



Corn Products China News

Vol.4 Issue 11 2011

Corn Products



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Welcome to the November issue of *Corn Products China News*, specially published by CCM International.

As predicted before, corn deep-processing industry begins to suffer another restriction by government in Nov. 2011: an environmental protection verification on the producers in starch, starch sugar, alcohol, monosodium glutamate (MSG) and citric acid industries was being carried out since Nov. 2011. For the long run, it will impose positive effect on the industry.

Moreover, corn price still runs a downtrend this month thanks to the quantity newly marketed corn, partly resulting in the decline of some corn products' prices, such as lysine, DDGS and corn starch. However, it's believed that corn price will rebound at the end of this year, with specific reasons analyzed in this issue.

In addition, although China's amino acid industry enjoyed sound performance in 2010, it still bears problems and weaknesses, which shall be tackled and improved for better development in the future.

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Main companies mentioned in this issue





Corn Products China News at a glance

- Export volume of citric acid in China witnesses a slight decline in the first nine months of 2011 compared with that in the same period of 2010.
- Export volume of China's VC witnesses a 4.8% decline during Jan. to Sept. 2011 compared with that in the same period of the previous year.
- Import and export volumes of corn products in Sept. 2011 decline by 25% and 3% separately compared with those in the previous month.
- Price of home-made DDGS in China sees a downtrend in Nov. 2011 due to the increase in its import volume and price decline of corn.
- Mainly affected by the price decline of live pig and corn and increase of lysine supply, domestic lysine price has been falling slowly since October 2011.
- In 2010, the total output value of amino acid industry in China reaches USD7.7 billion, and the Asia-Pacific region becomes the largest sales market of amino acids in the world.
- China is running an environmental protection verification on the producers in starch, starch sugar, alcohol, MSG and citric acid industries all over the country in Nov. 2011.
- Xiwang Sugar's sales volume of crystalline fructose enjoys a 67.3% increase in Q3 2011 year on year.
- Meihua Group decides to wholly acquire a starch producer in Tongliao City in Oct. 2011.
- Henan Lotus Flower has to sell its subsidiaries to pay for its debt in Nov. 2011, signifying that the company is confronted with a very awkward situation.
- Price of home-made potato starch rebounds in Nov. 2011 thanks to the booming demand.
- Corn price in China still keeps a slight downtrend in Nov. 2011, but it's believed to rebound at the end of this year.
- An advanced MSG fermentation production technology adopting temperature sensitive mutant has been proved successful in Meihua Group.

News in Brief

China White Spirit Industry Sustainable Development Discussion Forum held in Guizhou Province

On 8 Nov. 2011, China White Spirit Industry Sustainable Development Discussion Forum, hosted by China Alcoholic Drinks Industry Association, was held in Guizhou Province. Mr. Wang, the director-general of China Alcoholic Drinks Industry Association, claimed that from January to September 2011, domestic output of white spirit and sales revenue of the industry totalled around 7.14 billion liter and USD38.2 billion, growing by 29.2% and 39.02% year-on-year.

COFCO Biochemical's net profit up by 30.97% in Q3 2011

On Oct. 31, 2011, COFCO Biochemical (Anhui) Co., Ltd. (COFCO Biochemical) issued its financial report of Q3 2011, in terms of which COFCO Biochemical enjoyed remarkable growth in Q3 performance. Its revenue and net profit in the quarter amounted to about USD872 million and USD385 million, increasing 29.49% and 30.97% respectively year-on-year.

Meihua Group's net profit up by 4.21% in Q3 2011

On Oct. 25, 2011, Meihua Holdings Group Co., Ltd. (Meihua Group) issued its financial report of Q3 2011, in correspondence with which the company's revenue and net profit in the quarter hit approximately USD727 million and USD79 million respectively over those in last year.

Baolingbao's net profit up by 42.81% in Q3 2011

On 24 Oct. 2011, Baolingbao Biology Co., Ltd. (Baolingbao) issued its financial report of Q3 2011, according to which Baolingbao's performance saw an impressive improvement in the quarter. Its revenue was about USD116 million in Q3 2011, while its net profit reached about USD7.8 million, up by 40.82% and 42.81% respectively compared with those in the same period last year.

Jilin Haizi's inositol project launched in 10 Oct. 2011

On 10 Oct. 2011, Jilin Haizi Biological Engineering Technology Co., Ltd. (Jilin Haizi)'s inositol project was launched in Dunhua Economic Development Zone. With a capacity of 2,500 t/a, the project adopts corn steep liquor as raw material to produce inositol. Jilin Haizi invested about USD18.5 million in the construction of this project starting from October 2010.



