

Pesticide Price Analysis in China in 2021

The Sixth Edition

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Executive Summary

In 2021, the total of pesticide production in China increased overall, with growth rate of about 16.29% year on year and larger foreign demand than any other years during 2017–2019.

Statistics from the China Crop Protection Industry Association (CCPIA) show that the price of pesticides in China in 2021 showed an overall upward trend accompanied with some significant rises. The China Agrochemical Price Index (CAPI) of pesticides in Jan. increased by 78.80% compared with that in Dec.

In 2021, the prices of herbicides reflected the biggest growths in general, especially glyphosate technical, which was soaring over 12 months of 2021 but the growth slowed down in late 2021. The prices of fungicides witnessed its ups and downs in 2021, while insecticides saw a modest movement in the year.

Based on the figures in 2021, it is projected that the price of herbicide technical will continue to rise, while the price of insecticide and fungicide technical is expected to turn stable in the near future.

Methodology

This report is concerning price analysis of pesticides in China in H1 2021. It 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.

1 Overview of China's pesticide industry in 2021

1.1 Supply and demand of pesticides

In 2021, the total of pesticide production in China increased from about 2,148,000 tonnes to about 2,498,000 tonnes, with growth rate of about 16.29% year on year. Though encountering the stricter environmental inspection over production safe and power rationing and other discouraging factors at home, Chinese pesticides manufacturers have managed ongoing rises in pesticide production.

Global pesticides market has become more depended on China's supply, driving up the home production in recent two years. Although China's export volume has come down in 2021 compared with the amount from a year earlier because of high product prices and high export shipping fee, foreign demand for China's pesticide is still larger than any other years during 2017–2019.

Following the "13th Five-Year Plan" (2016–2020), the pesticides sector has scaled up in 2021 with large pesticide manufacturers capable of producing more under the restrictions of safe production and environmental protection codes. However, the country's ex-works prices of pesticides were at high places. For one thing, power rationing played a key role in boosting pesticide prices. For another, COVID-19 made its pesticides difficult to be exported. Notably, China's pesticide production has become unsteady in the year with a raft of environmental policies tipping the balance of supply and demand. Traders pushed those pesticide prices to higher places thereafter.

Table 1.1 -1 Pesticide productions and exports in China, 2017–2021

Year	Production, tonne	Export volume, tonne	Shares of export
2017	2,941,000	1,632,000	55.49%
2018	2,083,000	1,405,400	67.47%
2019	2,253,900	1,468,000	65.13%
2020	2,148,000	2,514,000	117.04%
2021	2,498,000	1,780,000	71.26%

Note: 1. all the volumes in the table are calculated by 100% technical. 2. The export volume of 2021 is estimated based on historical data from Jan. 2021 to Nov. 2021. 3. Pesticide refers to chemical pesticide product.

Source: National Bureau of Statistics of China, China Customs and CCM

1.2 Overall price of pesticides

In 2021, the price of pesticides in China showed an overall upward trend companied with some significant rises.

By quarter, it was seeing that several price spikes, in particular, in glyphosate, glufosinate-ammonium and pretailachlor over Q1-Q3, when high production cost prevails. From Sept. to Dec., the ex-works prices of most pesticides in China had rose sharply for other driving factors. For instance, policies—China's "Dual Control" implementation to reduce energy intensity and limit total energy consumption—which triggered a series of response, namely low operating rate, leading from regional and provisional pesticides production in Jiangsu Province (as of 31 Dec., 2021). At the end of the year, the overall market was in a delicate balance with constrained pesticides production and unsteady supply, and downstream manufacturers' decisions to put off purchasing.

According to CCM's price monitoring data, the prices of pesticide technicals fluctuated differently by categories, among which, the prices of reflected the biggest growths in general, followed by fungicides, while insecticides saw a modest movement in the year.

Table 1.2-1 China Agrochemical Price Index (CAPI), Jan. 2021–Dec. 2021

Month	Pesticide	Herbicide	Insecticide	Fungicide
Jan. 2021	92.44	82.86	107.66	115.60
Feb. 2021	91.10	81.20	106.03	113.70
March 2021	97.10	86.39	111.35	115.53
April 2021	99.01	90.14	112.27	111.11
May 2021	104.34	98.32	112.32	109.98
June 2021	108.46	106.76	114.10	106.37
July 2021	114.14	115.61	113.07	107.2
Aug. 2021	114.58	117.06	112.93	104.23
Sept. 2021	131.63	144.02	115.28	104.92
Oct. 2021	142.67	152.11	130.16	121.53
Nov. 2021	162.20	174.93	141.10	138.66
Dec. 2021	165.28	179.75	145.06	136.01

Source: China Crop Protection Industry Association (CCPIA)

2 Price analysis of main herbicides in China, 2021

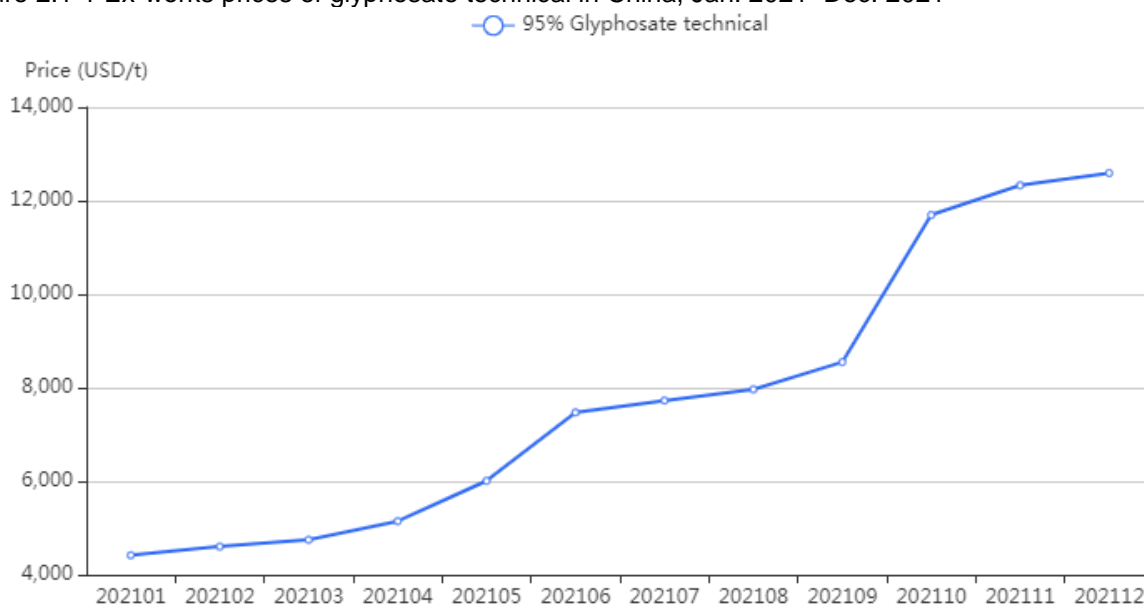
2.1 Glyphosate

According to CCM price monitoring data, the ex-works price of glyphosate jumped from USD4,418/t in Jan. 2021 to USD12,592/t in Dec. 2021, mainly caused by tight supply and rising prices of raw materials.

As of early Feb. 2022, monthly ex-works price of 95% glyphosate technical arrived at USD12,592/t in China, up by 185% compared with the same period of 2021. There was a slowdown in price growth since Q4 2021, as the cost of raw materials went down—although methanol price was up, glycine and yellow phosphorus figures edged down from their high levels; the prices of polyformaldehyde, liquid chlorine and triethylamine remained at low-medium position.

The glyphosate market expects to remain on the same growth direction for 2022, due to the low market inventory and limited new capacity launching to the market amid a strong demand from farmers.

Figure 2.1-1 Ex-works prices of glyphosate technical in China, Jan. 2021–Dec. 2021



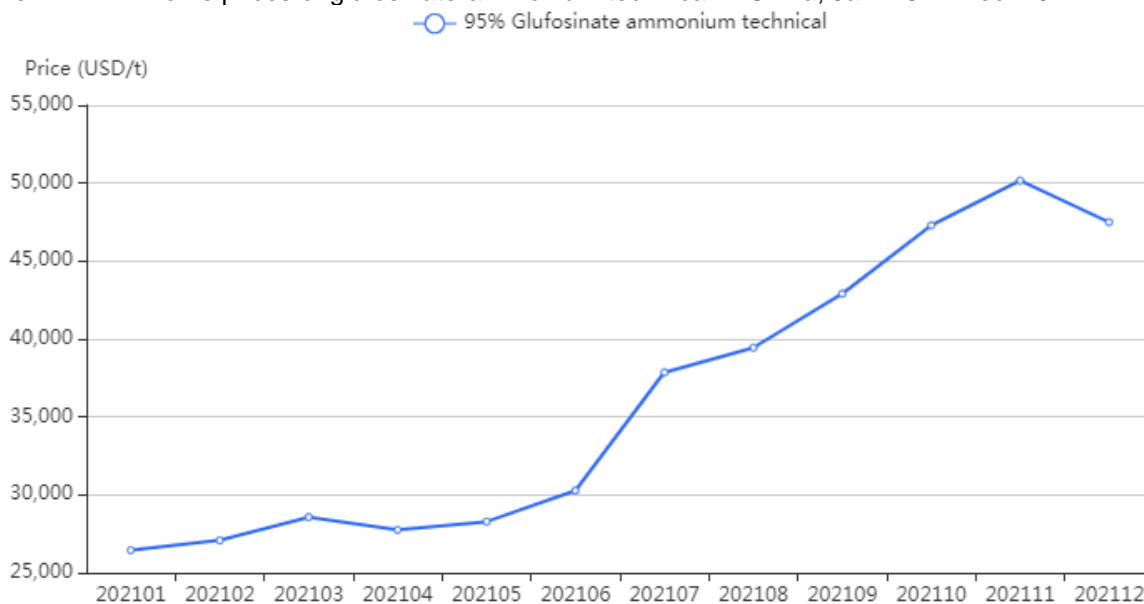
Source: CCM

2.2 Glufosinate-ammonium

In H1 2021, China recorded a tight market supply of glufosinate-ammonium technical with growing overseas demand and insufficient inventory in manufacturers, which was worsened by the limited production capacity of manufacturers and abnormal production of its raw material diethyl phosphite (DEP).

According to CCM's price monitoring data, the ex-works price of 95% glufosinate-ammonium technical in China soared from USD26,449/t in Jan. to USD50,162/t in Nov., an increase of 89.66%. However, as of Dec. 2021, the price of this product dropped to USD47,493/t with a release of new domestic capacity. Short-term prices of glufosinate-ammonium technical will stabilise in the following period.

Figure 2.2-1 Ex-works prices of glufosinate-ammonium technical in China, Jan. 2021-Dec. 2021



Source: CCM

2.3 Pretilachlor

According to CCM's price monitoring data, the ex-works price of 95% pretilachlor technical had carried the 2020 uptrend over into Q1 2021, rising 5.96% from USD5,320/t in Jan. to USD5,637/t in March, though then dipped to USD5,239/t in May with weakened demand in the late-peak season.

In Q3, the ex-works price of this product was up due to the tight supply resulting from low operating rate of pretilachlor factories. The December price was down slightly to USD8,635/t from USD8,724/t in Nov., but representing a year-on-year increase of 66.20%.

With projection of an improved overseas demand and costly raw materials in early 2022, the high price figures will linger for a longer period of time.

