

Glyphosate China Monthly Report

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Headline

Five factors will continuously give impetus to the pesticide enterprise reform in 2017.

Herbicide-resistant "superweeds" change their mating strategies over time, an evolutionary shift that helps them hold onto valuable genes and outcompete other plants, according to a new study from University of Michigan researchers.* News on ns.umich.edu.

Zhang Hua, president of Fuhua Group and Sichuan Fuhua, was awarded the title of "2016 Influential People of Chinese Petroleum and Chemical Industry". Zhang is the only glyphosate industry insider who won the award.

CCM makes a review of year 2016 and forecast of year 2017 for Chinese glyphosate market.

People from all walks of life are concerned about whether Zhejiang Wynca, a listed company, will be able to turn loss into gain in 2016 net profit, with the help of the gradually rising glyphosate price since H2 2016. However, under the influence of multiple factors, the annual net profit of Zhejiang Wynca in 2016 is still full of variables.

Undoubtedly, environmental issue is one of the most sensitive matters for domestic pesticide companies, so companies must treat negative reports either on themselves or their subsidiaries with caution. Recently, Hubei Xingfa timely released a clarification announcement considering the environmental issue of its subsidiary Baokang Chufeng.

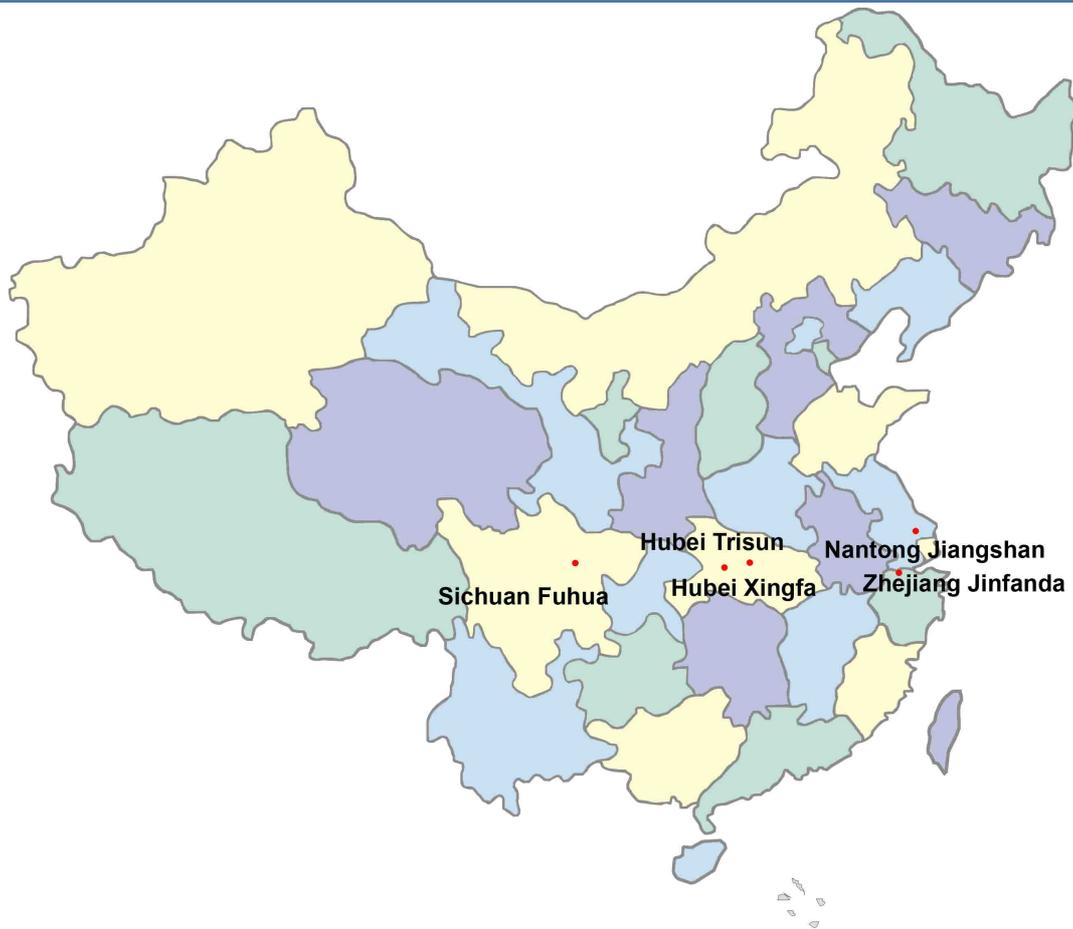
In 2016, the majority of glyphosate companies relied on the price of glyphosate which has been raised in H2 in order to intensify their full-year financial performance. Will said price rise be actually enough to save Hubei Trisun's financial performance as well?

Kaifeng Langchao is committed to be an one-stop supplier of sterilant herbicides. Paraquat stepped out of the market in 2016, which left giant market shares for sterilant herbicides. Seizing such opportunity, Kaifeng Langchao invested heavily in the R&D of new products, such as glyphosate mixed formulations, glufosinate-ammonium and diquat, and it had managed to promote relevant products in the market. On 29 Dec., 2016, the Langchao Chemical Sterilant Herbicide Conference & Launching Ceremony of Product Partners was held by Kaifeng Langchao in Dengfeng City, Henan Province. At the conference, Kaifeng Langchao's two glyphosate mixed formulations attracted the attention. More than 150 dealers who attended the conference ordered those herbicides on site, and even those who did not order products asked samples from the company in order to do demonstration tests after they went back.

In the first half of Jan. 2017, the ex-works prices of glyphosate 95% TC was USD3,827/t (RMB26,500/t), up 43.24% YoY and 8.02% MoM. The price of glyphosate formulations also showed an uptrend.

In Nov. 2016, China's export price and volume of glyphosate TC was up by 6.62% and 25.56% MoM respectively.







Editor's Note

In Jan. 2017, China's glyphosate TC market improved, but mainstream producers still quoted relatively high quotations. At present, most glyphosate suppliers mainly run business for completing previous orders; market supply still kept tight. Industry insiders predicted that supply will increase after the Spring Festival Holiday, and operating rate will rise at that time.

It is predicted that glyphosate output in 2017 will be nearly the same as 2016, given government macropolicy and economy, environmental protection and market demand. In 2017, glyphosate suppliers may not expand production. Besides, the government will encourage pesticide enterprises to launch mergers and reorganizations. In the short term, there won't be new participants into the market. The MEP will continue to conduct environmental inspections in Sichuan and Anhui province, which will greatly affect the output of glyphosate TC.

Demand for glyphosate TC will also increase this year, given that paraquat AS had exited the market, and rigid demand for glyphosate TC at home and abroad is still strong.

The USD/RMB exchange rate in this newsletter is USD1.00=RMB6.9498 on 3 Jan., 2017, sourced from the People's Bank of China. All the prices mentioned in this newsletter will include the VAT, unless otherwise specified.



Market Analysis

Five factors to continuously promote pesticide enterprise reform in 2017

Summary: Five factors will continuously give impetus to the pesticide enterprise reform in 2017.

In 2016, there were 5 major factors that promoted pesticide enterprise reform, and they will continue to be the important pushers for the reform in 2017. CCM summarizes the 5 factors in the following part of the article.

1. Supply-side structural reform of the pesticide industry

In 2016, China's pesticide industry was in a low-speed growth period and remained depressed. Most of products were in excess supply. Coupled with the intensified disorderly and homogeneous competition, the industry entering into the era of low profit. In addition, implemented zero growth of pesticide consumption, adjustment of planting structure, and new changes in market climate all made it imperative to implement supply-side structural reform in the pesticide industry.

- Review

The supply-side structural reform in the pesticide industry could be comprehended by breaking down the concept into three parts, namely supply side, structural reform, and pesticide industry. The main tasks of promoting the reform is to achieve the "four enhancements": enhance scientific and technological innovation capacity, enhance market share, enhance resource utilization rate, and enhance international competitiveness. Focusing on strengthening the supply-side structural reform, as well as improving the quality, profitability, and competitiveness of agriculture, is the major task in the development of the pesticide industry in future.

- Outlook

The *No.1 Document* is to be released in 2017, in which the subject of the supply-side structural reform of the pesticide industry may continue benefit the market in 2017. Industry insiders expect that the core content of the document may still be relevant to agricultural supply-side structural reform, one of whose major constituent parts is the reform in the pesticide industry, which will, therefore, cast relatively great impacts on the pesticide market in 2017.

2. The new *Regulations on the Administration of Pesticides* has been revised

On Dec., 2016, Li Yingbin, director of the Department of Sectoral Policy and Law of the Ministry of Agriculture of the People's Republic of China (MOA) said: "By now, the new *Regulations on the Administration of Pesticides* has been revised and submitted to the State Council. We are waiting for the final approval."

- Review

The changes of the new *Regulations on the Administration of Pesticides* are reflected as follows:

Firstly, reform of pesticide management system is emphasized, with one department being responsible for one business.

Secondly, the scope of applicants applying for pesticide registration is enlarged – developers of new pesticides, except pesticide manufacturers and foreign exporters, are allowed to transfer registration materials excluding registration certificate when applying



for pesticide registration.

Thirdly, supervision on the market order will be strengthened.

Fourthly, responsibilities for operation and use will be more stricter.

Fifthly, the costs of illegal production and operation are increased – establish a system to return unqualified pesticide products, stop the production, sales and use of these pesticides, notify the upstream and downstream enterprises, report to the MOA, and make records of the recalled products. At the same time, improve regulations on the withdrawal of registered pesticides.

- Outlook

The new *Regulations on the Administration of Pesticides* will further purify the pesticide market climate. In the future, agricultural departments will employ more effective means to supervise the pesticide industry and punish illegal activities more severely; usage of pesticides will be more regulated.

3. The 13th Five-year Plan of the Pesticide Industry (2016-2020)

On 26 May, 2016, the China Crop Protection Industry Association officially published the *13th Five-year Plan of the Pesticide Industry (2016-2020)* (the *Plan*). With promoting the innovation and development of the manufacturing industry as the theme and improving quality and profits as the center, China will further adjust the industrial structure and the structure of products, promote technological innovation and industrial transformation and upgrading, reduce environmental pollution, change the development mode, promote the sustainable and healthy development of the pesticide industry, so as to meet the needs of agricultural production, enhance food security capacity, and improve the international competitiveness.