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Supply and Demand

Citric acid's export volume slightly declines during Jan. to Sept. 2011

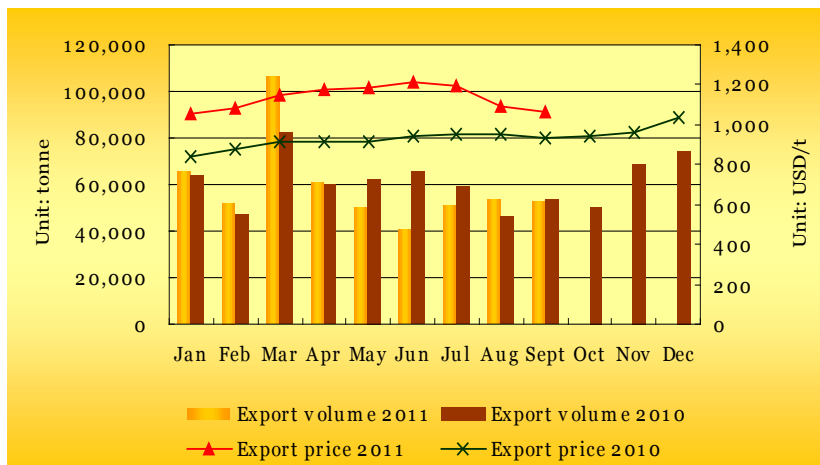
During Jan. to Sept. 2011, China totally exported 534,313 tonnes of citric acid, down 1.1% over that in the same period of 2010. Besides, its average export price has witnessed a downtrend since July 2011. (FIGURE1) Actually, the competitive power of China's citric acid is going through a decline, and Chinese producers are trying to cope with the awkward situation.

Along with the continuous increase in corn price in recent two years, citric acid's production cost in China has kept increasing, pushing up its export price directly, weakening the advantage of China's citric acid and imposing negative effect on the product's export in 2011. Specifically, average corn market price increased by 22.1% to about USD348/t during Jan. to Sept. 2011 compared with that in the same period of 2010. And with the additional cost increase in labor and energy, producers are forced to raise citric acid price in order to balance their gross margins. Therefore, average export price of citric acid rose by 23.6% to about USD1,135/t during Jan. to Sept. 2011 over that in 2010.

Meanwhile, the price increase of citric acid weakens the competitive power of China's citric acid in the international market. An insider disclosed that China's citric acid had been retaining its competitiveness through low-price. For example, domestic producers have been lowering down the price of citric acid to maintain the export volume during July to Sept. 2011, which is the off-season for the product's export.

Besides, foreign countries' anti-dumping duties on China's citric acid also imposed negative effect on the product's export volume. For instance, the export volume of China's citric acid to the US, who levies a 94.61%-156.87% anti-dumping duty

FIGURE 1: Average export price and volume of citric acid in China, Jan. 2010-Sept. 2011



Source: China Customs

on the product, reduced to 9,863 tonnes during Jan. to Sept. 2011 from 10,324 tonnes in the same period of 2010.

Due to the two reasons mentioned above, the profits of domestic citric acid producers are partly shortened. To rid of the predicament, domestic producers are racking their brains to enhance their profits. For example, setting up a factory abroad serves as a possible way out. On 10 Oct. 2011, COFCO Biochemical (Anhui) Co., Ltd. (COFCO Biochemical) published an announcement that the company planned to invest USD3.15 million to wholly acquire a citric acid producer in Thailand named Worldbest Biochemicals (Thailand) Co., Ltd. (Worldbest Biochemicals), which owns 30,000t/a capacity of citric acid and 18,000t/a capacity of sodium sulfate in 2011.

Accordingly, COFCO Biochemical may enjoy the following benefits. On one hand, the raw material cost can be reduced. Besides corn, cassava, priced lower than corn and abundant in Thailand, can be used to produce citric acid too. It's reported that cassava's import price in China was only USD328/t in Oct. 2011, while

domestic corn market price reached USD385/t in the same period. Correspondingly, the raw material costs of citric acid produced from cassava and corn were USD655/t and USD726/t respectively. Moreover, cassava's market price in Thailand must be lower than USD328/t. Hence, COFCO Biochemical is able to produce lower-cost citric acid with cassava in Thailand.

On the other hand, COFCO Biochemical can export citric acid more expediently, because there is no anti-dumping duty on Thailand's citric acid at present and Southeast Asia is one of the important consumption areas of citric acid.

However, COFCO Biochemical has to face potential risks in the acquisition of Worldbest Biochemicals, like Thailand's possible restraining policy on citric acid production in view of its high pollution and energy consumption.

If COFCO Biochemical's new move proves successful, other domestic producers will be impressively encouraged to follow suit.



VC's export volume declines 4.8% during Jan. to Sept.