Figure 2.3-1 Ex-works prices of pretilachlor technical in China, Jan. 2021-Dec. 2021



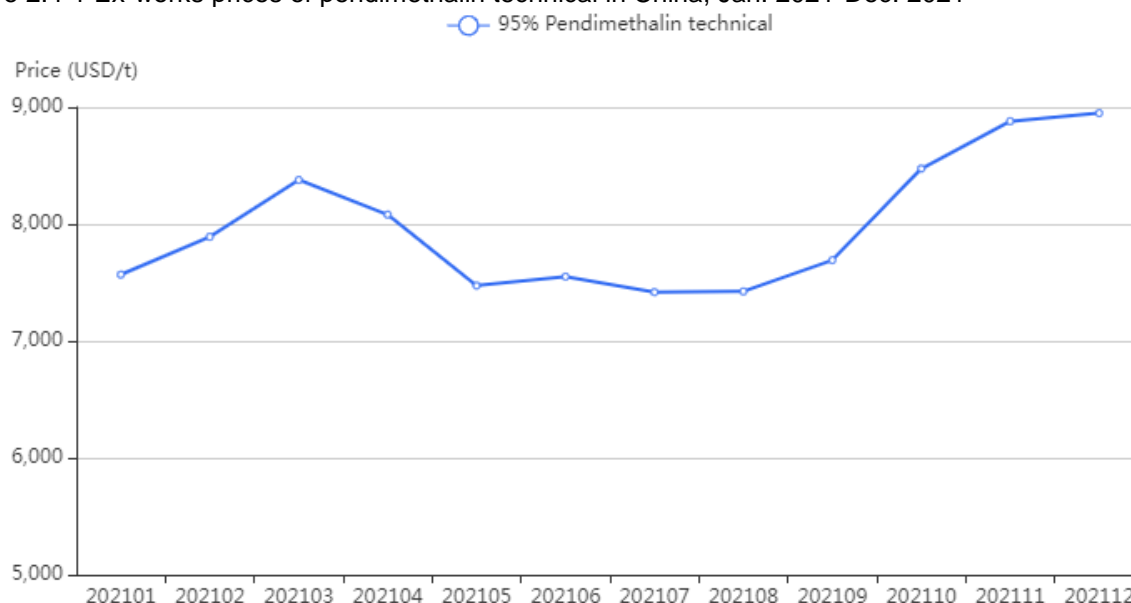
Source: CCM

2.4 Pendimethalin

In Q1 2021 before the arrival of peak season, the ex-works price of pendimethalin technical went up from USD7,568/t in Jan., to USD8,378/t in March, the highest level compared with the figures in the same period of last three years. Entering Q2, the market price of this product fell back and stayed relatively stable for later few months. In May, it was recorded at USD7,474/t, basically returning to the level of Jan.

In Q3, due to the low operating rate and strong overseas demand, the market supply of pendimethalin technical was diminished and resulted to price rises. According to CCM, the ex-works price of 95% pendimethalin technical reached USD8,949/t in Dec. 2021, an increase of 20.56% from Aug. and a year-on-year growth of 34.07%.

Figure 2.4-1 Ex-works prices of pendimethalin technical in China, Jan. 2021-Dec. 2021



Source: CCM

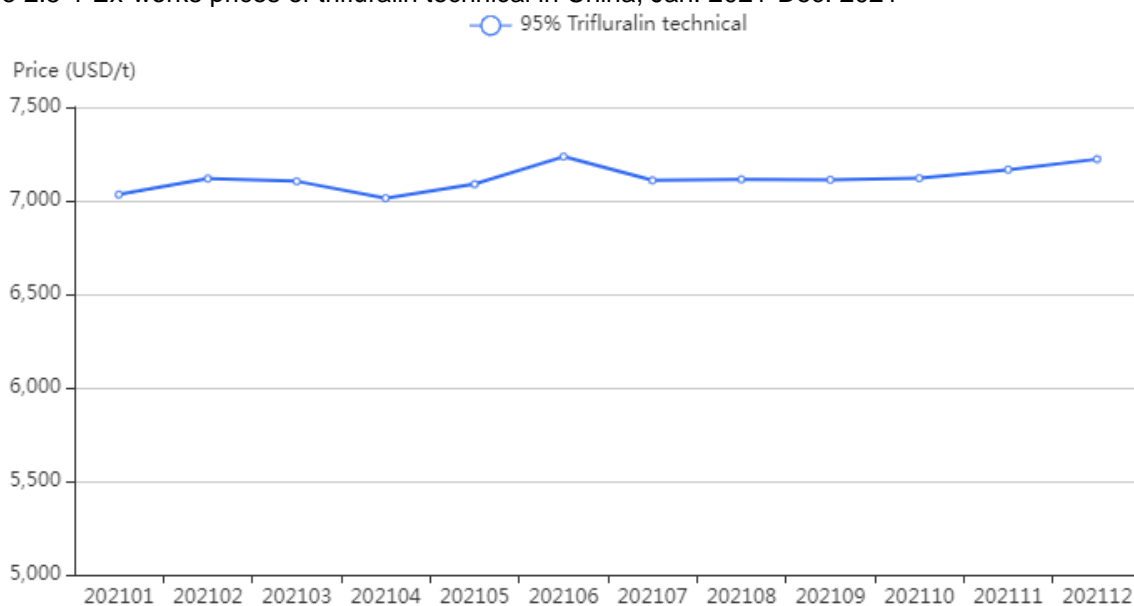
2.5 Trifluralin

The ex-works prices of trifluralin technical stood high throughout the year of 2021, amid a low operating rate and the consequently tight supply in China.

Due to China's stricter environmental protection measures posted on pesticide industry, the operations of domestic trifluralin manufacturers were largely restricted at the start and the end of 2021. In the domestic market, the highest ex-work price of 95% trifluralin technical in 2021 was USD7,236/t in June, with a monthly increase of 2.08% and a yearly increase of 7.51%.

China's trifluralin is mainly exported to overseas markets which moved strong in 2021 pushing the ex-work price of this product in Dec. to USD7,222/t, up by 34.96% year on year.

Figure 2.5-1 Ex-works prices of trifluralin technical in China, Jan. 2021-Dec. 2021



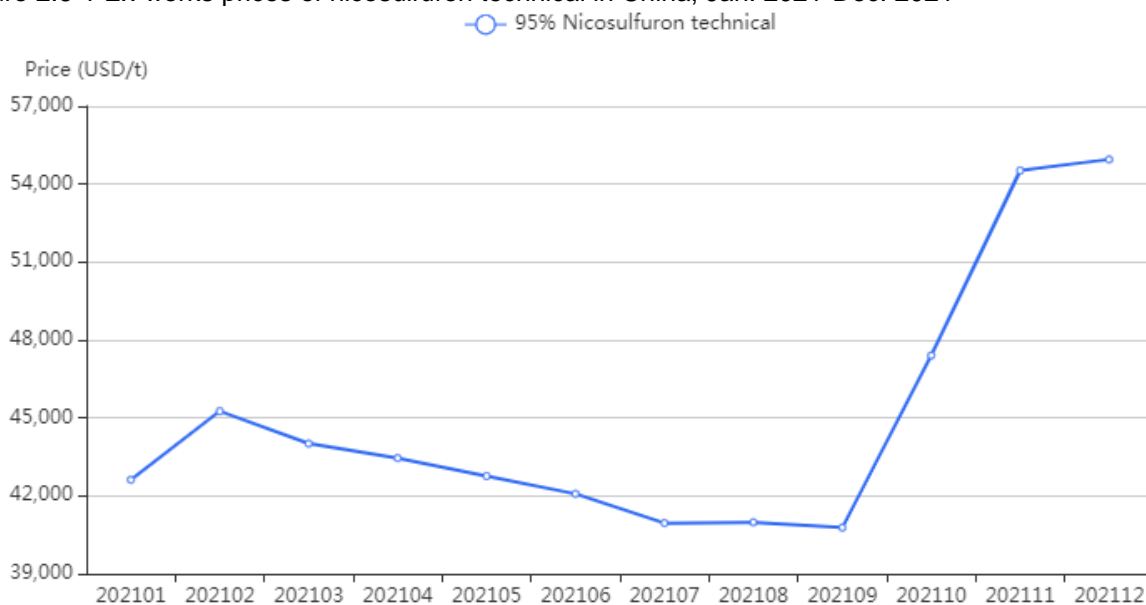
Source: CCM

2.6 Nicosulfuron

In H1 2021, thanks to a good operating state, stable upstream supply and relatively weak demand, the nicosulfuron technical market saw the movement of ex-works price was comparatively stabilised and within USD5,000/t in unit price terms over the period.

Since Q3, with the China's implementing of "Dual Control" policy, the operating rate of manufacturers declined sharply leading to a market price boom to USD54,951/t in Dec., up by 34.76% vs. USD40,778/t in Sept. It is expected that the product price will stay at a high level in the near future when downstream producers start restocking for 2022.

Figure 2.6-1 Ex-works prices of nicosulfuron technical in China, Jan. 2021-Dec. 2021



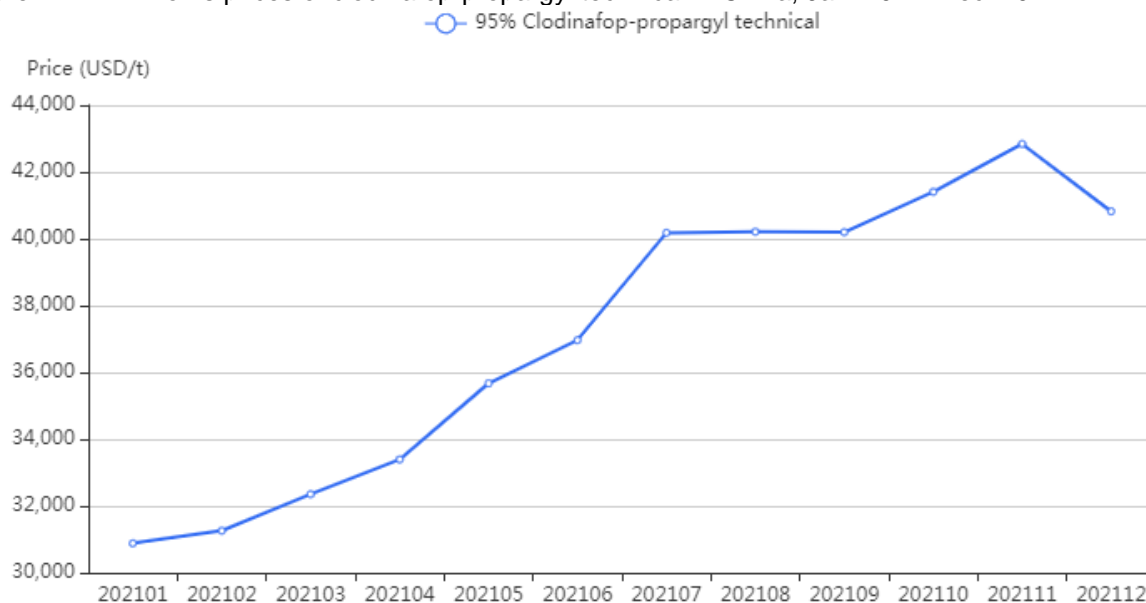
Source: CCM

2.7 Clodinafop-propargyl

On the contrast of the downward trend during the preceding year, the ex-works price of clodinafop-propargyl technical was moving up in 2021. The yearly record high was in Nov. at USD42,840, up by 38.72% compared with USD30,883/t in Jan. The rising prices of the intermediates—propanoic acid, cyhalofop-butyl and trichloropyridine—is one key driver for the high cost and hence the highs in product prices.