- Review

The *Plan* has four major bright spots:

Firstly, it has clarified the development objectives in 5 aspects, namely industrial organization, products, the establishment of the innovation system, technology, and environmental protection and resource utilization.

Secondly, it has proposed the major tasks in aspects such as the industrial structure layout and technological innovation.

Thirdly, it will gradually improve the industrial policies and strengthen the management and macro-control of the pesticide industry.

Fourthly, safeguard measures are more pragmatic, which will improve the international competitiveness of the industry and promote the sustained, stable and healthy development of the industry.

- Outlook

In recent years, Chinese pesticide industry has made substantial progress in the adjustment of industrial structure and product structure and in the promotion of technological innovation and industrial upgrading. The *Plan* will continue to solve the problems occurred during the development of the industry, such as the relatively low concentration ratio, overcapacity of some products, weak innovation ability, serious product homogeneity, and lagging technologies of the treatment of "three wastes" (waste water, waste gas and waste residues).





4. The 2016 Special Rectification Action Plan for Pesticides

In April 2016, in order to strengthen the supervision and management of pesticides, ensure the safety of agricultural production and quality of agricultural produce, as well as protect ecological environment, the MOA decided to launch the pesticide special rectification action in whole China in 2016, according to the *Notification on Strengthening the Supervision and Administration of the Quality and Safety of Agricultural Produce*.

- Review

The plan takes promoting the specially designated operation of high-toxic pesticides and establishing the pesticide traceability system as vital tasks, and has laid special stress on the risk assessment of pesticide usage and on sudden public opinions.

Firstly, step up efforts to limit or ban the use of some pesticides, promote designated operation of high-toxic pesticides and real-name purchase system nationwide.

Secondly, crack down on the production and sales of counterfeit pesticides and on illegal additions of other pesticide ingredients, strengthen market supervision and spot checks.

Thirdly, strengthen the supervision of the safe use of pesticides.

Fourthly, prevent the spread of false public opinions and make efforts to reduce adverse social impacts.

- Outlook

In recent years, special rectification actions on pesticides and the use of pesticides have always been the important ones of the MOA to regulate the pesticide market. In 2017, the MOA is likely to continue to implement the plan, and on this basis, strengthen enforcement and improve relevant measures.

5. Pesticide advertising law

The *Pesticide Advertisement Examination and Publication Standards* (the *Standards*) came into effect on 1 Feb., 2016, and the previous *Pesticide Advertisement Examination Standards* released on 28 March, 1995 was abolished at the same time. The *Standards* makes it clear that only registered pesticides with national approval are allowed to publish advertisements, and the contents of advertisements shall be consistent with the contents of the *Pesticide Registration Certificate and the Pesticide Registration Notice*, without willfully expanding the scope.

- Review

The new *Standards* could further regulate the disarray in China's pesticide market, such as speculation of concepts and mislead of public opinions. The *Standards* stipulate that pesticide advertisements shall not: affirm or guarantee the efficacy and safety of pesticides; take advantage of scientific research units, academic institutions, technology promotion agencies, industry associations or professionals, and the name or image of users to recommend and justify pesticides; claim pesticides are effective; use words, language, or pictures that violate safety requirements; use other contents that are prohibited by laws and administrative regulations.

- Outlook





The new *Standards* will continue to promote the healthy development of pesticide advertisements, enhancing the authenticity, legality and scientificity of pesticide advertisements. Besides, it is conducive to maintaining the fair market order of the pesticide industry, establishing the credit system, protecting the legitimate rights of farmers and pesticide users, and creating a safe and secure environment for pesticide use. It will also continue to promote the marketing of pesticides and enterprise images to return to the simple, pragmatic, and rational development.

Nongyi Net to launch promotions for glyphosate and glufosinate-ammonium

Nongyi Net (16899.com) first proposed the "Spring Ploughing Festival on 3 March" activity and is committed to develop the festival into farmers' own festival and a shopping carnival of the agricultural means of production industry. The 2017 Spring Ploughing Festival will witness promotions, "Shopping Rush with RMB1", of the two herbicides, namely glyphosate and glufosinate-ammonium. In addition, all products will be sold at ex-works price, and there will be a lucky draw section. Agricultural means of production E-commerce was silent during 2016, but Nongyi Net, on the contrary, made remarkable achievements, with its sales exceeding USD43.17 million (RMB300 million). Its sales in the 3rd Agricultural Means of Production E-commerce Singles Day in 2016 reached USD5.05 million (RMB35.09 million). Two years ago, the 2014 National Plant Protection Conference witnessed the 1st Agricultural Means of Production E-commerce Singles Day, and back then, the sales of Nongyi Net was only a few millions RMB. The sales in 2016 proved that the development mode of Nongyi Net was gradually being recognized by consumers. The achievements were closely related to its principle "genuine traceability, high quality with favorable price, product innovation and brand creation", its innovative mode of products "platform sharing for unified innovation", and its new policies such as one purchasing agent in one area, focusing on business district, and establishing business as purchasing agents.

Morning glory relies on self-fertilization to resist glyphosate

Summary: Herbicide-resistant "superweeds" change their mating strategies over time, an evolutionary shift that helps them hold onto valuable genes and outcompete other plants, according to a new study from University of Michigan researchers.

* *News on ns.umich.edu.*

According to a new study from University of Michigan researchers, herbicide-resistant "superweeds", morning glories, change their mating strategies over time, an evolutionary shift that helps them hold onto valuable genes and outcompete other plants.

The study examined the relationships between plant mating systems and herbicide resistance in the common agricultural weed morning glory. Researchers found that morning glory populations that have evolved resistance to the herbicide Roundup rely on self-fertilization more than susceptible populations do.

The increased reliance on self-fertilization may help perpetuate Roundup (a glyphosate) resistance by blocking the flow herbicide-susceptibility genes from other plants, the researchers concluded.

The results highlight the potential unforeseen consequences of human activities - in this case the widespread use of Roundup Ready crops, which are genetically modified to tolerate the herbicide - on wild plants such as weeds.

"We need to fully understand how we are altering plant species through the use of agricultural chemicals. What kind of evolution are





we causing due to impacts that we didn't quite foresee?" said U-M plant ecological geneticist Regina Baucom, senior author of a paper scheduled for online publication 30 Nov., 2016 in the journal *Ecology Letters*.

"This is further evidence that human activities can have unintended impacts on plant populations, in this case changes in traits that we weren't necessarily anticipating might evolve," said Baucom, an assistant professor in the Department of Ecology and Evolutionary Biology.

Baucom's team, which includes Chang Shumei of the University of Georgia, sampled 32 morning glory populations growing in and around corn and soybean fields in Midwest and Southeast of the US. Researchers used a combination of lab and greenhouse studies.

Morning glories in agricultural fields have been consistently exposed to glyphosate, the active ingredient in the herbicide Roundup, since Roundup Ready crops were widely adopted in the United States in the late 1990s. Baucom's team had previously shown that this colorful flowering weed has developed varying levels of resistance to glyphosate across its North American range.

Morning glory is a mixed-mating species, meaning that individual flowers can reproduce either by self-fertilization, which is known as selfing, or by using pollen from another individual, a process called outcrossing.

Morning glories are hermaphroditic: Each flower has both male and female reproductive parts. In self-fertilization, pollen grains formed in the male part, the anther, are shared with the stigma, the female structure inside the flower that receives pollen.

In the *Ecology Letters* paper, Baucom and her colleagues show that herbicide-resistant morning glory populations self-fertilize more than herbicide-susceptible populations.

The researchers also show that in the most-resistant morning glory populations, the distance between the anther and stigma is the smallest, a trait previously shown by Chang to increase self-fertilization in this species.

The increased reliance on self-fertilization and the shrinking anther-stigma distance both have the effect of perpetuating resistance genes by blocking the influx of herbicide-susceptibility genes from other plants.

"We are the first to show that the mating system of an agricultural weed is correlated to the level of herbicide resistance - the more highly resistant populations are also more selfing," Baucom said. "In addition, we believe we have identified a physical mechanism that may allow plants to hold onto resistance genes through higher selfing."

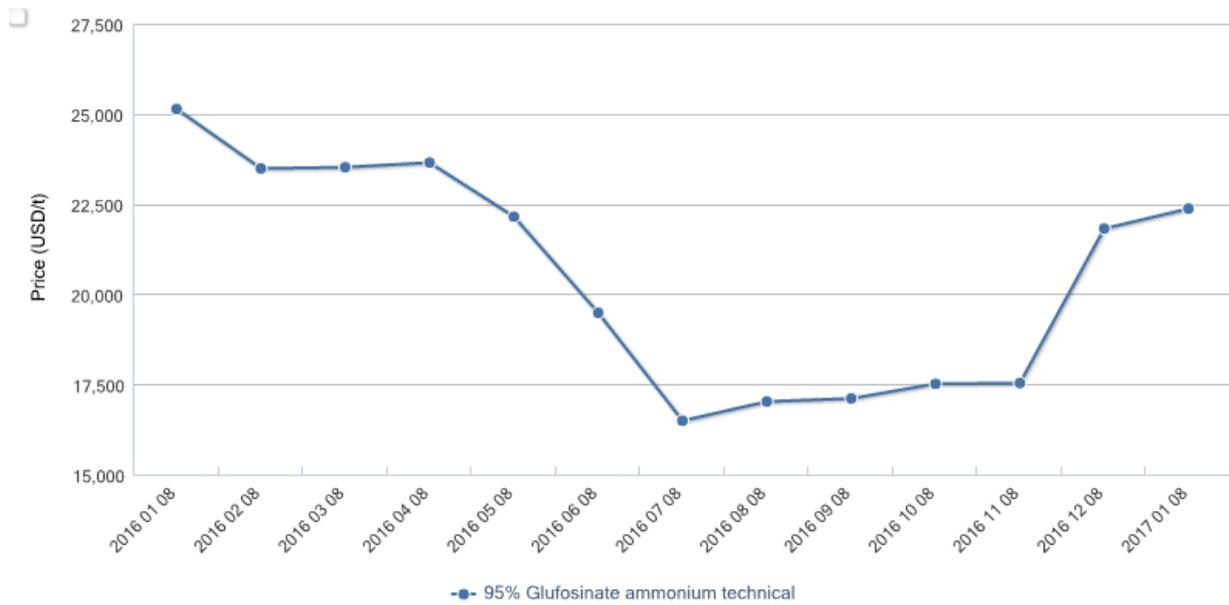
China's market price of glufosinate-ammonium stays high in Jan. 2017

In Jan. 2017, China's glufosinate-ammonium TC price kept rising. Some companies continued to raise quotations. It is disclosed that now the market supply still remains tight, and some companies were suspending production. For instance, Shijiazhuang Richem Co., Ltd. was suspended for environmental protection, with untold resumption date. Now, Hebei Province's smog control action has lasted for near two months. Companies including Hebei Veyong Bio-Chemical Co., Ltd. are now under production suspension, and are unlikely to resume production before the Spring Festival. It is predicted that the glufosinate-ammonium TC price will rise slightly in the short term.