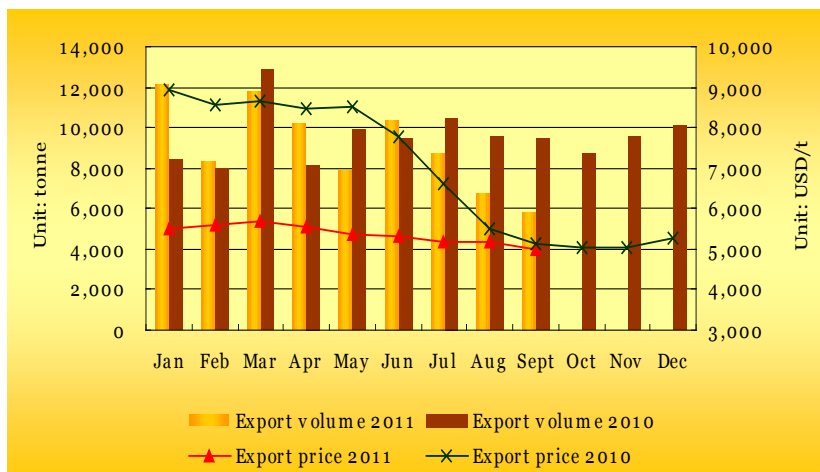
According to China Customs, China totally exported about 82,188 tonnes of vitamin c (VC) during Jan. to Sept. 2011, seeing a 4.8% decline compared with that in the same period of 2010. In the mean time, average export price of VC also dropped to USD5,373/t this year from USD7,574/t in the previous year. And both decreases of VC's export price and volume gave a hash blow to the VC industry in China this year.

VC's export volume has suffered downtrend since July 2011, which dived to 5,853 tonnes in Sept. from 8,683 tonnes in July 2011. Additionally, the total export volume of VC in this Q3 was much lower than that in Q3 2010, which is the key reason for the decline of the total export volume during Jan. to Sept. this year. (FIGURE2) Besides, the top five export destinations of China's VC during Jan. to Sept. this year were the US, Germany, Japan, Belgium and the UK, export volume to which fluctuated respectively compared with that in the corresponding period of 2010. (TABLE1)

One of the major reasons for the obvious decline of VC's export volume in Q3 2011 is the suspensions of VC's production by some leading domestic VC producers since July 2011. For example, Northeast Pharmaceutical Group Co., Ltd. (Northeast Pharmaceutical), the second largest domestic VC producer with 25,000t/a capacity in 2011, suspended the operation of its VC production lines in July 2011 for routine maintenance due to the wet and hot weather in Liaoning Province. And it has resumed its production in Sept. this year.

Actually, some insiders disclosed that key producers' decisions to suspend VC productions were out of the hope to raise VC price under the terrible oversupply situation back then. However, they didn't work: VC's average export price still

FIGURE 2: Average export price and volume of VC in China, Jan. 2010-Sept. 2011



Source: China Customs

TABLE 1: Average export price and volume of China's VC to the top five export destinations, Jan.-Sept. 2011

Export destinations	Export volume, tonne	Increase/decrease over the same period of 2010	Export price, USD/t	Increase/decrease over the same period of 2010
The US	19,733	-11%	4,878	-34%
Germany	15,727	-8%	5,313	-26%
Japan	9,774	16%	7,012	-24%
Belgium	3,851	14%	4,930	-30%
The UK	3,002	58%	4,764	-35%
Others	30,101	-10%	5,409	-28%

Source: China Customs

saw a downtrend, which decreased from USD5,159/t in July 2011 to USD5,015/t in Sept. 2011. "Normally, large-scale foreign VC buyers or users boast enough stocks and perfect forewarning systems, so short-term suspension of China's VC production wouldn't effectively push up the product's export price," said by an insider. Moreover, in view of the super low price of VC, some producers were unwilling to sell the product, resulting in the decrease of VC's export volume in Q3 2011.

Apart from the suspension, the sluggish demand for China's VC from the top three export destinations was also a critical cause for the decrease in VC's export volume in Q3 2011.

Export volumes to the US, Germany, Japan reduced by 21%, 47% and 37% to 5,368 tonnes, 3,071 tonnes, and 2,641 tonnes separately in Q3 over those in Q2 2011.

Consequently, both declines of VC's export price and volume during Jan. to Sept. 2011 affected domestic VC producers very badly in view of VC's export-oriented situation in China. For example, Northeast Pharmaceutical suffered a net loss about USD20.5 million during Jan. to Sept. 2011, down 171% over that in the same period of 2010. Meanwhile, North China Pharmaceutical Group Co., Ltd., the third largest VC producer in China with 20,000t/a capacity in 2011, also saw a



poor performance: its net profit plunged to USD5.3 million this year from USD38.9 million in the previous year.

It's believed that VC's export volume will rebound in the remaining months this year along with domestic VC production's restart since Sept. 2011. But the export price

won't enjoy a significant rise until new powerful policies come out, such as a regulation targeting at the market circulation of domestic VC industry, or a new VC entrance threshold.



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Sucralose
Aspartame
Acesulfame-K
Stevioside
Cyclamate
Neotame
Glycyrrhizin
Alitame

Sugar alcohol

Sorbitol
Xylitol
Maltitol
Mannitol
Erythritol
Isomaltitol
Isomalt

Oligosaccharides

Isomalto-oligosaccharide
Fructo oligosaccharide
Xylo oligosaccharide
Galacto oligosaccharide
Stachyose
Raffinose
Soybean oligosaccharide
Isomaltulose
Trehalose
Malto oligosaccharide
Chitosan oligosaccharide

Starch sugar

High fructose corn syrup
Maltose syrup
Glucose syrup
Maltodextrin
Fructose

Sugar

Cane sugar
Beet sugar

Import and Export Analysis

Chinese corn products Imp. & Exp. analysis in September 2011

In Sept. 2011, import and export volumes of Chinese corn products witnessed a 25% and 3% decline respectively compared with those in the previous month.