While in Q3, the market laid flat as the supply of 2,3,5-trichloropyridine was fueled up by the recovered operation in the industry, and the overall demand decreased with seasonal factors. In Dec., the ex-works price of 95% clodinafop-propargyl technical came down to USD40,820/t from previous uptick. For 2022, the product price is expected to stay stable in short term as the demand tends to be weak throughout 2022.

Figure 2.7-1 Ex-works prices of clodinafop-propargyl technical in China, Jan. 2021–Dec. 2021



Source: CCM

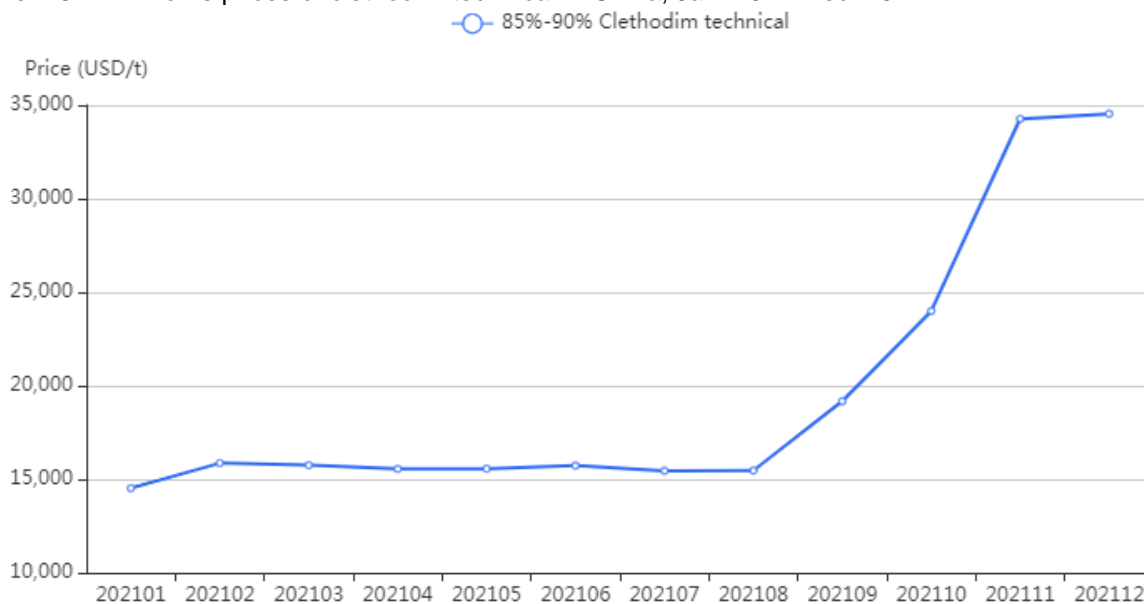
2.8 Clethodim

In 2021, the ex-works price of clethodim technical in China had kept stable for most of the months but rose sharply in Q3.

In H1, the higher cost of raw materials drove up this product's price from USD14,524/t in Jan. to USD15,861/t in Feb., representing a rise of 9.21%. Though shortage of raw materials had eased to certain extent, supply in domestic market still missed the overseas demand. The price was recorded at USD15,752/t in March.

Since Q3, the market reported a supply shortfall mainly as a result of the lower operating rate at home. According to CCM's price monitoring data, the ex-works price of 85%-90% clethodim technical was USD34,541/t in Dec., with an increase of 140.29% from Jan. and a year-on-year growth of 153.00%.

Figure 2.8-1 Ex-works prices of clethodim technical in China, Jan. 2021-Dec. 2021



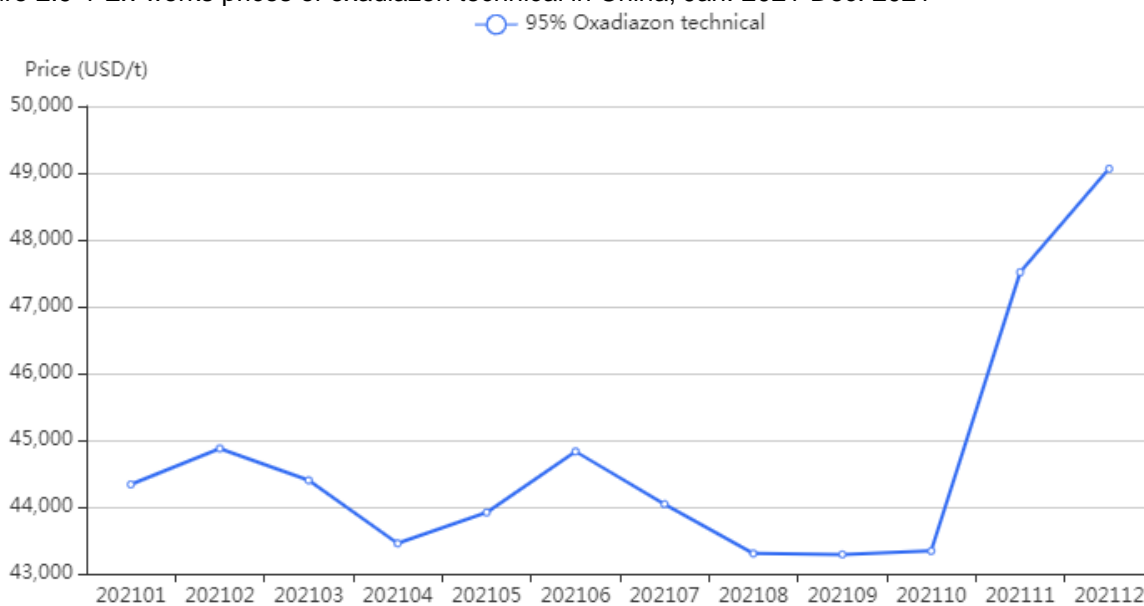
Source: CCM

2.9 Oxadiazon

Before Q4 2021, the ex-works price of oxadiazon technical in China had been floating around USD44,000/t, slightly lower than the annual price for 2020 of USD45,859/t in general. However, the price point shot up to USD47,514/t in early Nov., up by 9.63% month on month, boosted mainly by the limited operation in manufacturers and the rising cost of raw materials.

According to CCM's price monitoring data, the ex-works price of 95% oxadiazon technical continued the uptrend and went up to USD49,063/t in Dec., with a monthly increase of 1.22%, up by 11.53% year on year. With strong support from overseas demand for oxadiazon technical, it is predicted that the price will stay high in early 2022.

Figure 2.9-1 Ex-works prices of oxadiazon technical in China, Jan. 2021-Dec. 2021



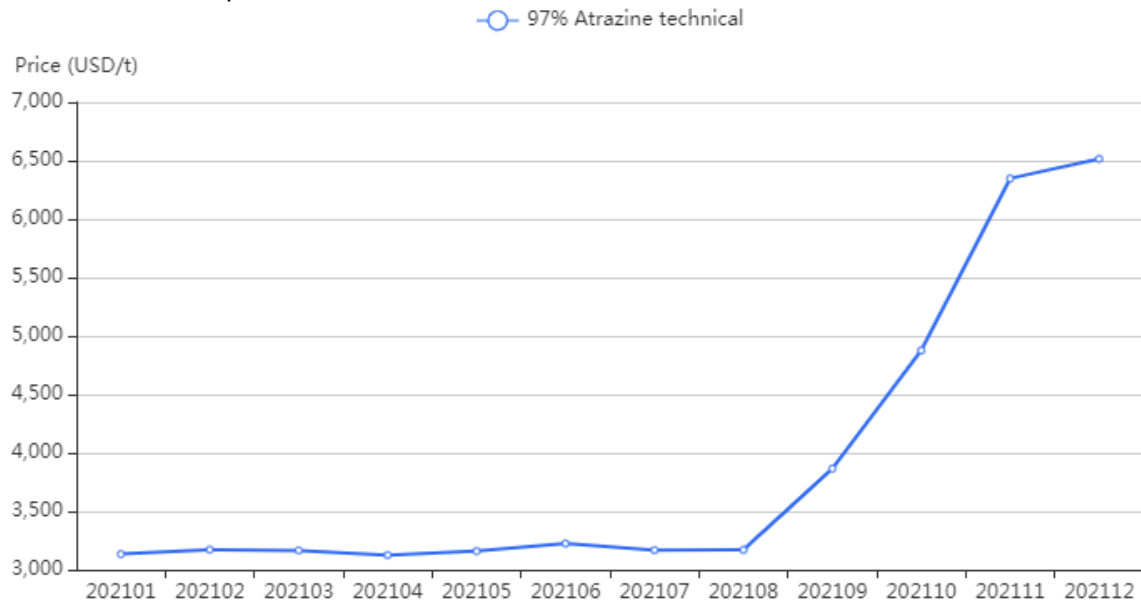
Source: CCM

2.10 Atrazine

Since late 2020, the ex-works price of atrazine technical in China has started to hike with the increasing cost of intermediates. According to CCM's price monitoring data, with a monthly increase of 10.19%, the ex-works price of 97% atrazine technical was USD3,134/t in Jan., a relatively low position and lasted for months before Aug.

The subsequent price hike, started in Aug. at USD3,170/t and closed at USD6,516/t in Dec.—an increase of 105.55% and up by 129.08% year on year— was mainly spurred by the stocking behaviours of manufacturers as a result of domestic power shortage and production restriction.

Figure 2.10-1 Ex-works prices of atrazine technical in China, Jan. 2021-Dec. 2021



Source: CCM

3 Price analysis of main insecticides in China, 2021

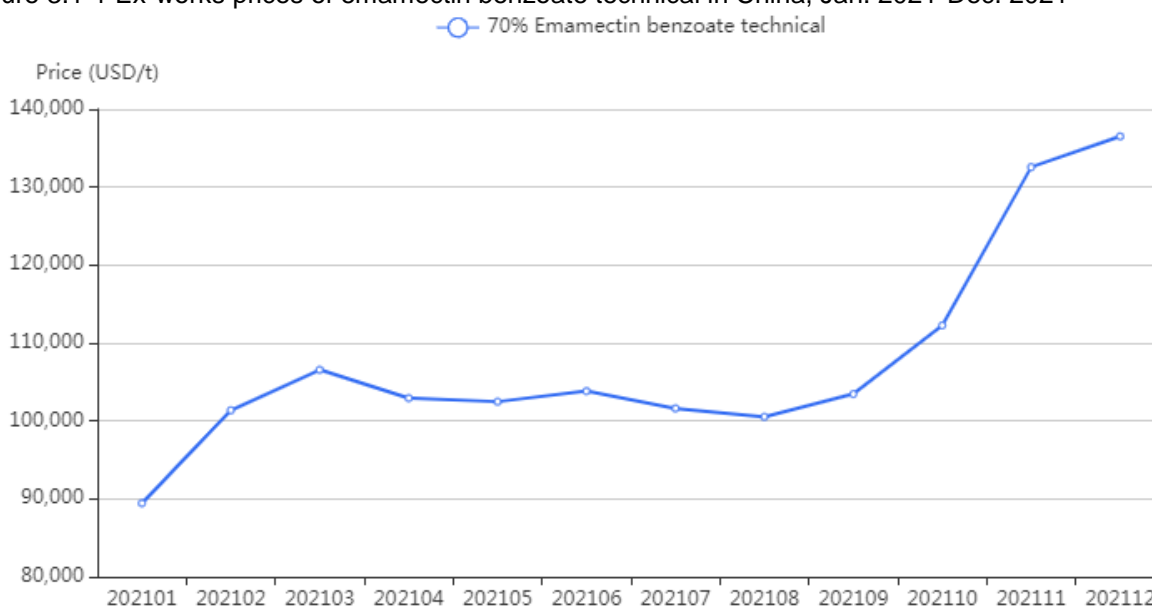
3.1 Emamectin benzoate

In early 2021, the Chinese emamectin benzoate manufacturers suspended their operation from the reemergence of COVID-19 cases in Hebei Province, which generated a tight supply and also a price rise in the market. According to CCM's price monitoring data, the ex-works price of 70% emamectin benzoate technical went up to USD106,557/t in March, basically returning to the level in Mar. 2020.