In early Jan. 2017, the ex-works price of glufosinate-ammonium 95% TC averaged USD22,379/t, USD555/t higher than Dec. 2016.



Figure 1: Ex-works price of glufosinate ammonium 95% technical in China, Jan. 2016-Jan. 2017



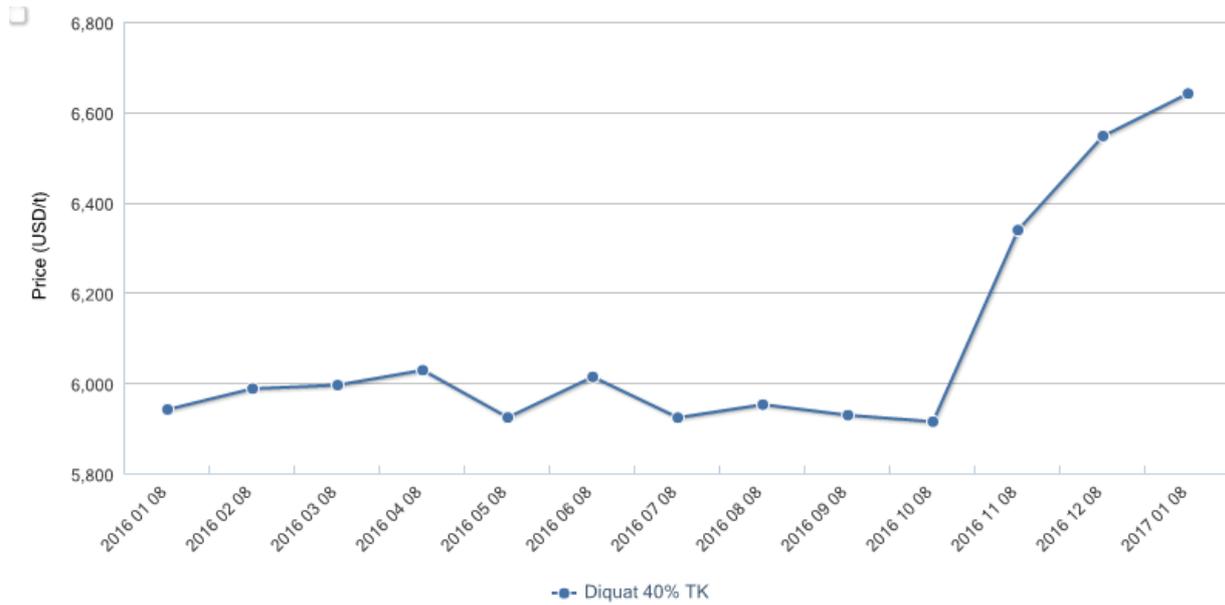
Source: CCM

Diquat price boosted by overseas demand

In Jan. 2017, China's diquat TK price continued to rise largely. According to CCM's price monitoring, the ex-works price of diquat 40% TK averaged USD6,641/t in early Jan., USD94/t higher than Dec. 2016 and up 11.76% YoY (year on year). In fact, diquat price started to rebound in Q4 2016, mainly thanks to two reasons:

1. Market demand from overseas markets strengthened, boosting the domestic price;
2. Companies maintained a low operating rate due to environmental pressure, leading to tight market supply at home.

Figure 2: Ex-works price of diquat 40% TK in China, Jan. 2016-Jan. 2017



Source: CCM

Sichuan Fuhua: president Zhang Hua awarded '2016 Influential People of Chinese Petroleum and Chemical Industry'

Summary: Zhang Hua, president of Fuhua Group and Sichuan Fuhua, was awarded the title of "2016 Influential People of Chinese Petroleum and Chemical Industry". Zhang is the only glyphosate industry insider who won the award.

On 15 Jan., 2017, the press conference of the "2016 Top 10 News and Influential People of Chinese Petroleum and Chemical Industry, directed by the China Petroleum and Chemical Industry Federation (CPCIF) and hosted by the China Chemical Industry Newspaper Office in Beijing. Gu Xiulian, vice chairman of the 10th Standing Committee of the National People's Congress, and Li Shousheng, president of the CPCIF, attended the conference. Zhang Hua, president of Sichuan Leshan Fuhua Agricultural Technology Investment Group Co., Ltd. (Fuhua Group) and Sichuan Fuhua Tongda Agro-chemical Technology Co., Ltd. (Sichuan Fuhua), was awarded the title of the "2016 Influential People of Chinese Petroleum and Chemical Industry". Zhang is the only glyphosate industry insider who has won the award.

To be more specific, Zhang won the title of "Excellent Manager in Environmental Protection of the National Petroleum and Chemical Industry" for following reasons: "serve the country with industry" is his ideal; "devote himself in agriculture" is his mission. It only takes him 10 years to lead his enterprise to become the leading enterprise in the herbicide industry of China's agrochemical field and one of the leading ones in the world. He believes that environmental protection should be a profit pattern, rather than companies' burden. He advocates taking the road of scientific recycling economy, and he has built a chemical industry cluster whose industry chain is the longest, recycling is the most thorough, and the cost of production is the lowest in domestic glyphosate industry. With advanced science and technology and strong research and development strength, he has found and mastered the "golden key" to combing environmental protection and economic benefits, and has realized the win-win situation of social benefits, environmental benefits, and economic benefits.

With the ideal of serving the country with industry, Zhang started his business in a paper making factory in 1999. He then set foot in agricultural fields such as agriculture and seed industry. It took him about 10 years to lead his enterprise become one of the top 500



private enterprises of China. His company's products are exported to about 127 countries and regions, such as Asia, Europe, America, Africa, etc.

In 2003, before Zhang acquired a chlor-alkali enterprise in Leshan City, Sichuan Province, he specially invited experts in Sichuan to conduct field research. Two expert research reports made Zhang decide to make full use of the bittern, phosphorus ore, hydroelectric resources, and other advantageous resources in Leshan, embark on the road to crop protection, and enter into the pesticide market in China and even in the world.

Through continuous research on the agrochemical industry, Zhang put forward the enterprise's vision of becoming a global integrated agricultural service solution provider, and in order to achieve the goal, he formulated the thought of development and strategic planning of "four major platforms" of Fuhua Group. He decided to strengthen the influence of Fuhua Group in the agrochemical field, build a manufacturing platform of the whole industry chain, an overseas customer service terminal platform, an agricultural trading E-commerce platform and an advanced research platform.

Although a variety of reasons led to the stagnant development of domestic industries and many enterprises therefore changed their businesses, Zhang did not stop his investments into the platforms of his enterprise. Instead, by cooperating with domestic first-class professional institutes, Zhang set up a national laboratory, in order to actively make research and develop new products, improve process lines, and optimize the industrial package.

On 3 Nov., 2016, the Fuhua Working Station of the Engineering Innovation Center of South University of Science and Technology of China (EICSUSTC) was co-established by Sichuan Fuhua and the EICSUSTC (Beijing). Zhang said: "I hope with the joint efforts of Sichuan Fuhua and the EICSUSTC in aspects such as fine chemicals, water pollution control, and soil treatment, we will be able to build a national-level specialized laboratory and GLP laboratory, as well as a recycling fine chemical industry park. By doing this, we will not only protect the environment, but also promote local economic development, achieving a win-win situation of economic, social and environmental benefits.

At the same time, Zhang has led Sichuan Fuhua to enter overseas markets for various times. With years of experience in the capital market, through mergers and acquisitions of mature overseas channel enterprises, and by using the integrated boundless Internet, Zhang aims to promote the brand "Fuhua" to the whole world.

On 9 Dec., 2016, under the leading of the Foreign Investment Department of the China Petrochemical Federation, representatives of multinational petrochemical enterprises visited Fuhua Agrochemical Park and held a symposium. In the symposium, representing Sichuan Fuhua, Zhang signed a strategic cooperation agreement with Australia-based NUFARM, which further deepened the strategic partnership between Sichuan Fuhua and NUFARM. After acquiring an in-depth knowledge of the development situation and development direction of Sichuan Fuhua, many multinational petrochemical enterprises, such as BASF SE, Evonik Industries AG, Clariant Chemical (China) Co., Ltd., Covestro (China) Co., Ltd., Eastman (China) Investment & Management Co., Ltd., Heraeus (China) Investment Co., Ltd., Air Products & Chemicals (China) Investment Co., Ltd., etc., all expressed their wishes to establish cooperative research and development strategic partnerships with Sichuan Fuhua, together research and develop new products, and take the path of sustainable, green, recycling, energy-saving and high-efficient development.

A total of 15 people were awarded the title of "2016 Influential People of Chinese Petroleum and Chemical Industry". In addition to Zhang, the other 14 people are:



- Wan Lianbu, president of Kingenta Ecological Engineering Group Co., Ltd.
- Ma Yunsheng, president of Shandong Jingbo Holding Co., Ltd.
- Wang Feng, president of Shandong Linglong Tyre Co., Ltd.
- Li Shijiang, president of Do-fluoride Chemicals Co., Ltd.
- Liu Gang, deputy chief engineer of the Shanghai Research Institute of Chemical Industry
- Liu Hong, president of Sichuan Zhongke Industrial High-Tech Materials Co., Ltd.
- Yan Yuegen, president of Puritek (Nanjing) Purification Technology Co., Ltd.
- Lin Ke, general manager of Beijing Sanju Environmental Protection New Material Co., Ltd.
- Zhou Jinting, president of Shanghai Hefu Artificial Intelligence Group
- Jin Yong, academician of the Chinese Academy of Engineering and professor at Tsinghua University
- Jiang Ming, president of Hangzhou Hangyang Co., Ltd.
- The research team of the Institute of Clean Coal Technology of East China University of Science and Technology
- Dai Wei of Beijing University of Chemical Technology
- Dai Houliang, general manager of China Petrochemical Group Co., Ltd.