1. Imp. & Exp. value analysis (TABLE2)

1.1 Although the import price of corn starch reduced by 36% in Sept. 2011 over the previous month, its import value still witnessed a 49% increase, which is caused by the 133% surge of corn starch's import volume amounting to 52 tonnes. Owing to the short supply of corn in Sept. 2011, domestic corn starch producers had a relatively low operating rate, resulting in the decrease in corn starch's domestic supply and the increase in the product's import volume.

1.2 In view of the stability of furfural's export price, the main reason for the significant increase in the product's export value is that furfural's export volume soared by 136% in Sept. 2011 over that in the previous month. In fact, the export volume to the US and Thailand, the top two export destinations of Chinese furfural, swelled by 226% and 125% to 1,965 tonnes and 450 tonnes in Sept. 2011.

TABLE 2: Imp. & Exp. value of Chinese corn products, Sept. 2011

Products	Import value, USD	Monthly growth rate	Export value, USD	Monthly growth rate
Corn	61,186,190	-24%	3,726,116	-21%
Corn starch	67,876	49%	5,722,848	-2%
Citric acid	196,681	-28%	56,515,310	-4%
Citrate	544,080	-11%	10,100,907	0.07%
Glucose and glucose syrup (Fructose content <20%)	127,018	43%	19,026,229	-3%
Glucose and syrup (50%>fructose content ≥20%)	569,126	27%	6,114,875	182%
Fructose and fructose syrup (Fructose content >50%)	447,126	-21%	1,584,920	-45%
Mannitol	287,471	87%	1,267,822	-11%
Xylitol	0	-100%	4,504,540	-19%
Sorbitol	122,816	-21%	4,287,854	2%
Furfural	5,230	-18%	6,088,597	135%
Furfuryl alcohol and tetrahydrofurfuryl alcohol	128,633	25%	19,497,539	-5%
Lysine	39,705	-34%	6,350	-91%
Lysine ester and salt	3,675,450	127%	13,576,214	1%
Glutamic acid (GA)	11,371	-68%	3,462,396	-28%
Sodium glutamate	91,811	14,926%	33,831,435	-10%
Inositol	95,601	93%	3,055,065	3%
Total	67,596,185	-20%	192,369,017	-2%

Source: China Customs

2. Imp. & Exp. volume analysis (TABLE3)

2.1 In Sept. 2011, export volumes of glucose and syrup (50%fructose content $\geq 20\%$) increased by 154% to 3,686 tonnes over those in Aug. 2011 due to the fact that the product's demand in the US, the largest export destination of the product in China, witnessed an obvious rise: the export volume to the US almost tripled to 3,302 tonnes in Sept. 2011 from 1,110 tonnes in Aug. 2011. Besides, Vietnam imported 120 tonnes of the product from China in Sept. 2011, while it didn't import any in the previous month.

2.2 Import volumes of fructose and fructose syrup (fructose content 50%) declined by 58% to 287 tonnes in Sept. 2011 compared with those in the previous month, which is majorly attributed to the high import price of the product. For instance, the import price from the US, the third largest import origin of the product in Aug. 2011, rose by 58% to USD2,276/t in Sept. 2011. Hence, the product's import volume from the country decreased by 87% to only 6 tonnes. In addition, although the import price from Burma barely changed in Sept. 2011, the import volume from it still reduced by 83% to 78 tonnes.

2.3 In Sept. 2011, import volume of lysine ester and salt witnessed a 115% big increase to 1,422 tonnes compared with that in the previous month. China began to import a quantity 792 tonnes of the product from Brazil, making Brazil China's largest import origin of lysine ester and salt in Sept. 2011, instead of the US in the previous month. A possible reason for this lies in the fact that the import price from Brazil was lower than that from the US: import price of lysine ester and salt from the former was USD2,353/t, while the later was USD2,487/t in Sept. 2011.

TABLE 3: Imp. & Exp. volume of Chinese corn products, Sept. 2011

Products	Import volume, tonne	Monthly growth rate	Export volume, tonne	Monthly growth rate
Corn	181,093	-26%	10,200	-23%
Corn starch	52	133%	11,302	-3%
Citric acid	56	76%	53,043	-1%
Citrate	116	3%	9,068	-1%
Glucose and glucose syrup (Fructose content <20%)	115	59%	32,950	-1%
Glucose and syrup (50%>fructose content $\geq 20\%$)	2,005	39%	3,686	154%
Fructose and fructose syrup (Fructose content >50%)	287	-58%	2,288	-37%
Mannitol	59	74%	580	-9%
Xylitol	0	-100%	1,342	-19%
Sorbitol	121	-4%	5,939	1%
Furfural	0.45	-1%	2,982	136%
Furfuryl alcohol and tetrahydrofurfuryl alcohol	13	20%	7,674	0.10%
Lysine	2	-38%	1	-92%
Lysine ester and salt	1,422	115%	5,610	1%
Glutamic acid (GA)	0.33	-91%	2,387	-28%
Sodium glutamate	44	245,978%	22,998	-10%
Inositol	3	120%	277	4%
Total	185,388	-25%	172,327	-3%