However, more orders were delivered from the manufacturers to the market gradually after March, drawing down the product prices in Apr. and May. Having yet to enter its peak season, emamectin benzoate only went to USD103,819/t in June, up 3.91% year on year.

Starting from August, affected by the suspension of intermediates production, the strong market need for emamectin benzoate technical led a higher price. In Dec., the ex-works price of 70% emamectin benzoate technical in China increased sharply to USD136,514/t, up by 69.00% year on year.

Figure 3.1-1 Ex-works prices of emamectin benzoate technical in China, Jan. 2021-Dec. 2021



Source: CCM

3.2 Imidacloprid

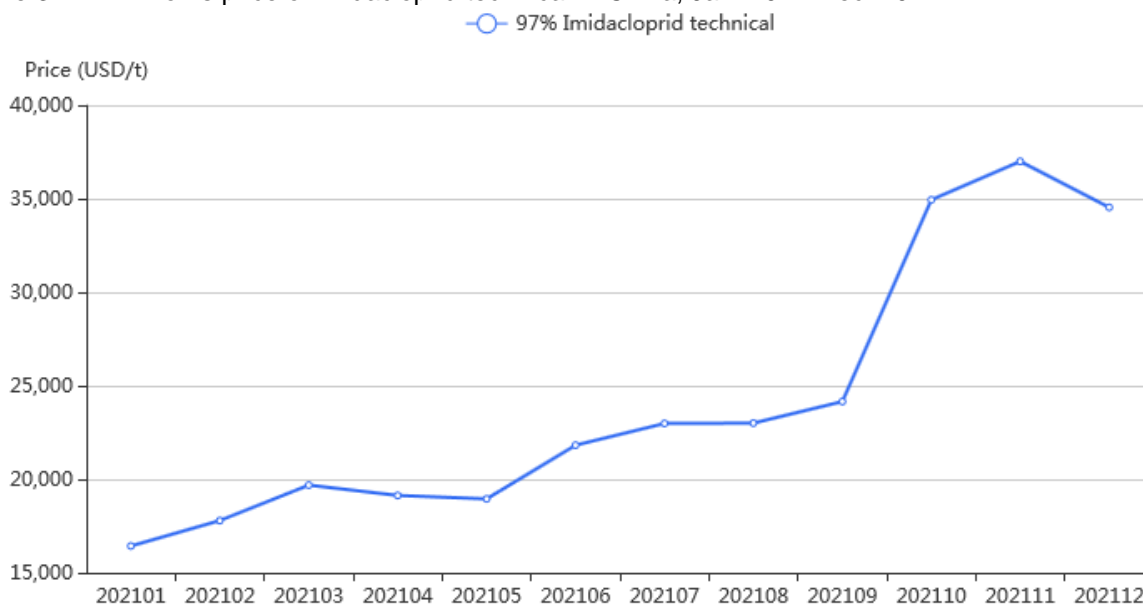
Escaped from the adverse factor of high market inventory in 2020, the ex-works price of imidacloprid technical accelerated its growth in 2021, which had reversed the downward trend seen over the past months, mainly due to the declining inventory and increasing price of raw materials.

The figures were USD16,435/t in Jan. and USD17,796/t in Feb. In March, it gained 10.65% of monthly growth to USD19,690/t as the inventory of imidacloprid technical continued to reduce and manufacturers were reluctant to sell.

In Apr. and May, the ex-works price of imidacloprid technical turned down a little but soon retraced its growth, reaching USD36,998/t in Nov., an increase of 125.12% over that in Jan. On the whole, the price stayed at a high level mainly affected by the high price of raw materials and the overall low inventory, as manufacturers operating rate was insufficient since Sept.

According to CCM's price monitoring data, the ex-works price of 97% imidacloprid technical dropped slightly to USD34,541/t in Dec., with a monthly drop of 6.64%, up 130.00% year on year.

Figure 3.2-1 Ex-works price of imidacloprid technical in China, Jan. 2021-Dec. 2021



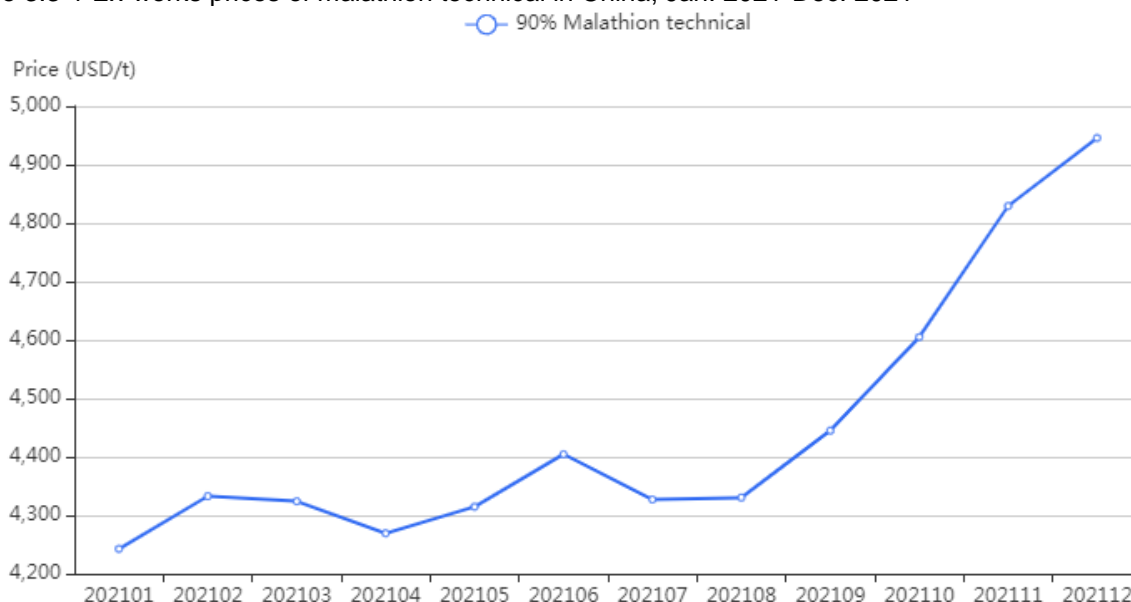
Source: CCM

3.3 Malathion

According to CCM's price monitoring data, the ex-works price of malathion technical varied between USD4,243/t (Jan.) and USD4,400/t (June), affected by price rise in its raw materials.

Resulting from power rationing policy implementing on the malathion factories in Jiangsu Province since Aug., product supply for domestic market fell short, much less to the foreign markets which virtually accounted for the majority of home production. Against this backdrop, the price of 90% malathion technical rose from USD4,330/t in Aug. to USD4,946/t in Dec., with an increase of 14.23%, up by 20.75% year on year.

Figure 3.3-1 Ex-works prices of malathion technical in China, Jan. 2021-Dec. 2021



Source: CCM

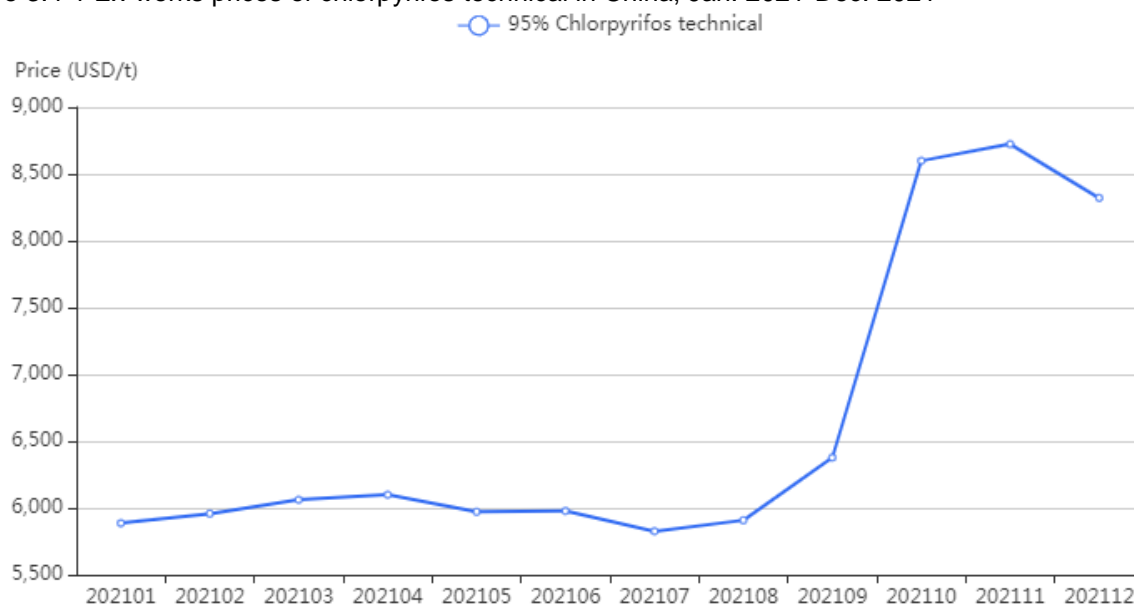
3.4 Chlorpyrifos

The ex-works price of chlorpyrifos technical in China had hovered around USD6,000/t in Q1-Q3 2021 and rose above USD8,000 in Q4 2021.

In Q1, product price had been rising along with the bloated cost of raw materials (ethyl chloride and 3,5,6-trichloropyridin-2-ol sodium, etc.), especially in Apr., which registered chlorpyrifos technical market at USD6,099/t. As the peak season for mass application of insecticides passed, demand for it eased later on, making the figure fall to USD5,826/t in July.

In Sept., manufacturers only accepted fewer orders and cut back on the production of chlorpyrifos technical, giving rise to a shortage with a consequential price surge up by 47.67% to USD8,724/t in Nov. from USD5,908 in Aug. According to CCM price monitoring data, the December price reached USD8,321/t, up by 42.48% year on year.

Figure 3.4-1 Ex-works prices of chlorpyrifos technical in China, Jan. 2021-Dec. 2021



Source: CCM

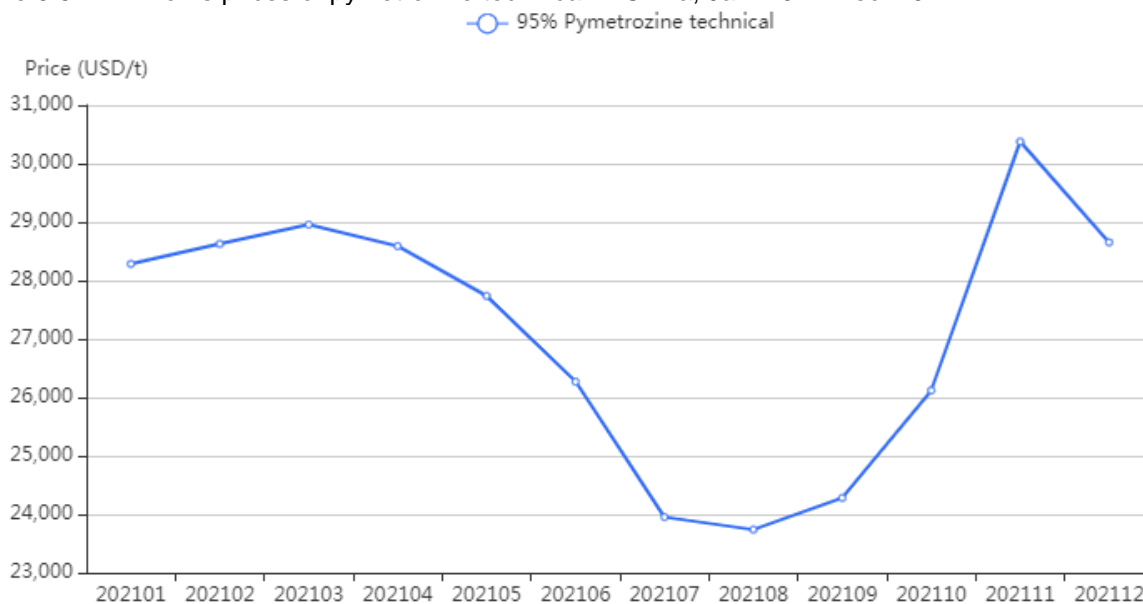
3.5 Pymetrozine

During the 2021 peak season for mass insecticide application, pymetrozine technical came at USD28,956/t in March.