Picture 1: Li Shousheng, president of the CPCIF, gave the prize to Zhang Hua



Source: China Chemical Industry Newspaper Office

Picture 2: Sihuan Fuhua and NUFARM signed the strategic cooperation agreement, 9 Dec., 2016



Source: China Chemical Industry Newspaper Office

Chinese glyphosate market: 2016 review and 2017 forecast

Summary: CCM makes a review of year 2016 and forecast of year 2017 for Chinese glyphosate market.

This article gives a review of 2016 and a forecast of 2017 for Chinese glyphosate market.

• Review of 2016 Chinese glyphosate market

Price

In 2016, China's glyphosate TC price kept falling in the first 8 months and continued to rise in the remaining 4 months. This year witnessed the lowest average price in the past 3 years, being USD2,878/t (RMB19,094/t), vs. USD3,279/t (RMB20,335/t) in 2015 and USD4,872/t

1. Two features

- Price slowly declined in from USD2,827/t (RMB18,500/t) in Jan. to USD2,662/t (RMB17,750/t) in Aug. Then the figure rose to USD3,563/t (RMB24,532/t) in Dec. The gap between the highest and the lowest hit USD975.86/t (RMB6,782/t).

- Traditionally, the price rises in Q1 and Q4 and drops in Q2 and Q3. However, in recent 3 years, there was no obvious distinction between the peak and slack season in the price of glyphosate TC. This marks that Chinese glyphosate market is transforming from demand-oriented to policy-oriented.

2. Five major factors influencing price trend

- In 2016, there was no production expansion in the glyphosate market, while output remained large. Suppliers reduced the prices to fight for market share.

- Bulk pesticide prices kept low, which cannot support the glyphosate price to rise. Particularly, prices of glycine, a main raw material for glyphosate, hit a record low.



- The central environmental inspection team started to be stationed in 15 provinces from July onwards, which directly pushed up prices of bulk pesticides and production cost of glyphosate. In Nov., Hebei Province issued strict policy to control smog, as a result, some chemical companies had to cut or suspend production. This indirectly caused a surge in glycine price. Besides, the price of yellow phosphorus also rose in Nov., the low flow period in Southwest China.

- Mainstream suppliers formed a good pricing coordination mechanism, in order to improve their financial figures. When the market was depressed in 2016, Chinese glyphosate companies conducted mergers & acquisitions to gain profit.

Supply (production capacity, output and operating rate)

According to prediction, China's glyphosate production capacity, output and operating rate was about 1 million t/a, 0.58 million tonnes and less than 60% respectively.

Jiangsu, Sichuan and Zhejiang provinces were still the top 3 by output of glyphosate TC, mainly because they own the largest production capacity and the highest operating rate.

• Forecast of 2017 Chinese glyphosate market

Price

In 2017, the market price of glyphosate TC may maintain at USD3,309.45/t-USD4,748.34/t (RMB23,000/t-RMB33,000/t) in China.

1. Different from the industry inspection on glyphosate/ PMDA in 2013, the central environmental inspections started in 2016 cover many aspects. Hence, raw materials for pesticides may record surges in prices this year.

2. As China has launched many environmental checks, the overseas markets may gradually accept the fact that the price of glyphosate TC keeps relatively high.

3. Members of the OPEC and non-OPEC reached an agreement on limiting the output of crude oil. The oil price will rise in 2017, which pushes up the production cost of glyphosate overseas. If so, the domestic glyphosate TC price is likely to increase following the price rise overseas.

Supply

It is predicted that the output of glyphosate in 2017 will be unchanged from 2016.

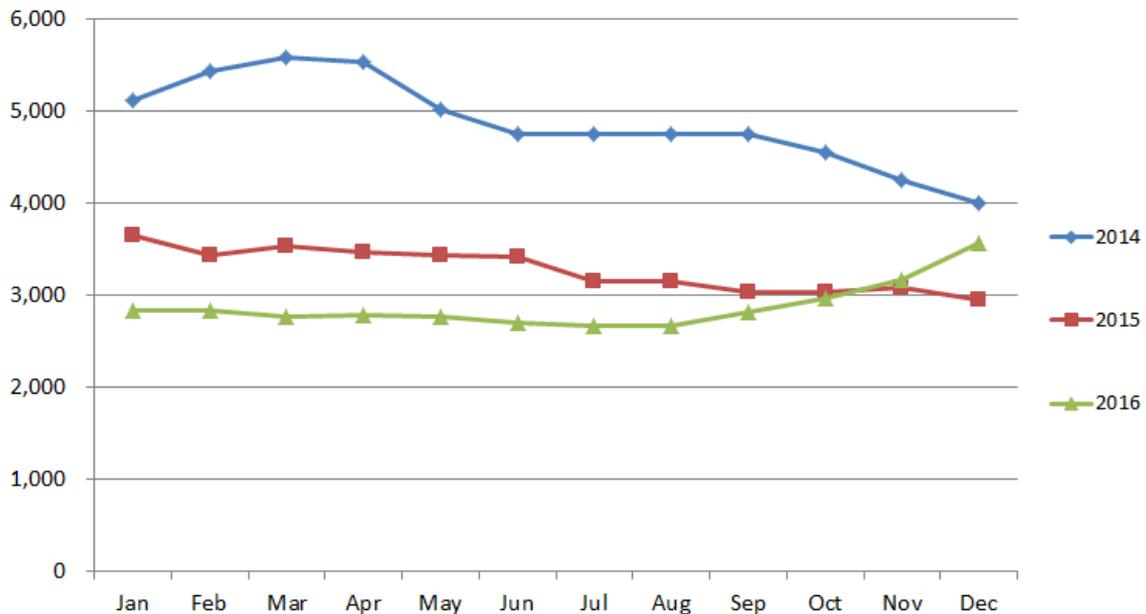
1. In 2017, Chinese glyphosate suppliers may not expand capacity. In 2013, the National Development and Reform Commission (NDRC) issued an announcement to amend some articles in the Guidance Catalogue of Industry Structural Adjustment (2011 Version), which listed glyphosate in the restricted products. Besides, the NDRC encourage pesticide companies to make mergers and reorganizations. Therefore, in the short term, there won't be new participants into the market, and capacity won't be expanded significantly.

2. The Ministry of Environmental Protection of the People's Republic of China will finish the environmental inspections two years in advance. Inspections will greatly influence the output in China especially in Sichuan because about 20% of the national capacity is located in the province.



3. Although there were many negative reports about glyphosate in 2016, rigid demand still existed. Given that paraquat AS was banned in the Chinese market, demand for glyphosate in 2017 will grow. In addition, glyphosate is still the top-one large tonnage herbicide in international market.

Figure 3: Monthly market price of glyphosate TC in China, 2014-2016, USD/t



Source: CCM

Companies' Dynamics

Zhejiang Wynca: variables in 2016 net profit

Summary: People from all walks of life are concerned about whether Zhejiang Wynca, a listed company, will be able to turn loss into gain in 2016 net profit, with the help of the gradually rising glyphosate price since H2 2016. However, under the influence of multiple factors, the annual net profit of Zhejiang Wynca in 2016 is still full of variables.

Zhejiang Wynca Chemical Group Co., Ltd. (Zhejiang Wynca) is a major domestic listed glyphosate manufacturer in China, but in recent years, its financial performance has shown a declining trend due to the continued sluggish market and the continuous decline of glyphosate price. People from all walks of life are concerned about whether Zhejiang Wynca will be able to turn loss into gain in 2016, with the help of the gradually rising glyphosate price since H2 2016. However, under the influence of multiple factors, the annual net profit of Zhejiang Wynca in 2016 is still full of variables.

Environmental litigation may reduce 2016 net profit of Zhejiang Wynca

On 7 Jan., 2016, Zhejiang Wynca issued the follow-up announcement on environmental litigation, which said that the company had recently received the paper of civil judgment issued by the Intermediate People's Court of Dongying City, Shandong Province in terms of the environmental litigation in which two persons and 3 units were involved. The 3 units included Zhejiang Wynca and its affiliated factory, No. 2 Jiande Chemical Factory.



The main contents of the civil judgment were as follows:

1. Zhejiang Wynca, No. 2 Jiande Chemical Factory and Jiande Hong'an Transportation Co., Ltd. (Jiande Hong'an), Li Qiang, and Li Zhaofu shall immediately stop illegally transporting mixed phosphate liquor overseas for disposal, and they shall pay the cost of environmental pollution control, at USD3.27 million (RMB22.74 million - 11,370 tonnes were transported overseas, unit price at USD287.78/t - RMB2,000/t). In addition, they shall together bear the attorney fee of USD1,726.67 (RMB12,000), and the court acceptance fee of USD2,237.43 (RMB15,550).

2. Zhejiang Wynca, No. 2 Jiande Chemical Factory and Jiande Hong'an, Li Qiang, and Li Zhaofu shall be jointly and severally liable for the above-mentioned liabilities.

Zhejiang Wynca said the above matters might have a certain negative impact on the company. For the case, Zhejiang Wynca had already withdrawn about USD275,556.13 (RMB4 million) at the end of 2014. If the judgment become effective, the annual profits of Zhejiang Wynca in 2016 would be decreased. Zhejiang Wynca would make predictions of its 2016 financial performance before the end of Jan. 2017 as soon as possible.

Zhejiang Wynca received USD3.02 million (RMB21 million) of relocation compensation at the end of 2016

On 30 Dec., 2016, Zhejiang Wynca issued an announcement on the company's receipt of compensation for relocation. The announcement said that on 29 Dec., 2016, the company received USD3.02 million (RMB21 million) relocation compensation. After preliminary accounting, the compensation would be included in the non-operating income of Zhejiang Wynca in 2016. CCM believes that the timely arrival of the compensation payments will effectively help Zhejiang Wynca get out of the red in 2016.