Source: China Customs

3. Imp. & Exp. price analysis (TABLE4)

3.1 In Sept. 2011, price of sodium glutamate plunged by 94% to USD2,073/t over Aug. 2011, resulting in the obvious increase in the product's import volume. The key reason lies behind the import price plummeting is that China imported the product from Vietnam with a price of USD1,826/t in Sept. 2011, much lower than that from Japan amounting to USD4,342/t. Therefore, about 91% of sodium glutamate was imported from Vietnam in Sept. 2011, instead of Japan previously.

3.2 Import price of citric acid reduced by 59% in Sept. 2011 over that in the previous month, attributed to the fact that the import price from Taiwan, Japan, and Belgium, which were the top three import origins of China's citric acid in the month, dropped by 60%, 72%, and 25% to USD5,515/t, USD4,592/t and USD2,260/t respectively in Sept. 2011 compared with those in the previous month.

TABLE 4: Imp. & Exp. price of Chinese corn products, Sept. 2011

Products	Import price, USD/t	Monthly growth rate	Export price, USD/t	Monthly growth rate
Corn	338	3%	365	3%
Corn starch	1,306	-36%	506	1%
Citric acid	3,525	-59%	1,065	-2%
Citrate	4,695	-13%	1,114	1%
Glucose and glucose syrup (Fructose content <20%)	1,107	-10%	577	-2%
Glucose and syrup (50%>fructose content ≥20%)	284	-9%	1,659	11%
Fructose and fructose syrup (Fructose content >50%)	1,558	88%	693	-13%
Mannitol	4,906	7%	2,185	-2%
Xylitol	/	/	3,358	-0.02%
Sorbitol	1,018	-18%	722	1%
Furfural	11,753	-17%	2,042	-0.48%
Furfuryl alcohol and tetrahydrofurfuryl alcohol	10,153	5%	2,541	-5%
Lysine	16,017	7%	6,350	6%
Lysine ester and salt	2,585	6%	2,420	0.48%
Glutamic acid (GA)	34,562	264%	1,451	-0.13%
Sodium glutamate	2,073	-94%	1,471	0.04%
Inositol	28,970	-12%	11,013	-1%

Source: China Customs

4. Export destination analysis (TABLE5)

4.1 Because the total export volume of mannitol to the top 5 export destinations in Sept. 2011, Turkey, India, the US, Japan and Russia, increased by 9% to 454 tonnes over that in Aug. 2011, plus the whole export volume decreased by 2.3% during the same period, the export proportion of top 5 destinations of China's mannitol by volume increased to 78% in Sept. 2011 from 69% in the previous month.

4.2 In Sept. 2011, the export proportion of top 5 destinations of China's inositol by volume increased to 65% from 57% in Aug. 2011, primarily ascribed to the fact that the export volumes to Germany and Thailand, both of which ranked in top 5 export destinations in Aug. and Sept. 2011, rose by 69% and 50% to 59 tonnes and 42 tonnes separately.

TABLE 5: Export proportion of top 5 and top 10 destinations of Chinese corn products by volume, Aug. 2011-Sept. 2011

Products	Sept.-11		Aug.-11	
	Top five	Top ten	Top five	Top ten
Corn	100%	100%	100%	100%
Corn starch	76%	90%	77%	88%
Citric acid	32%	48%	28%	45%
Citrate	43%	62%	43%	67%
Glucose and glucose syrup (Fructose content <20%)	52%	69%	51%	66%
Glucose and syrup (50%>fructose content ≥20%)	97%	100%	93%	100%
Fructose and fructose syrup (Fructose content >50%)	85%	98%	86%	97%
Mannitol	78%	93%	69%	87%
Xylitol	84%	94%	89%	96%
Sorbitol	55%	81%	54%	80%
Furfural	98%	100%	92%	100%
Furfuryl alcohol and tetrahydrofurfuryl alcohol	76%	91%	78%	93%
Lysine	100%	100%	100%	100%
Lysine ester and salt	77%	92%	64%	83%
Glutamic acid (GA)	99%	99.84%	99%	99.94%
Sodium glutamate	56%	72%	53%	70%
Inositol	65%	86%	57%	81%

Source: China Customs



CCM's Market Reports Announcement

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- Production and Market of Wheat Gluten in China
- Future of Starches in China
- Production and Market of Sucralose in China

