

Pesticide Market in China in 2012

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The pesticide market in China was subdued first and picked up later in the first half of 2012. With impacts from sustained low-temperature weather in the first quarter, the peak period for pesticide application was postponed and the demand of insecticides and acaricides was down. The pesticide market made a rapid recovery in the second quarter and the price of pesticide showed a rising trend. Major pest hazards occurred in main crop regions in China in the second half of 2012. Pest and disease hazards to autumn farm crops, in particular, were much more serious than previous years. China appropriated a fund totaling RMB600 million for the control of pests and diseases. The demand of pesticides was therefore brisk and the price of pesticides went up. Pushed by herbicides export, the total export of pesticides made a drastic increase over the same period of the previous year and the inventory in producers had a drop.

1. Glyphosate taking the lead

The global sales value of glyphosate reached US\$4.19 billion in 2011, an increase of 2.7% over 2010. The output of glyphosate in China fell in 2011. The total output was only 291 700 tons. The concentration degree of production, however, had a remarkable upgrading. The output in the top five producers reached 249 500 tons, accounting for 85% of the national total. After the slight buffer at the beginning of 2012, the price of glyphosate rose rapidly. The price rise of glyphosate was started in the second quarter. It presented a trend of ladder-like drastic increase in the third quarter and the quarterly growth reached as high as 32.05%. The sustained price rise of glyphosate entered a readjustment period at the very beginning of the fourth quarter and the growth was slowed down. The glyphosate market in China became basically stable at the end of 2012. The price of glyphosate was 40.58% higher than the same period of 2011. The transaction price of glyphosate in some areas is RMB35 500-36 000 per ton today.

Main reasons for the price rise of glyphosate heat in the glyphosate sector in the second quarter and the third quarter of 2012 include the pressure from industrial integration and environmental protection, the cost increase in waste treatment caused by the quitting of 10% glyphosate aqueous solution from the market and the planting area expansion of transgenic crops.

Firstly, the glyphosate sector in China made a rapid development in 2008. Mainstream producers of glyphosate conducted drastic capacity expansion. Small and medium enterprises also entered the market. The capacity of glyphosate was therefore in surplus during 2009-2011. There was oversupply in market and the price came sharply down. Producers had no profit to make. Some producers that failed to keep in line with environmental protection requirements and industrial policies and had no strong technology suspended production and quitted the market. Due to inadequate stocks in traders in slack seasons of 2011, there was once no supply in brisk seasons of 2012. Meanwhile, the Chinese government proposed more and more stringent requirements on environmental protection. In August 2012 the glyphosate sector was included in main targets for verification. Some small and medium enterprises were faced with pressure and their production was affected. The supply shortage of glyphosate in market led to a sustained price rise.

Secondly, 10% glyphosate aqueous solution quitted the market. Thereafter producers not only lost its market share of 10% glyphosate aqueous solution made from waste liquid, they also had to spend some money on waste liquid treatment. Furthermore, the market demand of chloromethane as byproduct in the glyphosate production using the glycine route was always slack. Producers had no way to make timely disposal of the byproduct. The output of glyphosate using the glycine route was therefore restricted. The increase of the production cost and the restriction of the output also led to a price rise of glyphosate.

Thirdly, the energy demand in the world is brisk in recent years. Due to the lack and the nonrenewable feature of fossil energy, great attention has started to be paid to the development of biological energy. The planting area of glyphosate-resistant transgenic crops mainly including corn and soybean has made a constant expansion. The demand of glyphosate series herbicides made a drastic increase and a sustained price rise of glyphosate was promoted.