At the heels of the end of peak season in Aug., the ex-works price of pymetrozine technical hit the lowest of the year and dropped to USD23,740/t in Aug., down 18.01% from March, with a yearly decrease of 12.56%. Mainly because of customers' purchase declined, inventory picked up and prices fell, as well as China's increasing release of new capacity in recent years.

In late Q3, the ex-works price of pymetrozine technical peaked at USD30,378/t in Nov., up 16.39% year on year, affected by the insufficient operating rate of manufacturers. In Dec., as the prices of raw materials dipped, the product saw a decrease to USD28,653/t, down 6.02% month on month, largely back to the 2020 level.

Figure 3.5-1 Ex-works prices of pymetrozine technical in China, Jan. 2021-Dec. 2021



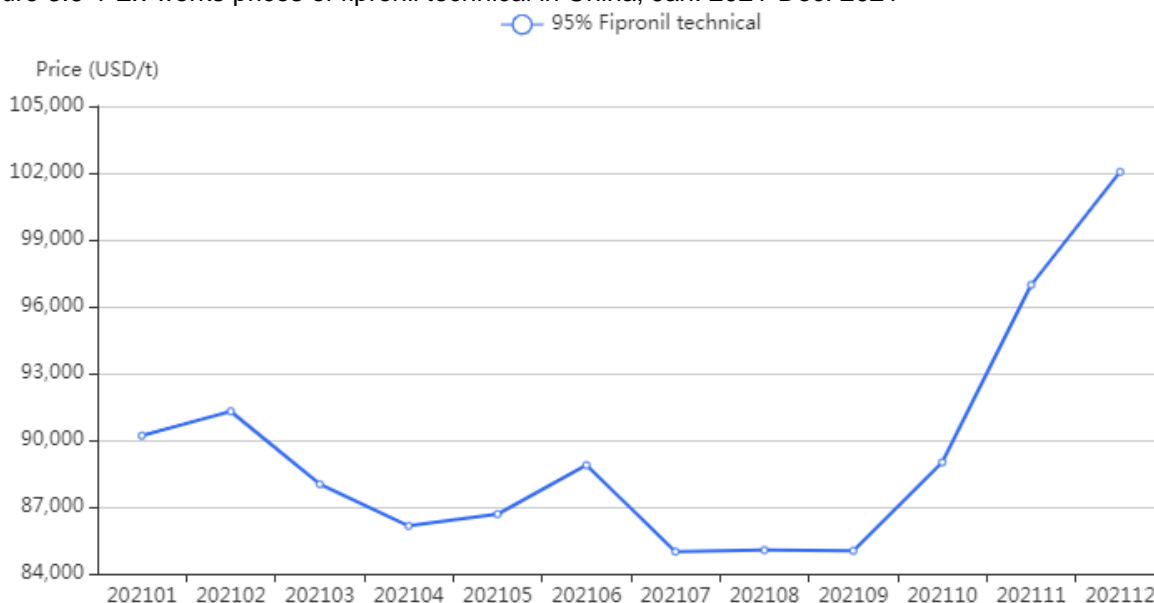
Source: CCM

3.6 Fipronil

Chinese fipronil technicals are mainly for exports. In Q1 2021, following the lukewarm demand, 95% fipronil technical slipped from USD91,299/t in Feb. to USD86,149/t in April, down by 5.64%. In June, it relied slightly to USD88,876/t, still down by 6.79% year on year.

The market was stable in Q3. And later in Q4 when there was growing overseas demand, surging raw material prices, and low inventory in Chinese fipronil manufacturers, the price started to soar in Sept. According to CCM's price monitoring data, the ex-works price of 95% fipronil technical reached USD102,052/t in Dec., up 5.24% month on month and up 11.20% year on year, basically returning to the level of early 2020. Notably, the application of fipronil technical has been banned in China as of 1 Jan., 2020.

Figure 3.6-1 Ex-works prices of fipronil technical in China, Jan. 2021-Dec. 2021



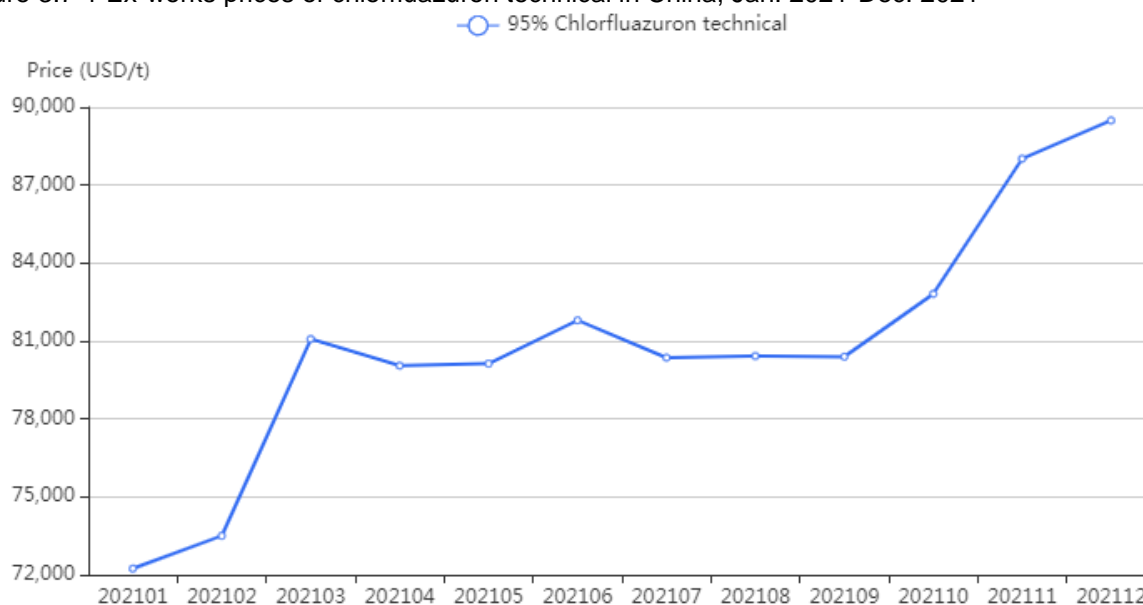
Source: CCM

3.7 Chlorfluazuron

In 2021, the ex-works price of chlorfluazuron technical showed an upward trend overall, and the price stayed at a high level.

In Q1, the price soared from USD72,239/t in Jan. to USD81,076/t in March, up by 12.23%, due to increasing market demand and tight supply. In Q2–Q3, the ex-works price of this product in China hovered around USD81,000/t. Since Sept., the scale-down operation of many chlorfluazuron manufacturers and consequent supply shortage has pushed the price of chlorfluazuron technical up. According to CCM's price monitoring data, the ex-works price of 95% chlorfluazuron technical in China reached USD89,492/t in Dec., up 27.55% year on year.

Figure 3.7-1 Ex-works prices of chlorfluazuron technical in China, Jan. 2021-Dec. 2021



Source: CCM

3.8 Lambda-cyhalothrin

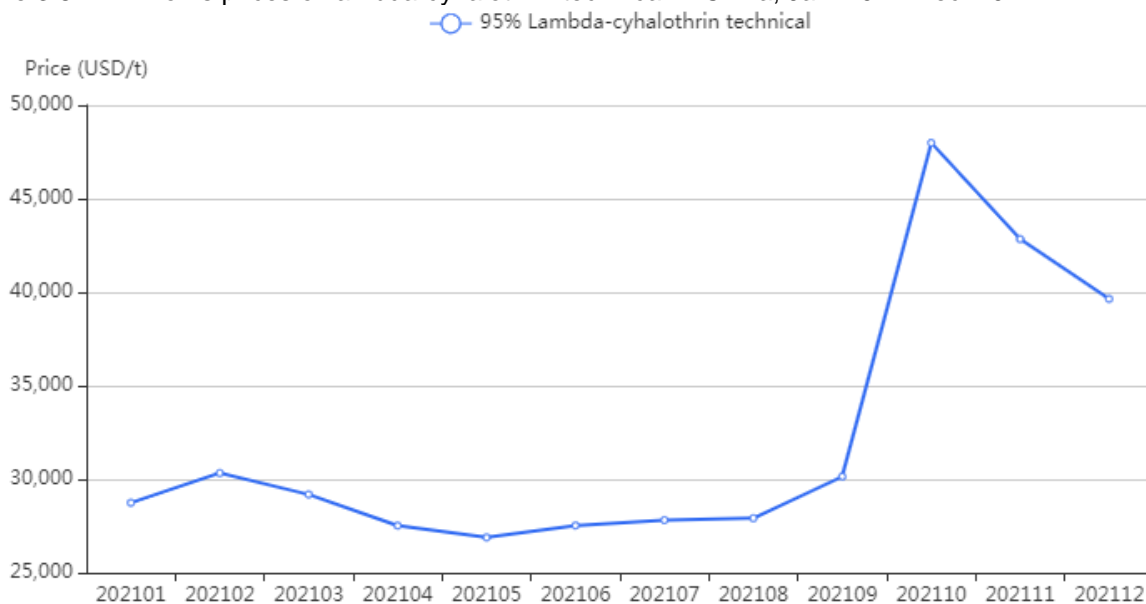
In 2021, the production cost of Chinese lambda-cyhalothrin has increased, as a result of the short supply and high import price of 3-phenoxy-benzaldehyde since Q2 2020.

The ex-works price of lambda-cyhalothrin technical set at USD28,743/t in Jan. 2021, up 12.12% from Dec. a year before. In Feb., the tightened supply moved price up to USD30,330/t. As lacking of overseas demand, market marked a decline in May to USD26,890/t, down 11.34% from Feb. Entering Q3, it went up, and shoot to USD47,985/t in Oct., up by 59.16% month on month and up 91.93% year on year, affected by lambda-cyhalothrin manufacturers' insufficient operating rate.

On 8 Nov. 2021, Jiangsu Changqing Agrochemical Co., Ltd. (Stock Code: 002391) announced the newly established capacity of lambda-cyhalothrin technical would start trail operation. Accordingly, the market price of this product fell in Nov. and Dec.

According to CCM, the December price of 95% lambda-cyhalothrin technical was USD39,643/t, with a sharp year-on-year increase of 54.63%.