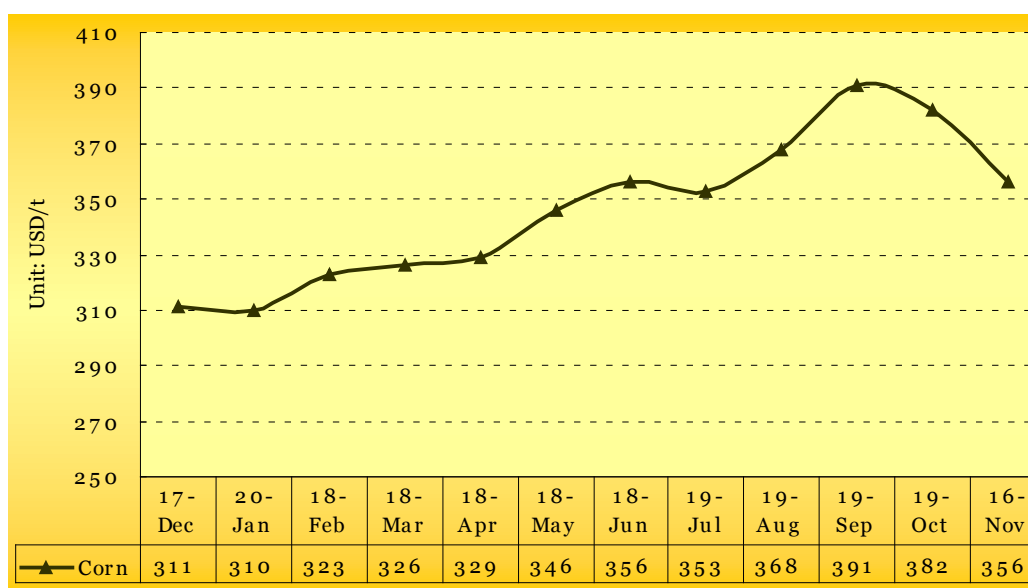
Price Update

Ex-factory prices of corn products, Nov. 2011

Products	Price in November 2011		Price in October 2011	
	(USD/t)	(RMB/t)	(USD/t)	(RMB/t)
Corn starch (North China)	476	3,015	493	3,135
Corn starch (South China)	513	3,250	526	3,350
Ethanol (Industrial grade)	922	5,840	935	5,950
Ethanol (Food grade)	1,097	6,950	1,108	7,050
80% Maltose syrup	466	2,950	487	3,100
70% Sorbitol	647	4,100	644	4,100
Anhydrous citric acid	1,178	7,462	1,194	7,600
Monohydrate citric acid	1,066	6,750	1,076	6,850
Oxidized starch(Food grade)	647	4,100	683	4,345
68% Xylitol (Liquid)	955	6,050	939	5,980
HFCS (Fructose: 42%)	513	3,250	509	3,243
HFCS (Fructose: 55%)	655	4,150	652	4,150
Crystal Isomaltitol	5,211	33,000	5,027	32,000
Maltodextrin	632	4,000	644	4,100
75% Maltitol (Liquid)	763	4,830	754	4,800
Anhydrous glucose (Food grade)	821	5,200	833	5,300
Glucose Monohydrate	616	3,900	621	3,950
Itaconic acid	2,369	15,000	2,482	15,800
98.5% lysine	3,079	19,500	3,142	20,000

Source: CCM International

FOB corn price in Dalian Port, Dec. 2010-Nov. 2011



Source: CCM International



Domestic DDGS price suffers a decline in Nov. 2011

In Nov. 2011, average market price of home-made DDGS (distillers dried grains with solubles) in China has suffered a decline, which dropped from USD371/t on 20 Oct. 2011 to USD292/t on 15 Nov. 2011 in Shandong Province. (FIGURE3)

The key reasons behind this decline are as follows. On one hand, the price downtrend of corn (key raw material of DDGS) and soybean meal (key competitive product of DDGS) in recent two months led to the price decrease of home-made DDGS in November. Specifically, average market price of corn around the country fell from USD378/t on 17 Oct. 2011 to USD367/t on 14 Nov. 2011. Domestic average market price of soybean meal also suffers a slight downtrend in Nov. 2011, which reduced by 3.3% to USD473/t on 15 Nov. 2011 in Shandong Province compared with that on 20 Oct. 2011.

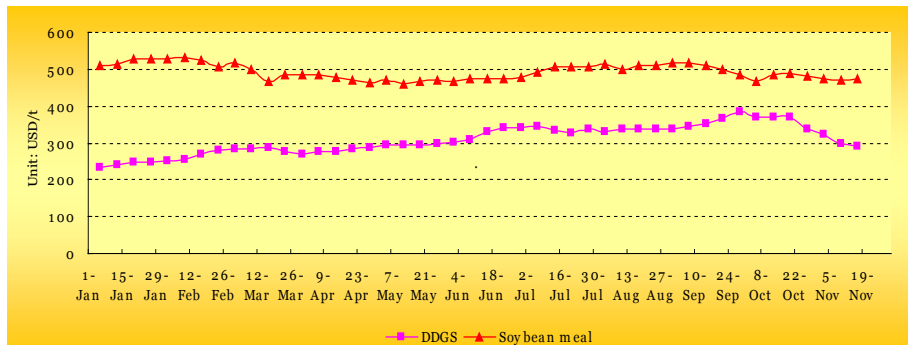
On the other hand, DDGS' import price witnessed a downward trend in the latest two months, stimulating its import volume to post a rise. For example, market price of DDGS from the US, China's largest import origin of DDGS, declined from USD418/t on 14 Oct. 2011 to USD360/t on 15 Nov. 2011 in Guangzhou City. The key reason for the price fall probably lies in DDGS' rising output in the US lately where yield of fuel alcohol has headed up.