Starting from October, however, the price of glyphosate showed falling signs from the high level. Such signs have recently become more evident. Main reasons are perhaps as follows. With the drastic price rise, the profitability in glyphosate sector is much higher. Leading enterprises such as Xin'an Chemical Industrial Co., Ltd. have reversed loss to profit. Small and medium enterprises that already quitted the market have also gradually restored production. The capacity of glyphosate in China is around 500 000 t/a today. The capacity in Xin'an Chemical Industrial Co., Ltd. is 80 000 t/a and the capacity in Fuhua Chemical Co., Ltd. is 70 000 t/a. The total capacity of these two producers accounts for 30% of the national total. The new capacity of 40 000 t/a in Fuhua Chemical Co., Ltd. started production in December and the total capacity in the glyphosate sector was increased by 10%. When the downstream demand has no increase, the completion of the new capacity will topple the fragile balance between supply and demand.

2. Paraquat making a revival

Paraquat is a fast contact sterilant dipyrindine herbicide. Owing to its features of broad spectrum, rapid effect, convenient operation, no root killing, water/soil retention and environment friendliness, paraquat has gained applications in more than 100 crops in over 130 countries of the world. Its consumption in the world is only next to glyphosate. Paraquat is therefore the second major herbicide. It was first put into market in Britain in 1962 and came to China in 1978. The global sales value of paraquat reached US\$640 million in 2011, an increase of 9.4% over 2010. The capacity in China was more than 56 000 t/a and the output was close to 40 000 tons, both accounting for 80% of the world total. China has become the biggest country in the world for paraquat production and applications.

The wanton use and the mistaken swallow of paraquat and especially the non-curability of its poisoning have become the "Achilles' heel" of paraquat. The Ministry of Agriculture of China, the Ministry of Industry and Information Technology of China and the General Administration of Quality Supervision, Inspection and Quarantine jointly issued No. 1745 Announcement in April 2012, proposing a timetable for canceling the registration and stopping the production and the use of paraquat aqueous solutions.

According to statistics from China Pesticide Industry Association, the monthly output of paraquat technical in China was around 3 000 tons in the first 10 months of 2012 and the total output was 32 234.59 tons, being basically equal to the output in the same period of 2011. The overall sales status in the first half of 2012 was better than the second half of the year. The price of paraquat went all way up in the first 10 months and already reached RMB47 000 per ton (100%) in October.

3. 2,4-D having both joys and worries

2,4-D is the first selective hormone high-effect organic herbicide to start commercial production in the world. Its global sales value is next to glyphosate and paraquat. Foreign producers mainly include Dow AgroSciences, Nufarm and Atul of India and they all have a capacity of over 10 000 t/a. China also have quite a few producers such as Changzhou Yongtaifeng Chemical Co., Ltd. and Shandong Weifang Runfeng Chemical Co., Ltd. The capacity of 2,3-D in China has already reached 48 000 t/a today and its demand is around 8 000 tons. The capacity in foreign countries is more than 30 000 t/a. The total demand in the world is around 50 000 tons and there is an evident capacity surplus. The output of 2,4-D in China was around 40 000 tons in 2011 and the sales value was RMB896 million. The global sales value of 2,4-D was US\$580 million in 2011, holding the third place in herbicides and an increase of 30.3% over 2010. According to statistics from China Pesticide Industry Association, the output of 2,4-D in China from January to October 2012 was 26 716.28 tons (100%) and the sales amount was 27 732.28 tons. The output and the sales amount were balanced and the price had no great fluctuations. With the registration of four new producers and the capacity expansion in several producers in 2012, competition in the 2,4-D market will surely become fiercer.

The 2,4-D market in China is becoming brisk. Main reasons are as follows. (1) The demand of 2,4-D is quite big and especially the consumption in staple crops such as wheat is on the increase. (2) As transgenic crops with 2,4-D resistance will soon become commodity, the demand of 2,4-D will make a further increase. (3) Some weeds have already developed resistance to glyphosate. 2,4-D can replace glyphosate in weed control. (4) Foreign producers have gradually reduced their output. The purchase of 2,4-D from the Chinese market will trigger a supply shortage of 2,4-D in China.