Figure 3.8-1 Ex-works prices of lambda-cyhalothrin technical in China, Jan. 2021-Dec. 2021



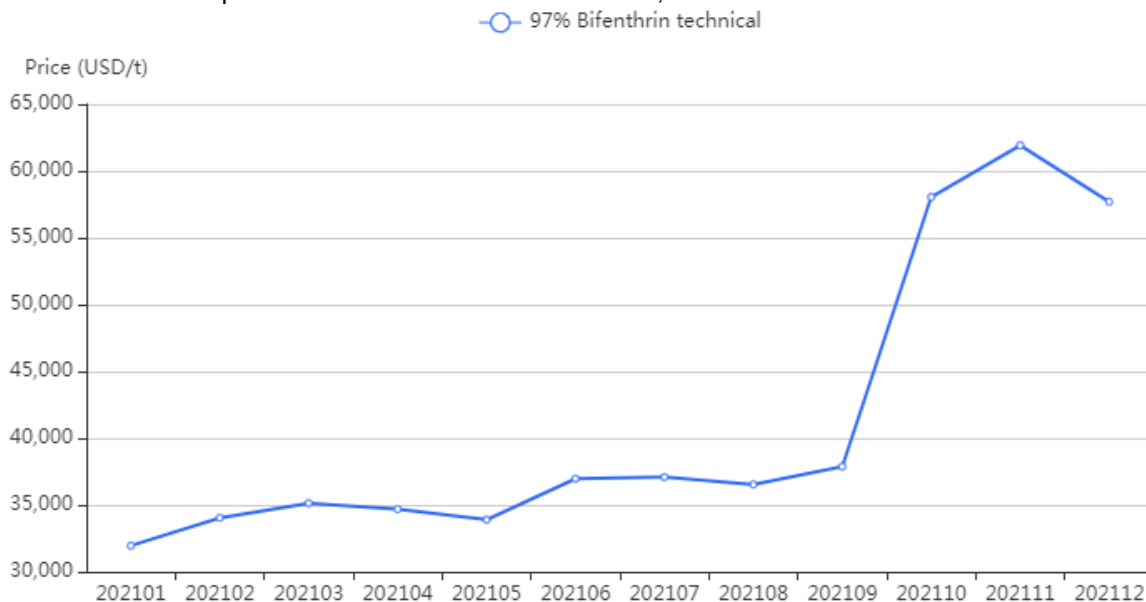
Source: CCM

3.9 Bifenthrin

In 2021, the ex-works price of bifenthrin technical in China showed an upward trend in general and peaked in Nov., representing an increase of 93.80% from Jan.-Nov. which was mainly driven by high production cost.

According to CCM, the ex-works price of 97% bifenthrin technical was USD57,699/t in Dec, a sharp 94.06% of growth from a year earlier.

Figure 3.9-1 Ex-works prices of bifenthrin technical in China, Jan. 2021-Dec. 2021



Source: CCM

3.10 Chlorfenapyr

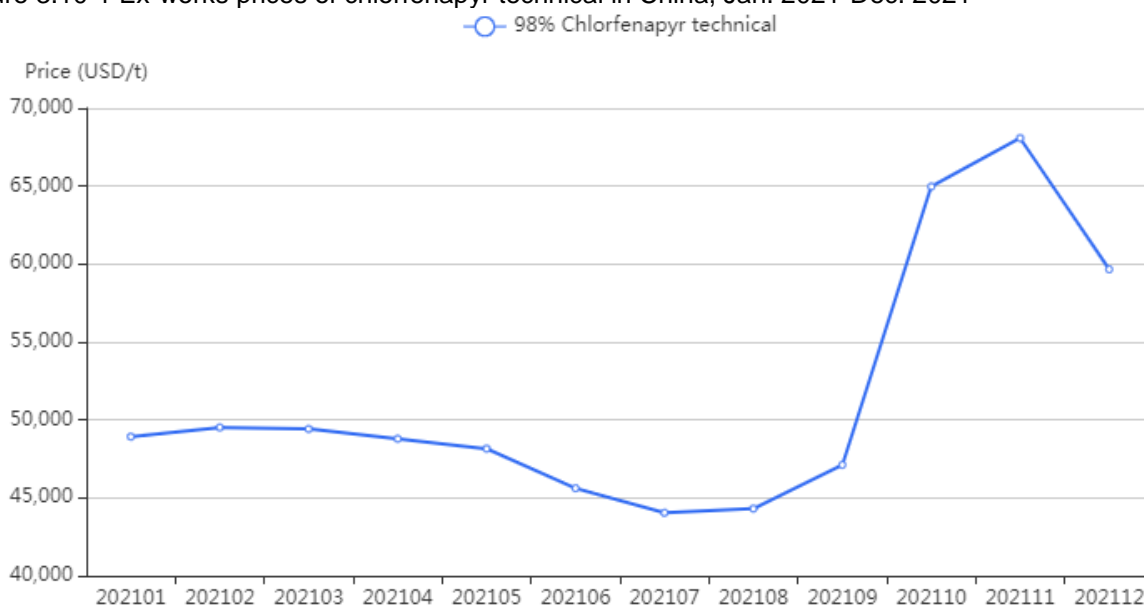
In 2021, the ex-works price of chlorfenapyr technical stayed high above USD48,000/t before June. It first showed an overall downtrend under USD45,000/t, yet a sharp increase occurred in Oct. and ended this year approaching USD60,000/t.

As chlorfenapyr technical was mainly supplied to overseas markets, domestic supply was very tight. The ex-works price of chlorfenapyr technical reached USD49,518/t in Feb. However, even it entered the peak season of insecticide use in July, due to weak demand of overseas market, the price of this product declined in May, and even further in July at USD44,043/t, down 11.06% from Feb.

Since Sept, the supply of this product was extremely tight, resulting from insufficient inventory and low operating rate of chlorfenapyr technical manufacturers. The price went up to USD47,117/t in Sept. and peak in Nov. at USD68,077/t, up 54.57% from July.

According to CCM, the December price of 98% chlorfenapyr technical was USD59,661/t, up 24.85% year on year, but drop 12.39% compared with that in Nov.

Figure 3.10-1 Ex-works prices of chlorfenapyr technical in China, Jan. 2021-Dec. 2021



Source: CCM

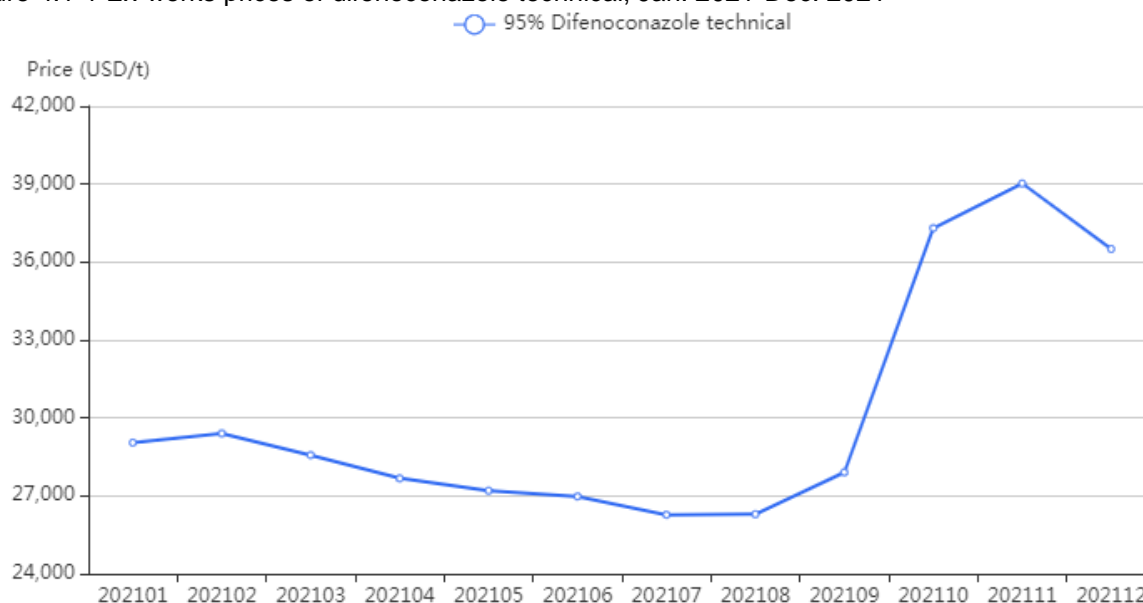
4 Prices analysis of main fungicides in China, 2021

4.1 Difenoconazole

According to CCM's price monitoring data, the ex-works price of difenoconazole technical had dropped from USD29,401/t in Feb. to USD26,291 in Aug. 2021, due to the increase in operating rate of manufacturers and the supply.

Under great pressure from the rising cost of raw materials and the significant drop in the responding production in triazole manufacturers, the price of difenoconazole technical rose from USD27,907/t in Sept. to USD36,503/t in Dec., an increase of 30.81%.

Figure 4.1-1 Ex-works prices of difenoconazole technical, Jan. 2021-Dec. 2021



Source: CCM

4.2 Propiconazole

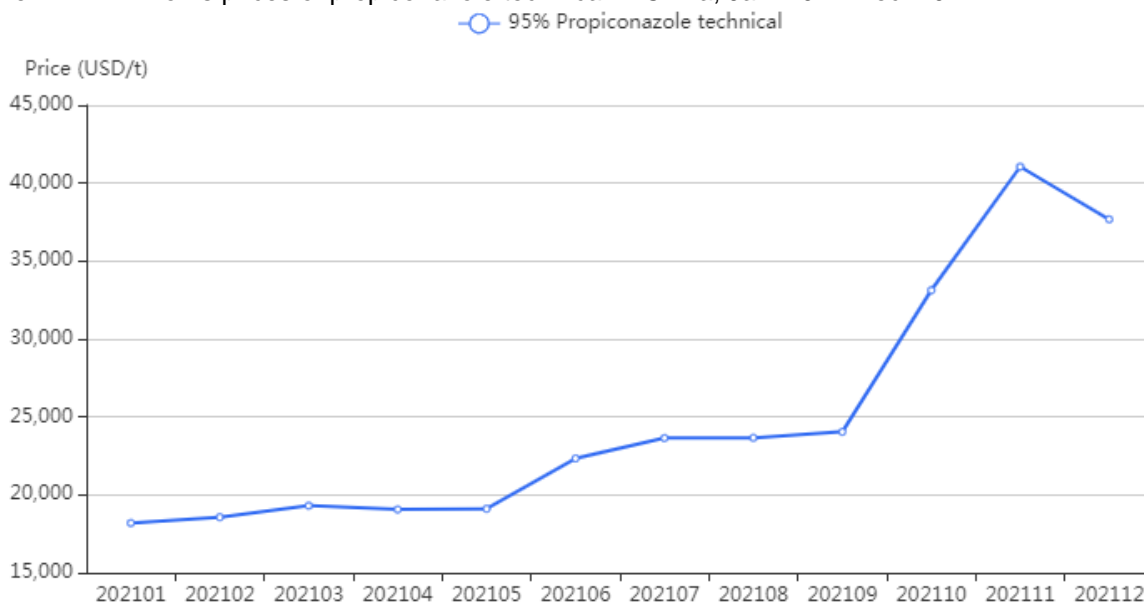
In 2021, the ex-works price of propiconazole technical has moving upward and sat at a high level.

In Q1–Q3, the product price was driven by the increasing market demand and tight supply, up from USD18,193/t in Jan. to USD24,041/t in Sept, an increase of 32.14%.

Starting Sept., manufacturers were busy delivering early orders but suffered from high production costs and insufficient operating rate. The price of this product rose fast to USD33,125/t in Oct. and USD41,049/t in Nov. In Dec., though the operating rate didn't improve much, demand for this product dipped, which relieved the tight supply to some degree.

According to CCM, the December price edged down to USD37,681/t but it is a sharp increase of 148.40% year on year.