Event review: On 8 Dec., 2015, Zhejiang Wynca and Jiande City Construction and Development Investment Co., Ltd. signed the *Overall Relocation Compensation Agreement on the Bainanshan Block*, in which the total amount of compensation for the overall relocation was decided to be USD65.64 million (RMB456.1846 million).

Zhejiang Wynca gained rich income by selling equities of subsidiary

On 13 Dec., 2016, Zhejiang Wynca announced that it planned to sell 5% of equities in Zhejiang Hanghua New Material Technology Co., Ltd. (Zhejiang Hanghua) for USD3.01 million (RMB20.7522 million), which was regarded as an approach to turn loss into gain and to realize its operation targets. For more details, please refer to the *Glyphosate China Monthly Report 1612: Zhejiang Wynca intends to sell subsidiary's equity to gain profit*.

The rising price of glyphosate indicated good news for Zhejiang Wynca's annual profit

"Our operational benefits have been improved due to the improved market of glyphosate and organic silicon. We are able to basically get out of the red in 2016 even if excluding the income from equity transfer," said Zhejiang Wynca.

The price rebound of glyphosate helped Zhejiang Wynca get out of the business difficulties. The sales of glyphosate increased, which may largely boost Zhejiang Wynca's annual profit. Chinese glyphosate market had begun to witness a price rebound since Sept. 2016, and as of the end of Dec. 2016, the price of glyphosate was still increasing. For details, please refer to *Glyphosate China Monthly Report 1611: Zhejiang Wynca may turn loss into gain in 2016*.





Subsidiary's applying to be listed on NEEQ may increased profitability of Zhejiang Wynca

On 10 Jan., 2017, Zhejiang Wynca announced that its subsidiary, Shandong Xinfeng Seed Co., Ltd. (Shandong Xinfeng) would apply to be listed on the National Equities Exchange and Quotations (NEEQ). It was revealed that Zhejiang Wynca is the largest shareholder of Shandong Xinfeng, with 44.01% of equities.

Shandong Xinfeng is mainly engaged in R&D, production and sales of corn seed and wheat seed. As of 30 June, 2016, Shandong Xinfeng's total assets and net assets amounted to USD23.68 million (RMB164.59 million) and USD16.20 million (RMB112.62 million) respectively. In the first six months of 2016, the sales of Shandong Xinfeng hit USD3.48 million (RMB24.17 million), and its net profit was -USD0.21 million (-RMB1.44 million).

Hubei Xingfa releases clarification on environmental issue of Baokang Chufeng

Summary: Undoubtedly, environmental issue is one of the most sensitive matters for domestic pesticide companies, so companies must treat negative reports either on themselves or their subsidiaries with caution. Recently, Hubei Xingfa timely released a clarification announcement considering the environmental issue of its subsidiary Baokang Chufeng.

Currently, the Chinese government strengthens efforts in environmental inspections and air pollution control, thus environmental protection becoming a timebomb for most pesticide companies. Hubei Xingfa Chemicals Group Co., Ltd. (Hubei Xingfa), a leading listed pesticide company in China, also treats environmental issue with caution. For the negative reports of some media, the company usually makes verification and clarification timely, trying to reduce the adverse impact.

On 29 Dec., 2016, Hubei Xingfa gave a clarification announcement on the environmental issue of its subsidiary Baokang Chufeng Chemical Co., Ltd. (Baokang Chufeng). Before that, related media publicized a report, saying that Hubei Chufeng received complaints on environmental pollution and the company claimed that it has an environmental monitoring report. According to Hubei Xingfa's clarification, on 5 Dec., Baokang Chufeng's sulfur dioxide emission concentration in the pentasodium workshop exceeded the national standard, mainly due to the breakdown in a tail gas treatment device. Then the company received the written decision of administrative penalty from the Environmental Department of Baokang County – the workshop shall be shut down for rectification and USD28,778 (RMB200,000) was fined. Baokang Chufeng paid high attention to this and has made all-round troubleshooting and rectification. The workshop is expected to resume production in early Jan. 2017. "As Baokang Chufeng's revenue and net profit only take up a small proportion to ours, the case won't pose a significant impact on us," said Hubei Xingfa.

Baokang Chufeng, founded on 13 May, 2003 with a registered capital of USD23.74 million (RMB165 million), is mainly engaged in sales, processing and mining of phosphorus ore, and sales and production of other phosphorus chemicals including yellow phosphorus, phosphoric acid and food additives. In 2015, the company made a revenue and net profit of USD78.13 million (RMB543 million) and USD440,000 (RMB3.06 million) respectively. Besides, Baokang Chufeng owns a chemical factory in urban area of Baokang, and a phosphorus mine in Maqiao Town, Baokang.

In the clarification announcement, Hubei Xingfa also mentioned some issues related to Baokang Chufeng's transformation and development. According to the *13th Five-year Plan for the Development of Baokang County*, Baokang Chufeng's chemical factory will be relocated at the right moment. Now the *Development and Transformation Program for Baokang Chufeng's Chemical Factory* is being discussed by Baokang's Environmental Department and Economy & Information Technology Bureau, which is yet





to be issued. At the same time, Hubei Xingfa has not made decision on Baokang Chufeng's transformation. "Now, Baokang Chufeng's operation has not been impacted by other factors except the production suspension of its pentasodium workshop. The specific relocation program and relocation time of its chemical factory are undecided, and it is hard to say whether Baokang Chufeng's transformation will affect our business," said Hubei Xingfa in the clarification announcement.

Will surging glyphosate price save Hubei Trisun's 2016 financial performance?

Summary: In 2016, the majority of glyphosate companies relied on the price of glyphosate which has been raised in H2 in order to intensify their full-year financial performance. Will said price rise be actually enough to save Hubei Trisun's financial performance as well?

Since H2 2016, the price of glyphosate has kept surging in China and, thanks to this, most glyphosate companies managed to enhance their financial performance in that year. Will the rising price be able to help Hubei Trisun Chemicals Co., Ltd. (Hubei Trisun) finish its commitments for the 2016 financial performance as well?

Since 2014, Hubei Trisun's performance caught the attention of industry insiders. In 2014, Hubei Xingfa Chemicals Group Co., Ltd. (Hubei Xingfa) acquired part of Hubei Trisun's assets from Zhejiang Jinfanda Bio-Chemical Co., Ltd. (Zhejiang Jinfanda) by share issuance. The two signed a compensation agreement by which Zhejiang Jinfanda granted that Hubei Trisun would make a net profit (extraordinary items deducted, similarly hereinafter) of USD38.26 million (RMB265.90 million), USD39.73 million (RMB276.08 million) and USD39.26 million (RMB273.02 million) in 2014, 2015 and 2016 respectively. However, Hubei Trisun failed to fulfill the commitment in 2014 and 2015, only achieving a net profit of USD37.41 million (RMB260 million) and USD17.84 million (RMB124 million), a percentage that reached a mere 97.58% and 45.06% of completeness separately.

As the year 2016 ended, the question of whether Hubei Trisun will be able to complete the commitment, and who will be the final gainer between Hubei Xingfa and Zhejiang Jinfanda in this deal has drawn the attention of industry insiders.

Hubei Xingfa released Q1-Q3 financial figures of Hubei Trisun on 30 Dec., 2016:

- Revenue: USD287.99 million (RMB2 billion)
- Net profit: USD15.93 million (RMB110.74 million)

As of 30 Sept., 2016,

- Total assets: USD299.23 million (RMB2.08 billion)
- Net assets: USD118.40 million (RMB822.88 million)

As of now,

- Registered capital: USD28.78 million (RMB200 million)

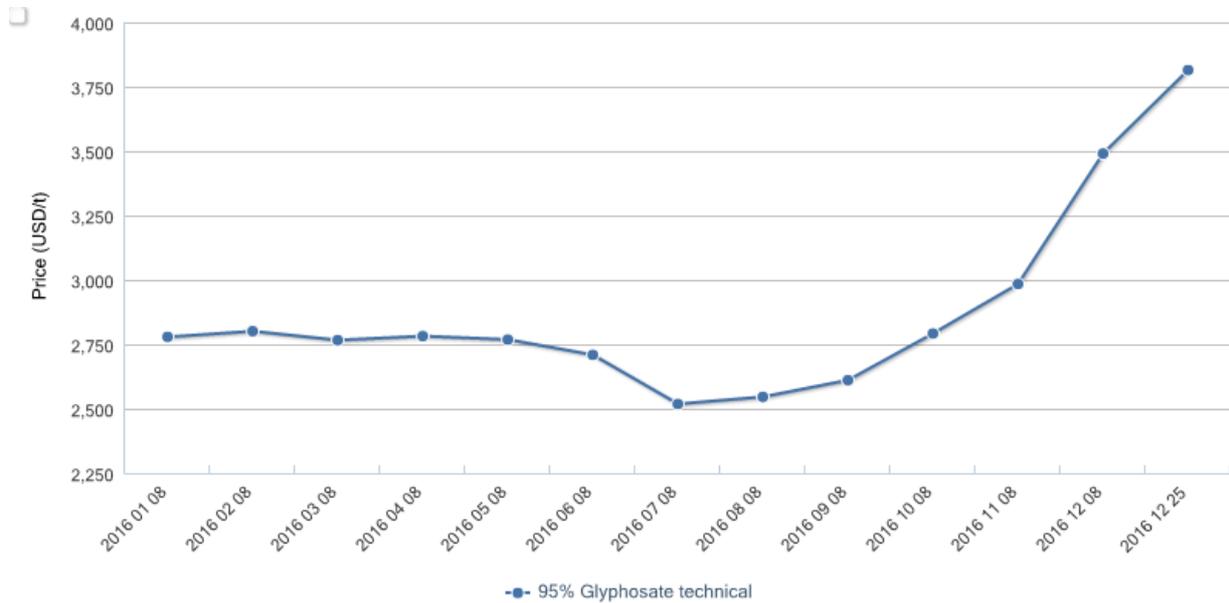
As of Sept. 2016, Hubei Trisun only fulfilled about 40.56% of the net profit it promised to gain, and it will need to increase its Q4 net profit by USD23.35 million (RMB162.29 million) in order to reach that goal.