Besides the decline of import price, DDGS' strong demand in China also drives the product's import volume to rise.

It's believed that home-made DDGS' price will maintain a slight downtrend in the remaining days this year. Firstly, the price of soybean meal is likely to go down in the rest of this year.

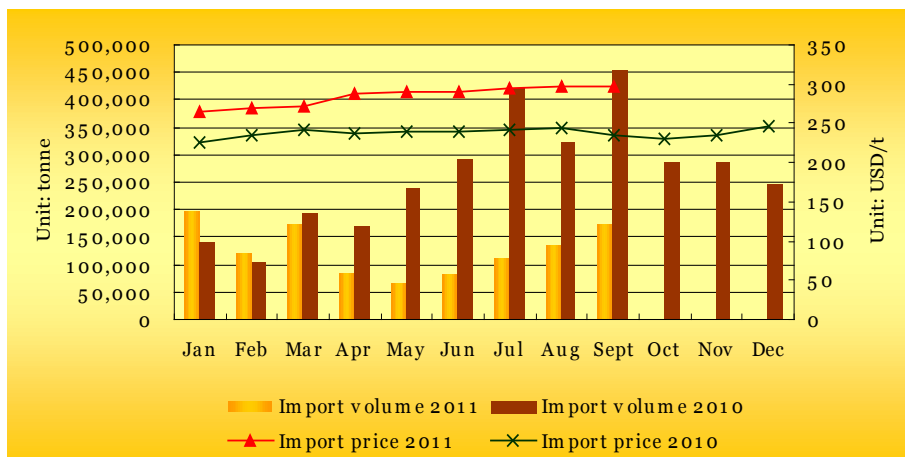
The stock of soybean runs at a high level in Nov. 2011, curbing its price. Meanwhile, producers of soybean oil enjoyed sound operational performance, leading to constant and steady supply of soybean meal.

FIGURE 3: Average market prices of home-made DDGS and soybean meal in Shandong Province, Jan.-15 Nov. 2011



Source: CCM International

FIGURE 4: Average import price and volume of DDGS in China, Jan. 2010-Sept. 2011



Source: China Customs

Secondly, DDGS' import volume may keep increasing. In Nov. 2011, in light with certain unofficial news, the Ministry of Commerce of China may prolong the period of anti-dumping investigation on DDGS from the US (the original deadline is 28 Dec. 2011), which is considered as a signal that China may impose only low or even zero anti-dumping duty on DDGS imported from the US. It's good news to help increase DDGS' import volume.

Furthermore, China needs to import DDGS. It's estimated that DDGS' demand in China may reach 11 million tonnes in 2011, while domestic manufacturers can only produce 3.5 million tonnes. Moreover, the product has its advantage in the use of the feed industry. For instance, it boasts high content of protein, available phosphorus and vitamin, and more amino acid than corn (unit amino

acid content in DDGS is two times higher than that in corn). In addition, owing to the high price of corn and soybean meal, more and more feed manufacturers will choose lower-cost DDGS. Moreover, thanks to its superior quality, imported DDGS is always the first choice of users when the price gap between home-made and imported DDGS is reasonable.

China began to conduct an anti-dumping investigation on the imported DDGS from the US on 28 Dec. 2010, causing the import volume to reduce notably this year. DDGS' import volume was only 1.1 million tonnes during Jan. to Sept. 2011, down about 52% over that in the corresponding period of 2010. (FIGURE4)



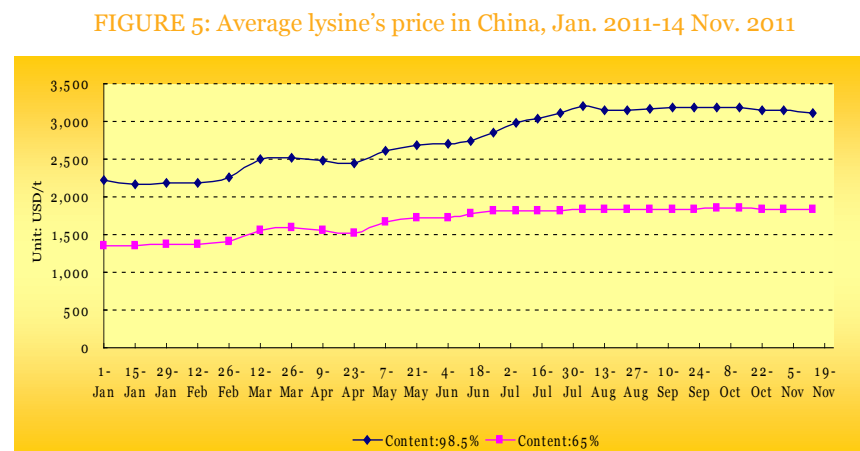
Lysine price slowly declining since October 2011

Since October 2011, lysine price has been falling slowly in China. On 14 November 2011, the average market prices of 98.5% lysine and 65% lysine were respectively USD3,114/t and USD1,815/t, down by 1.98% and 0.87% in comparison with those in September 2011. (FIGURE5) This price downtrend of lysine is mainly affected by the price decline of live pig and corn and increase of lysine supply.