Figure 4.2-1 Ex-works prices of propiconazole technical in China, Jan. 2021-Dec. 2021



Source: CCM

4.3 Tebuconazole

Due to increasing operating rate and inventory, the price of tebuconazole technical had maintained a downwards trend from 2020 to Aug. 2021.

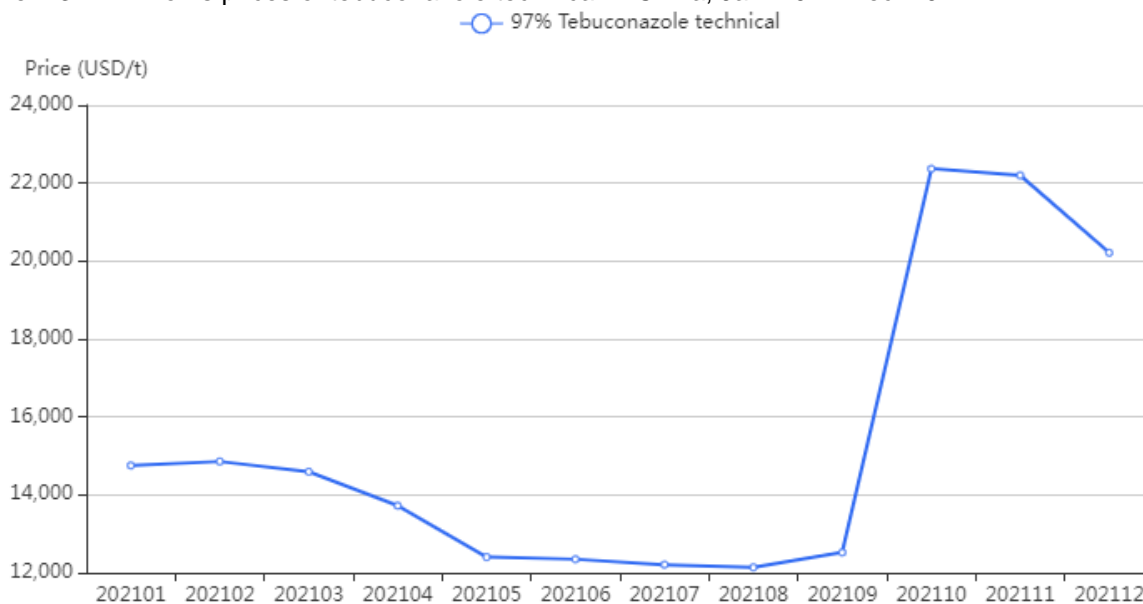
In H1 2021, the ex-works price of 97% tebuconazole technical was trending down at a low level. As weak downstream demand sustained, and it decreased to USD12,348/t in June, down 43.64% year on year.

In Q3, the price of this product continued to fall but marginally.

However, the prices in Q4 showed the presence of insufficient supply and low operating rate of raw materials, and hence, a peak of price of tebuconazole technical at USD22,367/t in Oct., standing for a month-on-month increase of 78.60% and an increase of 58.37% from Jan.

According to CCM's price monitoring data, the ex-works price of 97% tebuconazole technical was USD20,214/t in Dec., up 31.25% year on year.

Figure 4.3-1 Ex-works prices of tebuconazole technical in China, Jan. 2021-Dec. 2021



Source: CCM

4.4 Azoxystrobin

The market of azoxystrobin technical was tepid in the first eight months of 2021, but a big change happened after that.

In H1, due to increasing cost of intermediate and strong market demand, the ex-works price of azoxystrobin technical rose to USD41,156/t in March. As the operating rate went up in Q2, the ex-works price of 96% azoxystrobin technical dropped below USD40,000/t in April-Aug., and bottomed at USD35,393/t in June.

Since Aug., reduced operating rate triggered a price rebound. Besides, manufacturers were keeping their operation low, resulting from higher price of intermediate and lower profit. And the ex-works price of 96% azoxystrobin technical posited above USD60,000/t in Q4.

Particularly, the November price was USD63,170/t, up 78.48% from the yearly lowest in June; while the December price slid to USD60,446/t, up 71.25% year on year.

Figure 4.4-1 Ex-works prices of azoxystrobin technical in China, Jan. 2021-Dec. 2021



Source: CCM

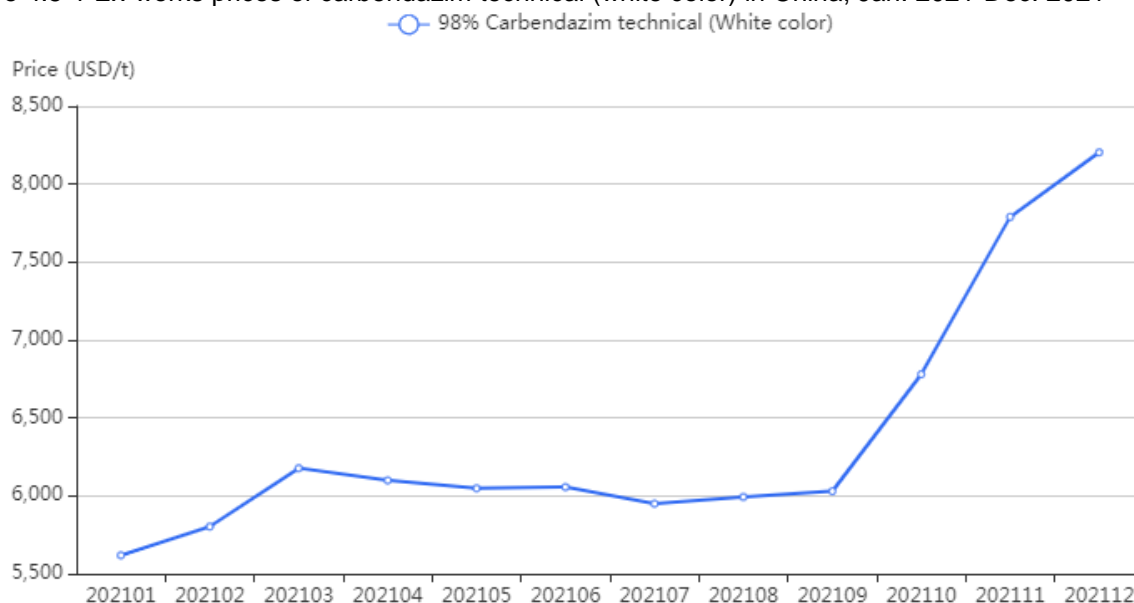
4.5 Carbendazim

Carrying over the price uptrend and supply shortfall of 2020, the year of 2021 marked the price of carbendazim technical continued to rise from USD5,619/t in Jan. to USD6,177/t in March.

Following in Q2 when market demand for carbendazim technical ebbed, less orders were sealed and then entering Q3, the start of the off-season of the product, which tight supply eased with the ex-works price of 98% carbendazim technical remaining basically stable around USD6,000/t.

In Q4, the manufacturers of carbendazim technical faced multiple pressures. For instance, other than high environmental protection pressure, they had to deal with central restriction on operation and higher production costs, leading to supply strain. According to CCM's price monitoring data, the ex-works price of carbendazim technical grew swiftly to USD6,780/t in Oct., USD7,789/t in Nov. and USD8,203/t in Dec, with yearly increases of 35.19%, 53.61% and 54.51%, respectively.

Figure 4.5-1 Ex-works prices of carbendazim technical (white color) in China, Jan. 2021-Dec. 2021



Source: CCM

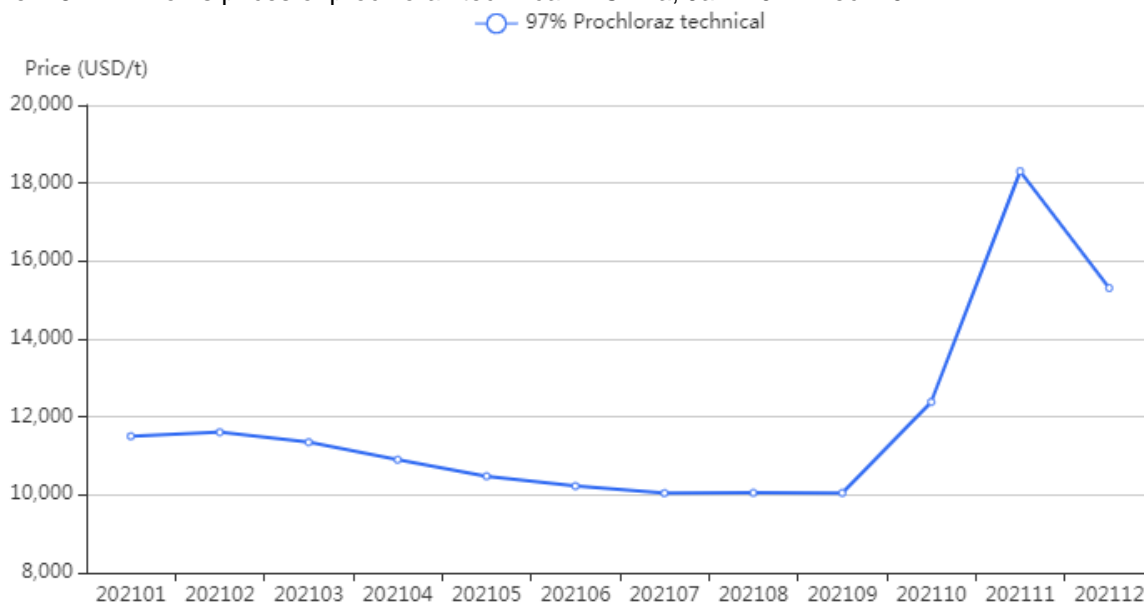
4.6 Prochloraz

Amid the lukewarm demand, the ex-works price of 97% prochloraz technical slipped from USD11,505/t in Jan. and USD11,606/t in Feb. to USD11,351/t in March.

Although a downtrend was showed after Q1, the price of this product had maintained above the level of USD10,000/t until Oct. Bound by the "Dual Control" policy issued in Sept., many prochloraz manufacturers had to make adjustments on their operation, ran only at a low rate and received small orders. Market was adapting to supply shortfall of the product as well as a higher price.

According to CCM, the December price of 97% prochloraz technical was USD15,308/t, up 31.05% year on year with a sharp monthly decrease of 16.37%, partly because that as the prochloraz resistance increased, consumers prefer to choose alternatives with smaller growth rates.

Figure 4.6-1 Ex-works prices of prochloraz technical in China, Jan. 2021-Dec. 2021



Source: CCM

4.7 Cyazofamid

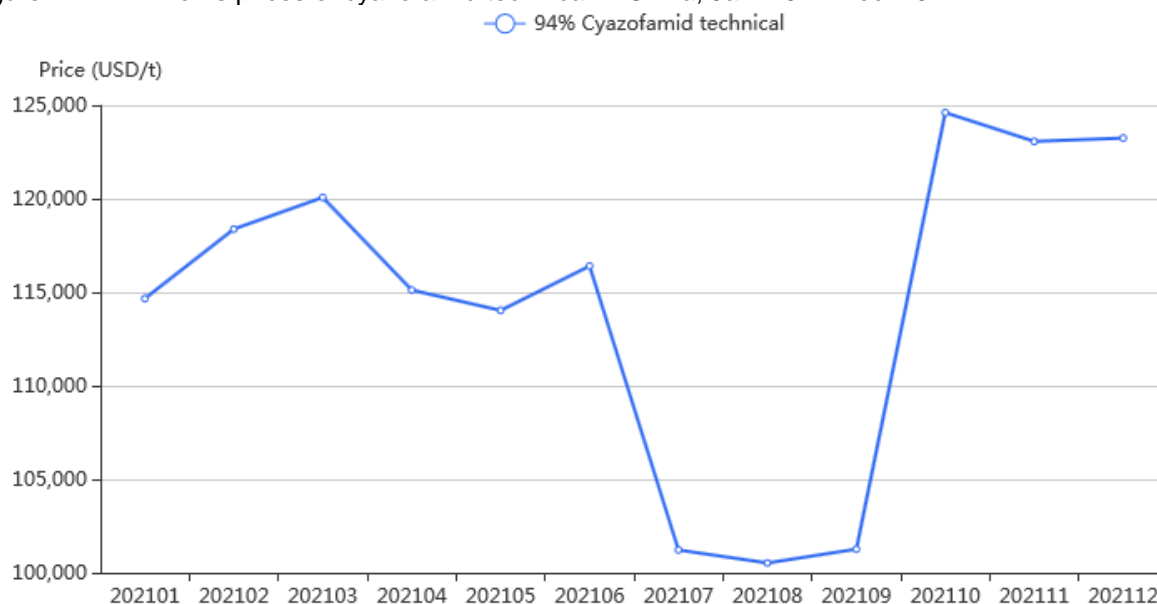
2021 Market spotted more price fluctuations in cyazofamid technical than other fungicides.