According to CCM's price monitoring, at the end of Dec. 2016, the ex-works price of glyphosate 95% TC averaged USD3,815/t, obtaining a raise of 51.45% if compared with the year's lowest of USD2,519/t in July. Although glyphosate price surged in 2016, it



is still hard for the company to make such a big growth in net profit in only a quarter, and all industry insiders are holding a pessimistic view.

Figure 4: Ex-works price of glyphosate 95% TC in China, 2016



Source: CCM

According to Hubei Xingfa's financial reports in recent years, the sharp reduction in the company's net profit was mainly caused by a large amount of goodwill impairment that was drawn for Hubei Trisun. According to Hubei Xingfa and Zhejiang Jinfanda's agreement, should Hubei Trisun failed to fulfill the commitment, Zhejiang Jinfanda will have to compensate Hubei Xingfa for the unfinished part. It seems that both Hubei Xingfa and Zhejiang Jinfanda are destined to suffer from losses.

Anyway, the result will be revealed after Hubei Xingfa officially releases its 2016 financial report at the end of March 2017.

Nantong Jiangshan: government subsidy may increase 2017 profit

On 20 Jan., 2017, Nantong Jiangshan Agrochemical & Chemicals Co., Ltd. (Nantong Jiangshan) released an announcement about government subsidy received. According to the *Notice of Appropriate Special Funds for National Science & Technology Project Study in the 12th Five-year Period*, Nantong Jiangshan received a total of USD345,333.67 (RMB2.40 million) on its "cleaner production technology of imidaclothiz" from 2011 to 2014 in batches, which was disclosed in its 2011, 2012 and 2014 financial reports respectively.

Recently, Nantong Jiangshan received the report on the examination of the project, and said the above funds will be included in its 2017 financial figures. The specific data will be disclosed after the annual audit.



Zhejiang Jinfanda's environmental pollution case included in 8 typical cases issued by China's Supreme People's Court

On 26 Dec., 2016, China's Supreme People's Court published eight typical cases about environmental pollution, including the case about glyphosate pollution of Zhejiang Jinfanda Bio-Chemical Co., Ltd. (Zhejiang Jinfanda). For more details, please refer to *Glyphosate China Monthly Report 1603: Final trial on Zhejiang Jinfanda and Zhejiang Wynca's involvement in environmental pollution case.*

Kaifeng Langchao promotes two glyphosate mixed formulations

Summary: Kaifeng Langchao is committed to be an one-stop supplier of sterilant herbicides. Paraquat stepped out of the market in 2016, which left giant market shares for sterilant herbicides. Seizing such opportunity, Kaifeng Langchao invested heavily in the R&D of new products, such as glyphosate mixed formulations, glufosinate-ammonium and diquat, and it had managed to promote relevant products in the market. On 29 Dec., 2016, the Langchao Chemical Sterilant Herbicide Conference & Launching Ceremony of Product Partners was held by Kaifeng Langchao in Dengfeng City, Henan Province. At the conference, Kaifeng Langchao's two glyphosate mixed formulations attracted the attention. More than 150 dealers who attended the conference ordered those herbicides on site, and even those who did not order products asked samples from the company in order to do demonstration tests after they went back.

On 29 Dec., 2016, the Langchao Chemical Sterilant Herbicide Conference & Launching Ceremony of Product Partners was hosted by Kaifeng Langchao Chemical Co., Ltd. (Kaifeng Langchao) in Dengfeng City, Henan Province. On the conference, Kaifeng Langchao's two glyphosate mixed formulations attracted the attention. More than 150 dealers who attended the conference ordered those herbicides on site, and even those who did not order products asked samples from Kaifeng Langchao in order to do demonstration tests after they went back.

The two products are glyphosate-fluoroglyphofen-ethyl OF and glyphosate-fluroxypyr OF. The former one has been promoted in market with the brand name "Xunna" (迅拿), and the latter one has been promoted in two brands, namely "Zuihong" ("醉红") and "Xiaofeixia" ("小飞侠").

The stable development of Kaifeng Langchao is closely related to the recognition of the leaders within the pesticide industry.

Chen Baozhu, director of the Henan Institute of Pesticide, attended the conference and gave full affirmation to the products and market operation mode of Kaifeng Langchao. Chen said: "Kaifeng Langchao is one of the well-known pesticide manufacturers in Henan, and most of its 40 products are new formulations that are environmentally friendly. Its product structure is reasonable and the quality of its products is stable. In addition, Kaifeng Langchao is positively responding to market changes with flexible market operations. The launch of the 'partnership system' is a breakthrough in marketing, which unites us together and make us fight for the same goal."

In addition to the praises given by leaders within the pesticide industry, many agricultural means of production dealers who have attended the conference also spoke highly of Kaifeng Langchao's products.

Yi Jia from Jiayu County, Hubei, said: "I am not only an agricultural means of production dealer, but also a mother. My requirement of pesticides is that they must be environmentally friendly and safe. In the past, some glyphosate producers in Zhejiang Province asked me for cooperation, but their products possess long residual periods, which will not only cause damages to the soil, but also





bring about probable negative influence to human health. Products like these, however high their profits are and however famous their brands are, I will never use them."

Sun Shuming, an agricultural means of production dealer, said: "I have been doing pesticide wholesale business for quite a long time. My cooperation with Kaifeng Langchao is because of my classmate's recommendation. I trust my classmate, so if he recommends Kaifeng Langchao to me, I believe that this company must have its own appealing points. At first, I tried to sell some of its products on commission, and I discovered that the effects of weeding of its products were quite impressive. Many farmers came to me, asking to buy Kaifeng Langchao's glyphosate, whose price is USD2.16/bottle (RMB15/bottle). Compared to other glyphosate products whose prices are a few bucks, the price is quite expensive, but farmers believe in the effects of that one. The sales of Kaifeng Langchao's products I had sold was only tens of thousands of RMB in the beginning, but it was the excellent effects of weeding of Kaifeng Langchao's products that made me achieve a sales of USD143,889 (RMB1 million+) by now. Today, I am glad to see these new products and the 'partnership system' advocated by the company, and I am confident that in future, the sales of Kaifeng Langchao's products will take a new step forward."

Zhou Wenxiang has been involved in the business of agricultural means of production for more than 20 years, and he has cooperated with Kaifeng Langchao for 14 years. Speaking of his cooperation with Kaifeng Langchao, he said it was very dramatic. Zhou said: "14 years ago, I returned home with my wife on train. I heard that the passengers sitting in the opposite of us were talking about pesticides, so I asked them to leave their contact information. That was how I began the cooperation with Kaifeng Langchao. After so many years of cooperation, I have summarized some features of Kaifeng Langchao. First of all, it has a whole series of varieties, so its products could satisfy the demands of the market. Secondly, the quality of its products is high, which is mainly demonstrated in that the quality is very stable. In these years, not a single quality dispute has ever occurred. Thirdly, Kaifeng Langchao continues to promote new varieties and its market competitiveness is therefore enhanced."

Zhao Long from Xinzhou City, Heilongjiang Province, said: "My company sells about a dozen of glyphosate products. Due to the perennial low temperature in Northeast China, the effect of glyphosate is quite unsatisfactory. The salesman of Kaifeng Langchao found me and introduced 'Zuihong' (glyphosate-fluroxypyr 33% OF) to me. When I got it, I was quite skeptical because since it was useless to use 3 to 4 bottles of other glyphosate whose specification are usually 200 g/bottle or 250 g/bottle, how could a bottle of 'Zuihong' that was only 130 g be effective? But later in my tests I found that 1 to 3 days after I used 'Zuihong', the weeds began to turn yellow, and they started to die 7 days later. The weeding effect was very impressive."

Yi Jia, from Jiayu County, Hubei Province, said: "There was a company in Jiayu County, which planted more than 133.33 ha (2,000 mu) trees, and it consumed more than 200 boxes of glyphosate every year. The company had used to use imported glyphosate to prevent and manage canadian fleabane. However, the more it used those imported glyphosate products, the poorer the effect became. Therefore, I suggested the company to use Kaifeng Langchao's 'Xiaofeixia' (glyphosate-fluroxypyr 33% OF) and gave it 5 boxes. I told them I would charge no money if 'Xiaofeixia' did not work. Of course, the facts proved that 'Xiaofeixia' was very effective in killing the malignant and resistant weed, canadian fleabane. This year, all the company's herbicides are 'Xiaofeixia'."

Zhang Chao, from Guangfu Agricultural Technology Center, Yongnian County, Handan City, Hebei Province, said: "Usually it is suggested to use glyphosate when the temperature is high, but I dare to suggest farmers to use Kaifeng Langchao's 'Xunna' (fluoroglycofen-ethyl-glyphosate 32% OF) even when the temperature is low. This year, just after the Spring Festival, it was quite cold, but the effective of 'Xunna' was quite obvious. The weeds turned yellow 3 to 5 days after I sprayed 'Xunna', and the weeds





began to die in the 7th day."

In terms of the development plan in future, Kaifeng Langchao has a clear strategic planning. Zhao Changhai, general manager of the company, introduced: "Kaifeng Langchao has been focused on the development trend of the pesticide market. The premises of our research and development and promotion are to satisfy the demand of farmers and to explore market potentials. Kaifeng Langchao is committed to be an one-stop supplier of sterilant herbicides. Paraquat stepped out of the market in 2016, which left giant space for sterilant herbicides. Seizing such opportunity, Kaifeng Langchao invests heavily in the research and development of new products, such as glyphosate compound formulations, glufosinate-ammonium, and diquat, and we have declared a number of national patent products. These products are highly efficient and environmentally friendly, which are in line with the development direction of pesticide in future. Kaifeng Langchao will continue to build its brand in the chemical industry with these products as the core."

At present, Kaifeng Langchao has 22 pesticide registrations. Its main products are pesticides and herbicides, and they have 11 and 9 registrations respectively. Of these, two registrations are relevant to glyphosate: the registration No. of fluoroglyphofen-ethyl-glyphosate 32% OF is LS20160337 and that of glyphosate-fluroxypyr 33% OF is LS20160357. At present, there are two stockholders of Kaifeng Langchao, namely Zhao Changhai and Jiang Xiaohong.

