innovation. There are 14 new varieties of ingredients obtained the registration, including coumoxystrobin, tricyclooyricarb, SYP-9080, mycophenolic ketone, cycloxaprid, fluoride ether bacteria amide, fluoro-substituted benzothiadiazo derivatives (FBT), yizuomanjing (乙唑螨腈), pyraclostrobine, pyrimorph, methyl thiadiazole induced amine, heptafluoro pyrethrin, flosulfoxamate and chlorine chlorfenapyr, among which, two of them (coumoxystrobin and tricyclooyricarb) have been approved to get the official registration. During this period, the accumulative area for extension of Chinese independent innovation pesticides reached XXX ha, with a year-on-year increase of nearly XX compared with the period of the 11th Five-Year Plan, and the sales value amounted to USDXX million (RMBXX billion), up by XXX year on year.

According to statistics from 86 pesticides with independent innovation introduced in this report from 1995 to Nov. 2016, totally XX research units are involved in the research of invention. In terms of the property of research unit, among the 86 independent innovation pesticides, research institutes invented the most, accounting for XX of the total numbers, while the colleges and companies took up XX and XX respectively.

Totally 54 pesticide active ingredients which are independently R&D (including the expired ones) have ever obtained registration between 2002 and 16 Nov., 2016. Among these, XX registrations of pesticide ingredients are still valid, while the rest XX ones have been expired before 16 Nov., 2016 but didn't get a renewal registration.

Among the XX pesticide active ingredients in China within the period of validity, about XX of the pesticides have been on the market, among which, the fungicides which had an excellent market performance included XX, XX, XX and XX.; the insecticides which had an excellent market performance were XX and XX; while all of the herbicides didn't perform well in the Chinese market.

Besides, in 1995–Nov. 2016, there were XX China-made chemical pesticide ingredients which still did not obtain the registration, and most of them are still in the stage of industrial development. As part of the information is open and the delay of information, it is estimated that the actual number exceeds XX.



#### 3. What's in the report?

## 2.1 18 Fungicides

Since 2002, there have been XX novel fungicide active ingredients in China which are still within the period of validity as of 26 Nov., 2016, among which, the firstly registered ones after 2010 (including 2010) include coumoxystrobin, tricyclopyricarb, mycophenolic ketone, fluoride ether bacteria amide and fluoro-substituted benzothiadiazo derivatives (FBT). Benzene kresoxim-methyl is the only one fungicide ingredient re-registered on 28 Aug., 2015, and it will be expired on 28 Aug., 2020.

Developed by Shenyang Research Institute of Chemical Industry, coumoxystrobin is a new type of strobilurin fungicide with independent intellectual property rights. As a broad-spectrum fungicide, it has good control effect on canker, downy mildew, late blight, etc. Especially on apple canker, coumoxystrobin has better control efficacy than many other fungicides.

Table 2.1-1 Basic information of major novel fungicides in China within the period of validity, 2002-16 Nov., 2016

No.	Category	Pesticide	Creation time	Research unit	Time of first registration	Number of pesticides registered	Registrant	Number of TK and formulation registered	Number of product temporarily and officially registered	Patent No.	Application date
							As of 16 Nov	., 2016			
1											
2		Enostroburin									
3											
4											
5											
18											

Source: Institute for the Control of Agrochemicals, Ministry of Agriculture, State Intellectual Property Office of China & CCM



As of 16 Nov., 2016, among the 18 fungicide active ingredients in China within the period of validity, the popular ones were thiodiazole copper, zn-thiodiazole, ningnanmyci and phenamacril.

Table 2.1-2 Market dynamics of major novel fungicides in China within the period of validity, 2002–16 Nov., 2016

No.	Category	Pesticide	Time to	Number of production license, as of 16 Nov.,	Technical capacity,	TK (including TC)	Time of first	Market
NO.	Category	resticiue	market	2016	t/a	registrant	registration	information
1								
2		Enostroburin						
3								
4								
5								
18								

Source: Institute for the Control of Agrochemicals, Ministry of Agriculture, Ministry of Industry and Information Technology of China & CCM

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