4. Acetochlor featuring capacity surplus

Amide herbicides hold a third place in the herbicide family, only next to amino acid herbicides and sulfonyleurea herbicides. Acetochlor is a major representative variety in amide herbicides and a variety with high activity. Acetochlor has extremely broad spectrum. It is mainly used in dry land crops such as peanut, soybean, corn and cotton to control annual grass weeds and some broad-leaf weeds. Owing to its outstanding effect and low price, acetochlor is cost-effective. As a matured dry land herbicide, the output of acetochlor made an accelerated increase after its birth in China in 1989 and reached 10 000 tons in 1998. Through application dissemination for several years, acetochlor has become a pillar product for the herbicide market in China. April-July and September-October each year are brisk seasons for acetochlor application. Acetochlor already has a development history of over 40 years since its first production and marketing by Monsanto. It has made great contributions to the progress of chemical weeding. The global sales value of acetochlor reached US\$530 million in 2011, an increase of 8.2% over 2010. According to statistics from China Pesticide Industry Association, the output of acetochlor in China from January to October 2012 was 45 518.18 tons (100%), the sales amount was 49 463.59 tons and the price was stabilized at around RMB22 000 per ton.

After experiencing a valley in 2011, the market of acetochlor technical in China made improvements in spring of 2012. According to statistics from China Pesticide Industry Association, enterprises such as Dalian Ruize Pesticide Co., Ltd., Jiangsu Changlong Chemical Co., Ltd., Shandong Qiaochang Chemical Co., Ltd. and Shandong Binnong Technology Co., Ltd. all had a considerable production. Judging from opinions of enterprises, however, the situation holds no room for optimism.

The acetochlor sector in China has capacity surplus today. Producers of acetochlor technical kept increasing in the past two years. By May 2012 there were 32 enterprises registered for acetochlor technical and more than 600 enterprises registered for single-component formulations and complex formulations. The capacity of 11 major producers including Jiangsu Changlong Chemical Co., Ltd., Shandong Binnong Technology Co., Ltd., Nantong Jiangshan Pesticide Chemical Industry Co., Ltd., Shandong Determination Pharmaceutical Co., Ltd. and Hangzhou Qingfeng Agrochemical Co., Ltd. was 146 000 t/a and the output was around 50 000 tons. Half of the output was for export. The capacity was in surplus and the price fluctuated in a range of RMB19 000-22 000 per ton. The major acetochlor producer in foreign countries is Monsanto of the United States and the capacity in the company is around 20 000 t/a. The import amount of acetochlor in China was 6 000-7 000 tons (100%), being basically equal to the export amount. EU has recently proposed a timetable for stopping the use of acetochlor. Other countries will soon follow suit. The export situation will therefore not be optimistic in future.

Major production methods for acetochlor include the methylene process and the ether process (using chloroacetyl chloride as raw material). The quality of acetochlor produced through the methylene process is quite stable. No carcinogenic substances such as chloromethyl ether are generated. The amount of waste water is low, being only one quarter of the amount generated in the ether process and conforming to the FAO standard. In 2010 the Ministry Industry and Information Technology included the "methylene-process amide herbicides production technology" in the "scheme for the dissemination of clean production technologies in the pesticide sector". Nantong Jiangshan Pesticide Chemical Industry Co., Ltd. introduced a complete set of the methylene production process from Monsanto in 2008 and has had a 8 000 t/a unit today. Production was started in November 2011 and the unit is making satisfactory functioning. Shangyu Yingtai Fine Chemical Co., Ltd. constructed a 20 000 t/a methylene-process unit in June 2009. Some units in Hangzhou Qingfeng Agrochemical Co., Ltd. and Shandong Determination Pharmaceutical Co., Ltd. also use the methylene process in production.

Acetochlor is a conventional herbicide variety. There are mainly emulsifiable formulations and wettable powder formulations. Acetochlor emulsifiable formulations have quite serious pollution problem. Due to capacity surplus and fierce competition, there is almost no profit to make in the acetochlor production in the Chinese market.

SOURCE China chemical Reporter