Basic information of Kaifeng Langchao:

- Registration No.: 410223100002021
- Type: Limited liability company (natural person investment or holding)
- The legal representative: Zhao Changhai
- Registered capital: USD1.44 million (RMB10 million)
- Date of establishment: 19 March, 2001
- Registration authority: Industry and Business Administration Bureau of Weishi County, Kaifeng City, Henan Province
- Address: Daying Industrial Zone, Weishi County, Kaifeng City, Henan Province
- Business scope: Production and sale of pesticides (varieties have been approved by the nation); wholesale and retail of fertilizers.

Registration

Seven glyphosate-containing pesticide formulations registered in China in Dec. 2016

According to the Institute for the Control of Agrochemicals, Ministry of Agriculture (ICAMA), 7 glyphosate-containing formulations were formally registered in China in Dec. 2016, including 5 AS, one SP and one WP, all were low toxic, and valid for 5 years. All of them did not include renewal of old registrations. Specifically, two were mixed formulations, namely glyphosate-MCPA-sodium and glyphosate-fluroxypyr-mepthyl.

Chongqing Shandan Bio-Pesticide Co., Ltd. obtained two registrations that month, and the remaining 5 was respectively obtained by 5 companies.



Table 1: New glyphosate-containing pesticide registrations in China, Dec. 2016

No.	Registration No.	Active ingredient	Spec.	Toxicity	Expiry date	Manufacturer
1	PD20161613	Glyphosate	30% AS	Low	2021.12.16	Anhui Fengcheng Agrochem Co., Ltd.
2	PD20161581	Glyphosate	30% AS	Low	2021.12.16	Liaoning Jinzhou Shuofeng Pesticide Group Co., Ltd.
3	PD20161606	MCPA-sodium, glyphosate-isopropylammonium	51% AS	Low	2021.12.16	Shandong Qiaochang Chemical Co., Ltd.
4	PD20161616	Glyphosate	46% AS	Low	2021.12.16	Shandong Yue Mng Biological Technology Co., Ltd.
5	PD20161590	Glyphosate	30% AS	Low	2021.12.16	Chongqing Shandan Bio-Pesticide Co., Ltd.
6	PD20161600	Glyphosate	30% SP	Low	2021.12.16	
7	PD20161621	Glyphosate, fluroxypyr-mepthyl	76% WP	Low	2021.12.16	Chongqing Shuangfeng Chemical Co., Ltd.

Note: New registrations not included renewal of old ones.

Source: ICAMA

Policy Dynamics

MOA: 11 R&D institutions violate agricultural GMO safety management regulations

On 4 Jan., 2017, the Ministry of Agriculture of the People's Republic of China (MOA) announced that 11 R&D institutions illegally conducted genetically modified (GM) crops pilot experiments without reporting. Specifically,

1. The Dandong Agricultural Sciences Academy, Liaoning Province illegally made experiment on GM corn;
2. Northwest Agriculture & Forestry University launched pilot experiment on GM corn;
3. The Hunan Hybrid Rice Research Center launched pilot experiment on GM rice;
4. The Institute of Subtropical Agriculture, the Chinese Academy of Sciences launched pilot experiment on GM rice;
5. The Guangxi Academy of Agricultural Sciences launched pilot experiment on GM rice;
6. Guangxi University launched pilot experiment on GM sugarcane;
7. The Jiangxi Academy of Agricultural Sciences launched pilot experiment on GM rice;
8. Jiangxi Agricultural University launched pilot experiment on GM rice;
9. The Jilin Weiwei Academy of Agricultural Sciences illegally plant a small quantity of GM corn as testing materials;
10. The Institute of Plant Protection, Chinese Academy of Agricultural Sciences changed the site of pilot experiment on GM rice without approval;
11. The Fujian Provincial Academy of Agricultural Sciences made pilot experiment on GM rice.

In 2016, the MOA sent 10 inspection teams into 30 provinces/ regions/ municipalities except Tibet, and the Xinjiang Production and Construction Corps to supervise experiment links of agricultural transgenic research, covering major agricultural R&D units and field testing bases. Results showed that most units paid high attention to the safety management of GM organism (GMO) and conducted researches and experiments according to regulations strictly.

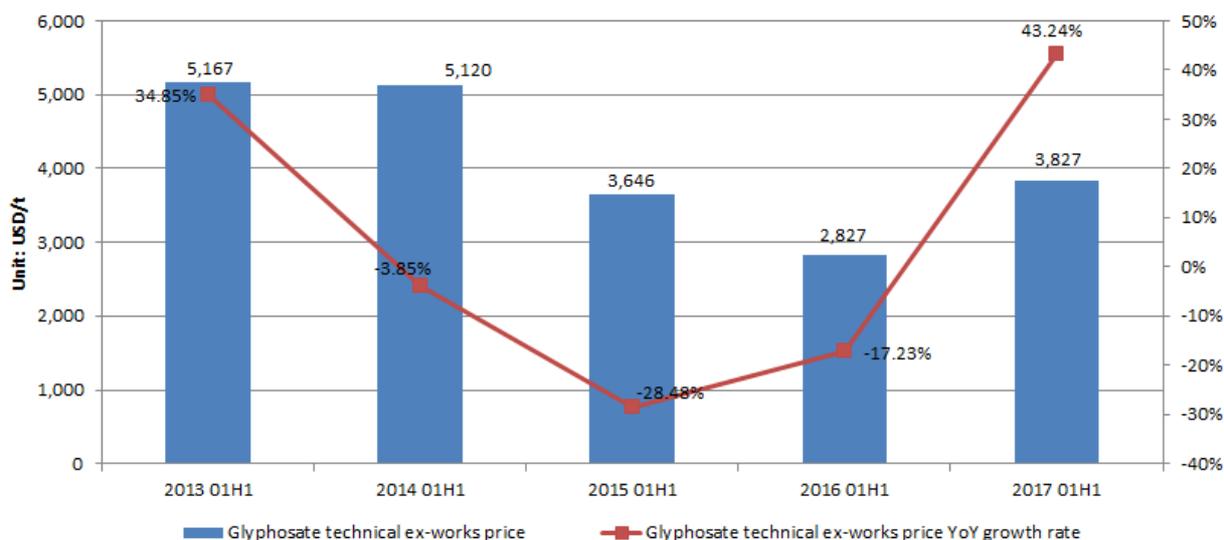
Price Update

China's ex-works price of glyphosate TC up 43.24% YoY in Jan. 2017

Summary: In the first half of Jan. 2017, the ex-works prices of glyphosate 95% TC was USD3,827/t (RMB26,500/t), up 43.24% YoY and 8.02% MoM. The price of glyphosate formulations also showed an uptrend.

In the first half of Jan. 2017, the ex-works price of glyphosate 95% TC was USD3,827/t (RMB26,500/t), up 8.02% over the USD3,563/t (RMB24,532/t) in Dec. 2016 and up 43.24% YoY (year on year).

Figure 5: Ex-works price of glyphosate technical and its YoY growth rate, Jan. 2013-Jan. 2017



Note: 1. The price change is calculated from RMB quotations. 2. Prices are monitored at the middle of every Jan. from 2013 to 2017. 3. 2016 01H1 refers to the first half of Jan. 2016 and other times all adopt this rule in this article. 4. YoY refers to year on year.

Source: CCM

In the first half of Jan. 2017, ex-works prices of glyphosate formulations also increased:

- Glyphosate 41% IPA: USD1,805/t (RMB12,500/t), up 6.38% MoM (month on month)
- Glyphosate 50% SP: USD2,167/t (RMB15,000/t), up 6.38% MoM
- Glyphosate 62% IPA: USD2,209 /t (RMB15,300/t), up 7.18% MoM
- Glyphosate 75.7% WSG: USD3,322/t (RMB23,000/t), up 11.38% MoM

Table 2: Ex-works prices of glyphosate formulations, Dec. 2016 & Jan. 2017

No.	Spec.	2016 12H1		2017 01H1		MoM change
		USD/t	RMB/t	USD/t	RMB/t	
1	Glyphosate 41% IPA	1,707	11,750	1,805	12,500	6.38%
2	Glyphosate 50% SP	2,048	14,100	2,167	15,000	6.38%
3	Glyphosate 62% IPA	2,073	14,275	2,209	15,300	7.18%
4	Glyphosate 75.7% WSG	2,999	20,650	3,322	23,000	11.38%

Note: 1. The price change is calculated from RMB quotations. 2. Prices are monitored at the middle of Dec. 2016 and Jan. 2017. 3. 2016 12H1 refers to the first half of Dec. 2016 and other times all adopt this rule in this article. 4. MoM refers to month on month.

Source: CCM

In the first half of Jan. 2017, the ex-works prices of major raw materials and intermediates for glyphosate also increased, except for glycine:

- Yellow phosphorus: USD2,111/t (RMB14,670/t)



- Glycine: USD1,783/t (RMB12,350/t)
- Iminodiacetonitrile (IDAN): USD1,588/t (RMB11,000/t)
- PMIDA: USD2,021/t (RMB14,000/t)

Table 3: Ex-works prices of raw materials and intermediats for glyphosate in China, Dec. 2016 & Jan. 2017

No.	Product	2016 12H1		2017 01H1		MoM change
		USD/t	RMB/t	USD/t	RMB/t	
1	Yellow phosphorus	2,117	14,600	2,111	14,670	+0.48%
2	Glycine	1,862	12,800	1,783	12,350	-3.52%
3	DEA	1,453	10,000	1,516	10,500	+5.00%
4	IDAN	1,331	9,150	1,588	11,000	+20.22%
5	PMIDA	1,804	12,400	2,021	14,000	+12.90%

Note: 1. The price change is calculated from RMB quotations. 2. Prices are monitored at the middle of Dec. 2016 and Jan. 2017. 3. 2016 12H1 refers to the first half of Dec. 2016 and other times all adopt this rule in this article. 4. MoM refers to month on month. 5. DEA's price refers to market price.

Source: CCM

Ex-works prices of glycine, IDAN and PMIDA on 25 Jan., 2017

According to CCM's price monitoring, on 25 Jan., 2017, the ex-works price of glycine, iminodiacetonitrile (IDAN) and PMIDA was USD1,652.28/t (RMB11,350/t), USD1,528.54/t (RMB10,500/t) and USD2,038.05/t (RMB14,000/t) respectively.