In Q1, the ex-works price of cyazofamid technical rose following the insufficient operating rates of manufacturers and low stock in the market, to USD120,000/t in March. In Q2, upon the production was back to normal, the price returned basically to the level of Dec. 2020.

The July price stood out with sag to USD101,222/t, down 13.04% month on month. Since then, the price were largely lying flat until a surge in Oct, up to USD124,605/t, representing the record high in recent three years attributed to manufacturers' production suspension and tight market supply.

In Nov. and Dec., the ex-works prices of 94% cyazofamid technical went down slightly arriving at the level of around USD 123,000/t, data provided by CCM.

Figure 4.7-1 Ex-works prices of cyazofamid technical in China, Jan. 2021-Dec. 2021



Source: CCM

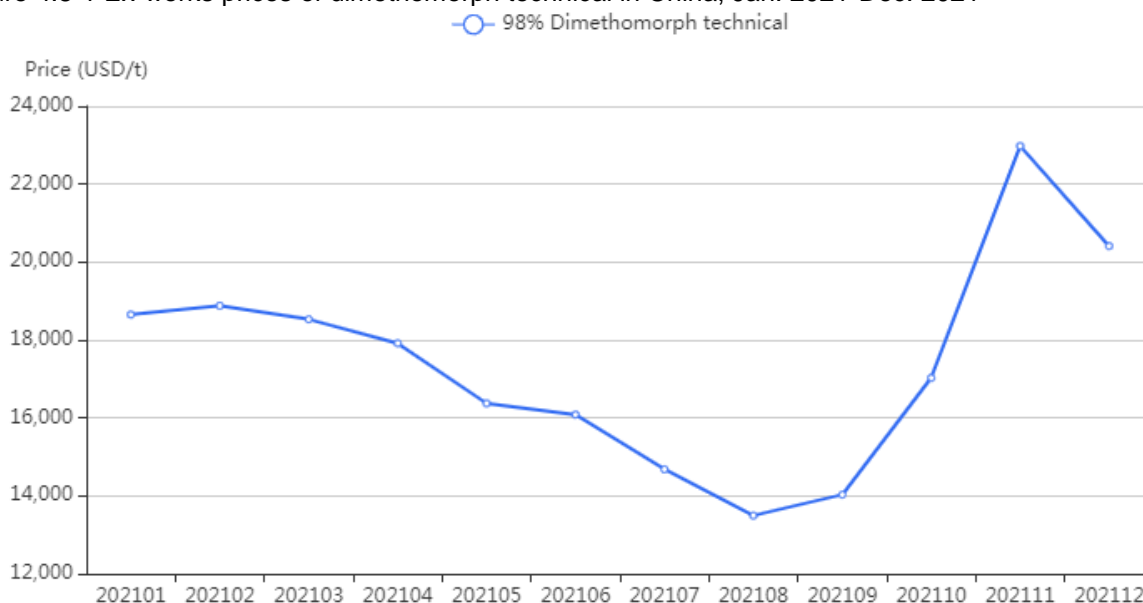
4.8 Dimethomorph

In Q1–Q3, the price of dimethomorph was swinging down with new production capacity put into operation: Liaoning Cynda Agricultural Science Co., Ltd., wholly-owned by Shandong Cynda Chemical Co., Ltd. (Shandong Cynda, Stock Code: 603086), had a 2,000 t/a dimethomorph production line on trial production in H1 2021, which was well underway according to the semi-annual report of Shandong Cynda.

The ex-works price of 98% dimethomorph technical rose to USD18,879/t in Feb., however only 1.21% higher than that in Jan., before a long fall in March-Aug. In Sept., it began to rise with downsized product inventory and cost markups in raw materials.

In Q4, the lower-than-expectation operating rate generated ballooned market prices. According to data from CCM, the ex-works price of 98% dimethomorph technical hit the high of USD22,978/t in Nov., up 34.95% month on month, despite that the December one went down 11.17% month on month to USD20,410/t.

Figure 4.8-1 Ex-works prices of dimethomorph technical in China, Jan. 2021-Dec. 2021



Source: CCM

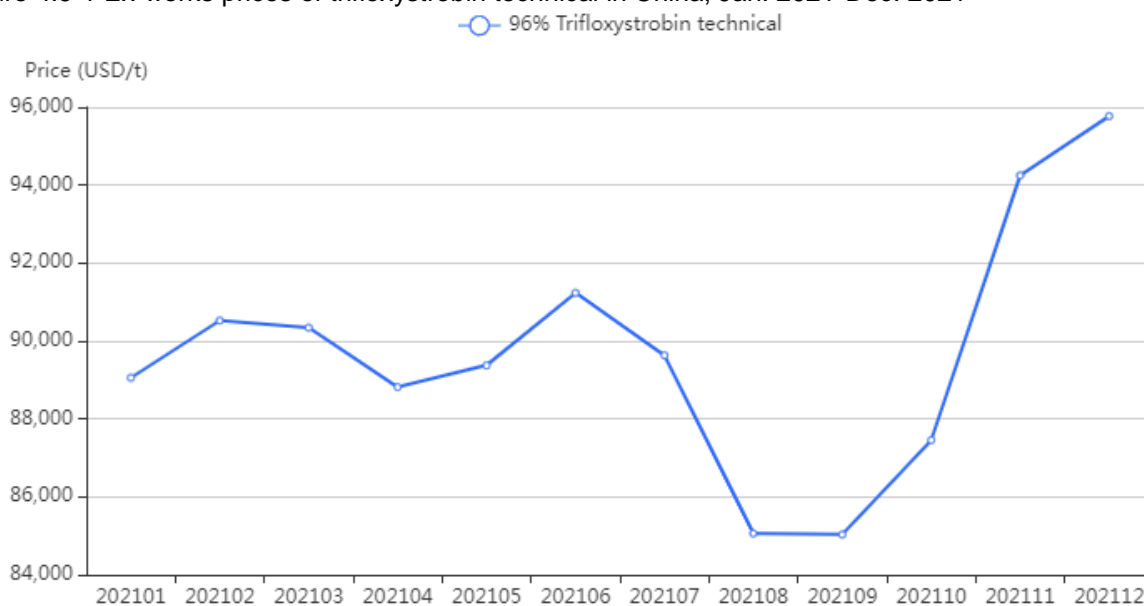
4.9 Trifloxystrobin

In H1 2021, the ex-works prices of trifloxystrobin technical varied between USD88,000/t and USD92,000/t.

The first part of Q1 represented by spring festival or the production downtime of trifloxystrobin, suggested price rises amid reduced inventory as opposed to the later period supported by the recovering operation across the country and the responsive price move downward. In Q2, the ex-works price of 96% trifloxystrobin technical rose to USD91,235/t in June, up 12.18% year on year, owing to the low operating rate and tight supply.

In H2, though the supply was still tight, the ex-works price of trifloxystrobin technical started to decrease with weakening demand, to USD85,060/t in Aug. and USD85,034/t in Sept., but up 2.63% and 0.43% year on year, respectively. Entering Q4, the national operation restriction sparked a price peak at USD95,772/t in Dec., an increase of 12.59% from Aug. and up 8.85% year on year.

Figure 4.9-1 Ex-works prices of trifloxystrobin technical in China, Jan. 2021-Dec. 2021



Source: CCM

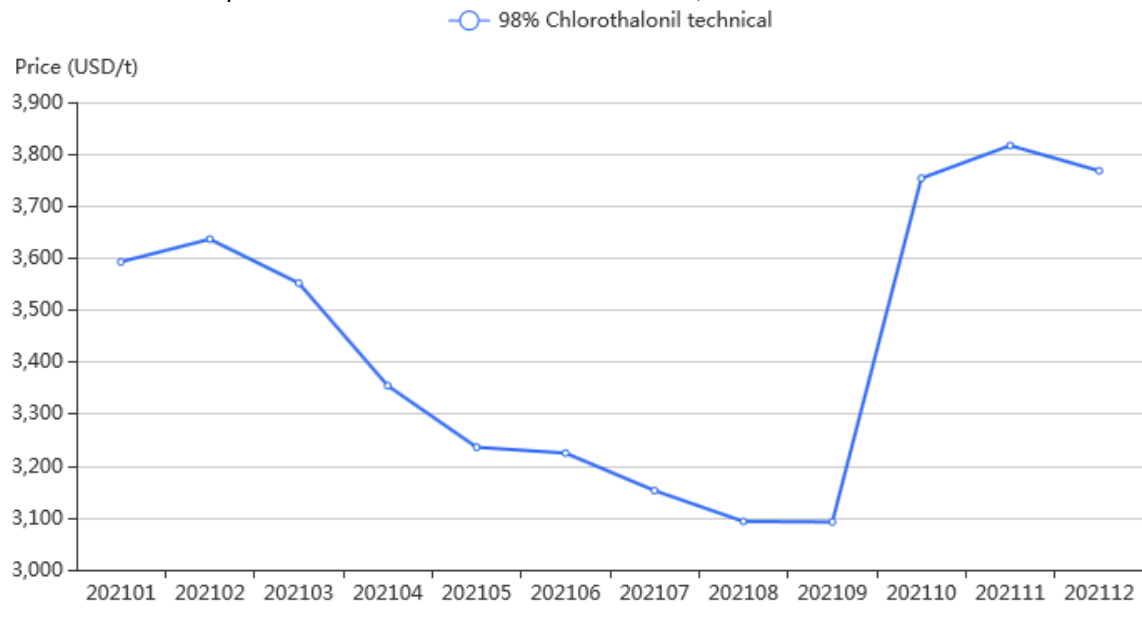
4.10 Chlorothalonil

During the Chinese Spring Festival holiday in Jan.-Feb., the supply of raw materials of chlorothalonil was affected by the break of national logistic system and low operating rates in plants. The ex-works price of 98% chlorothalonil technical climbed up to USD3,636/t in Feb..

Chinese chlorothalonil technical is mainly made for export rather than for the limited demand in the country. The price of this product had decreased all the way to USD3,092/t in Sept., down 14.97% from Feb.

However, entering Oct., the price of intermediates for chlorothalonil picked up and manufacturers stocked up less intermediates, limiting the production of chlorothalonil technical. According to CCM data, the ex-works price of 98% chlorothalonil technical spiked to USD3,754/t in Oct., with a month-on-month increase of 21.39%, and the December price was USD3,768/t, basically returning to the level in late 2020.

Figure 4.10-1 Ex-works price of chlorothalonil technical in China, Jan. 2021-Dec. 2021



Source: CCM

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