Export Analysis

Ups in China's glyphosate TC exports in Nov. 2016

Summary: In Nov. 2016, China's export price and volume of glyphosate TC was up by 6.62% and 25.56% MoM respectively.

Export volume

In Nov. 2016, China exported 25,587 tonnes of glyphosate TC, 2,504 tonnes of PMIDA and 39,269 tonnes of glyphosate formulations. A MoM (month on month) rise of 25.56% was reported in export volume of glyphosate TC.

Besides, China exported around 40,200 tonnes of glyphosate A.I. (100% glyphosate acid equivalent) in Nov., up 22.76% MoM.



Table 4: Export volumes of glyphosate products in China, Oct. & Nov. 2016

Product	Export volume, tonne			Change	
	Nov. 2016	Oct. 2016	Nov. 2015	MoM	YoY
Technical	25,587	20,379	18,057	+25.56%	+41.70%
PMIDA	2,504	3,415	3,236	-26.68%	-22.62%
Formulation	39,269	28,571	23,364	+37.44%	+68.07%

Note: MoM refers to month on month, YoY refers to year on year.

Source: CCM and China Customs

Export price

In Nov., China's export price of glyphosate TC, PMIDA and glyphosate formulations was USD3.06/kg, USD1.66/kg and USD1.60/kg respectively. Compared to Oct., the export price of glyphosate TC in Nov. increased by 6.62%.

Table 5: Export prices of glyphosate products in China, Oct. & Nov. 2016

Product	Export price, USD/kg			Change	
	Nov. 2016	Oct. 2016	Nov. 2015	MoM	YoY
Technical	3.06	2.87	3.16	+6.62%	-3.16%
PMIDA	1.66	1.58	1.65	+5.06%	+0.61%
Formulation	1.60	1.62	1.63	-1.23%	-1.84%

Note: MoM refers to month on month, YoY refers to year on year.

Source: CCM and China Customs

Export destination

China exported glyphosate products to 96 countries/ regions in Nov. 2016.

Thereinto, glyphosate TC was exported to 33 countries/ regions. The top 10 export destinations by volume were Australia, the US, Argentina, Indonesia, Malaysia, Brazil, Kazakhstan, Russia, Canada and Poland. And the total export volume approximately accounted for 85% of the total.

China exported glyphosate 41% IPA to 83 countries/ regions. The top 10 destinations by volume were Australia, Thailand, Vietnam, the Philippines, Cote d'Ivoire, Russia, Ghana, Mexico, Brazil and Uruguay. The export volume accounted for about 65% of the total.

China only exported 2,917 tonnes of glyphosate 51% IPA to Australia.

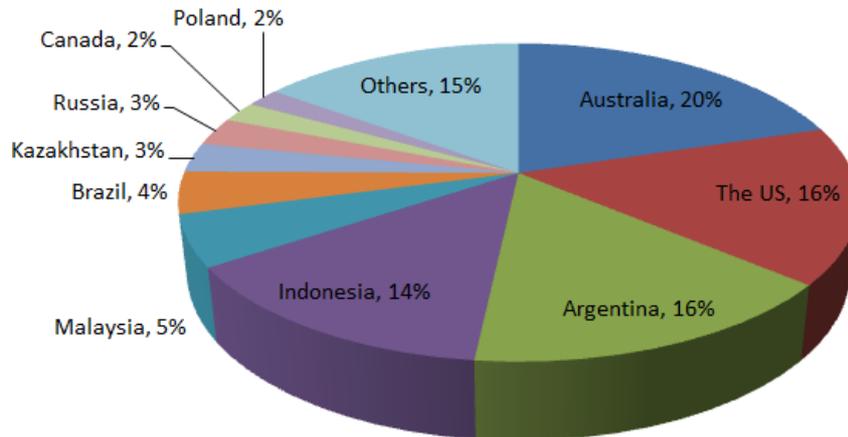
China exported glyphosate 62% IPA to 21 countries/ regions, and the top 10 were Indonesia, the Philippines, Thailand, Australia, Latvia, Russia, Taiwan, Uruguay, South Africa and the US, 83% of the total.

China exported glyphosate 75.7% WSG to 31 countries/ regions, the top 10 export destinations were Brazil, Cote d'Ivoire,

Argentina, Australia, Japan, Chile, Paraguay, Mali, Ecuador and Colombia. The export volume to these countries/ regions accounted for 87% of the total.

China exported PMIDA to the US and Argentina, whose import volume accounting for 42% and 21% respectively.

Figure 6: Export destinations of glyphosate technical from China, Nov. 2016



Source: CCM and China Customs

Exporter by manufacturer

In Nov., China's exported glyphosate TC was mainly produced by 21 enterprises, while the exported glyphosate formulations were produced by 26 enterprises.

- By export volume of technical: top three were Sichuan Fuhua Tongda Agro-chemical Technology Co., Ltd., Hubei Trisun Chemical Co., Ltd. and Zhenjiang Jiangnan Chemical Co., Ltd., whose export volume accounted for 48% of the total in China.

- By export volume of formulations: top three were Jiangsu Good Harvest-Weien Agrochemical Co., Ltd., Nantong Jiangshan Agrochemical & Chemicals Co., Ltd. and Zhejiang Wynca Chemical Group Co., Ltd., whose export volume accounted for 37% of the total in China.

Table 6: Main glyphosate technical exporters by manufacturer in China, Nov. 2016

No.	Company	Share
1	Sichuan Fuhua Tongda Agro-chemical Technology Co., Ltd.	25%
2	Hubei Trisun Chemical Co., Ltd.	13%
3	Zhenjiang Jiangnan Chemical Co., Ltd.	10%
4	Nantong Jiangshan Agrochemical & Chemicals Co., Ltd.	9%
5	Zhejiang Wynca Chemical Group Co., Ltd.	9%
6	Jiangsu Good Harvest-Weien Agrochemical Co., Ltd.	6%
7	Jiangsu Yangnong Chemical Group Co., Ltd.	5%
	Others	23%

Source: CCM and China Customs

Table 7: Main glyphosate formulations exporters by manufacturer in China, Nov. 2016

No.	Company	Share
1	Jiangsu Good Harvest-Weien Agrochemical Co., Ltd.	13%
2	Nantong Jiangshan Agrochemical & Chemicals Co., Ltd.	13%
3	Zhejiang Wynca Chemical Group Co., Ltd.	11%
4	Shandong Weifang Rainbow Chemical Co., Ltd.	7%
5	Sichuan Fuhua Tongda Agro-chemical Technology Co., Ltd.	7%
6	Jingma Chemicals Co., Ltd.	6%
7	Changshu Pesticide Factory Co., Ltd.	6%
	Others	37%

Source: CCM and China Customs

Brief News

China's PMIDA market in third work week of Jan. 2017 (16 Jan.-19 Jan.)

In the third work week of Jan. 2017 (16 Jan.-20 Jan.), China's PMIDA market recovered, with price increasing slightly. However, market supply still remained tight and suppliers were cautious about quotations. The mainstream transaction price rose to USD2,014.45/t-USD2,086.39/t (RMB14,000/t-RMB14,500/t), while the market price was up to USD2,302.22/t (RMB16,000/t). Both quotations and transaction prices were almost the same as last month.



China's glycine market in third work week of Jan. 2017 (16 Jan.-19 Jan.)

In the third work week of Jan. 2017 (16 Jan.-20 Jan.), quotation for glycine in East China rose to USD1,625.95/t-USD1,640.33/t (RMB11,300/t-RMB11,400/t), down slightly over last month.

China's IDAN market in third work week of Jan. 2017 (16 Jan.-19 Jan.)

In the third work week of Jan. 2017 (16 Jan.-20 Jan.), China's iminodiacetonitrile (IDAN) market remained stable. The price (freight included) of 92% IDAN was USD1,510.83/t (RMB10,500/t), and the transaction price was about USD1,223.06/t (RMB8,500/t), nearly the same as last month.

China's yellow phosphorus market in third work week of Jan. 2017 (16 Jan.-19 Jan.)

In the third work week of Jan. 2017 (16 Jan.-20 Jan.), the ex-works price of yellow phosphorus was USD2,100.78/t (RMB14,600/t), down slightly over last month.

China's phosphorus trichloride market in third work week of Jan. 2017 (16 Jan.-19 Jan.)

In the third work week of Jan. 2017 (16 Jan.-20 Jan.), the mainstream ex-works prices (without packaging fee) of phosphorus trichloride were

- Jiangsu Province: USD575.56/t-USD618.72/t (RMB4,000/t-RMB4,300/t)
- Jiangxi Province: USD618.72/t (RMB4,300/t)
- Hebei Province: USD762.61/t (RMB5,300/t)

The above-mentioned prices did not change so much over last month.

China's isopropylamine market in third work week of Jan. 2017 (16 Jan.-19 Jan.)

In the third work week of Jan. 2017 (16 Jan.-20 Jan.), the mainstream quotations for isopropylamine was about USD1,438.89/t-USD1,453.28/t (RMB10,000/t-RMB10,100/t). The ex-works price was the same as that in last month.

China's paraformaldehyde market in third work week of Jan. 2017 (16 Jan.-19 Jan.)

In the third work week of Jan. 2017 (16 Jan.-20 Jan.), the ex-works prices of paraformaldehyde were:

- Shandong Province: USD647.50/t-USD690.67/t (RMB4,500/t-RMB4,800/t)
- North China: USD791.39/t (RMB5,500/t)
- East China: USD719.45/t-USD863.33/t (RMB5,000/t-RMB6,000/t)

Prices recorded small rises over last month.





China's chloromethane market in third work week of Jan. 2017 (16 Jan.-19 Jan.)

In the third work week of Jan. 2017 (16 Jan.-20 Jan.), the price (freight included) of chloromethane was USD294.97/t-USD323.75/t (RMB2,050/t-RMB2,250/t) in East China, a small drop over last month.

China's methylal market in third work week of Jan. 2017 (16 Jan.-19 Jan.)

In the third work week of Jan. 2016 (16 Jan.-20 Jan.), the mainstream transaction price in East China was USD381.31/t-USD388.50/t (RMB2,650/t-RMB2,700/t), decreasing slightly over last month.



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