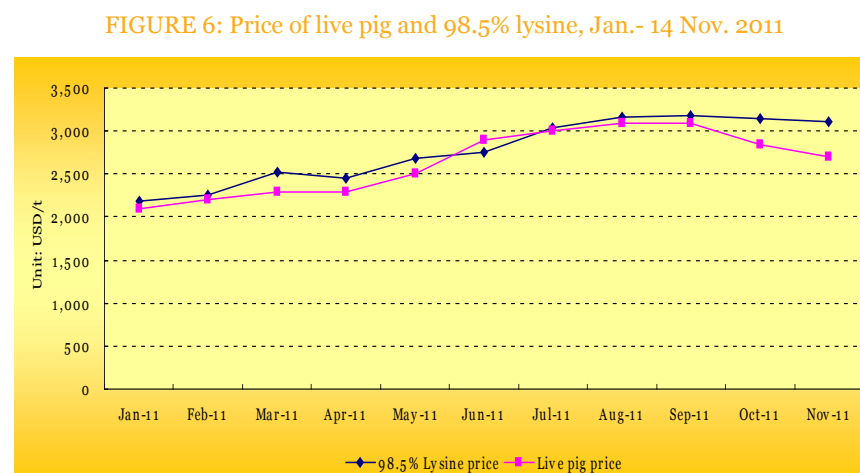
As the most important downstream market of lysine, the feed industry has great and direct effect on lysine's price. Since prices of lysine and live pig are closely interrelated, price decline of live pig poses great impact on the price of lysine. For example, since Oct. 2011, pig price has been decreasing in China, from USD3,100/t in Sep. to USD2,700/t in Nov. 2011, down by 14.81%. (FIGURE6) Apart from this, feed producers in China have lost confidence in lysine price and stopped bulk purchase of the product of which they have maintained a safety stock for later production, reducing recent demand for lysine.

Simultaneously, because a large quantity of new corn has been marketed in recent two months, corn price in China also has been declining since Oct. 2011. In addition, it's reported that China will release 3.7 million tonnes of national old corn reserve at the end of Nov. 2011, which may also help to curb the price. Price slowdown of corn, major raw material of lysine, cuts down the production cost of lysine, allowing more space for lysine's price to go down.

On 7 Nov. 2011, Global Bio-chem Technology Group Co., Ltd. (Global Bio-chem) quoted the price of lysine at USD3,071/t (98.5% content) and USD1,811/t (65% content), down by 2.50% and 1.71% over those on 19 Sep. 2011. As the largest lysine



Source: CCM International



Source: CCM International

manufacturer in China, Global Bio-chem boasts certain pricing power, and many other lysine manufacturers and dealers are quite likely to follow its quotation. Global Bio-chem's move to lower down the quotation of lysine was followed by other domestically leading producers in the industry.

Another major factor for lysine price decline is the apparent increasing supply of lysine in China. Thanks to the high price of lysine, some producers have started expanding the production of lysine in 2011. In July 2011, Global Bio-chem began a technological modification of some of its production facilities for lysine production and

its production capacity of lysine has increased noticeably to 800,000t/a in Nov. 2011 from 500,000t/a before. Meanwhile, Heilongjiang Chenfu Group launched a lysine production line with a capacity of 80,000t/a this month. In addition, Star Lake Bioscience Co., Inc. will launch its lysine production line with the capacity of 30,000t/a in Zhaodong City, Heilongjiang Province in Q1 2012.



Market & Company Dynamic

USD7.7 billion, total output value of China's amino acid industry in 2010

According to a forum about amino acids' development and innovation, held by China Biotech Fermentation Industry Association in Oct. 2011, the total output value of China's amino acid industry in 2010 reached USD7.7 billion, indicating that China has become a very important amino acid production base in the world. Besides, the Asia-Pacific region has grown into the largest sales market of amino acids in the world.

In accordance with the forum, there were about one hundred domestic amino acids producers in 2010, with a total output of amino acids over 3 million tonnes. Thereinto, the outputs of glutamic acid and its salt products were about 2.2 million tonnes, accounting for over 70% in their total outputs all over the world; the outputs of lysine and threonine (including their salt products) rose by 16.6% and 100% to about 0.7 million tonnes and 0.1 million tonnes compared with those in 2009 respectively. Moreover, the new amino acids with high added value, such as proline, tryptophan and isoleucine, also witnessed a great growth in 2010: their output value reached USD0.35 billion, up 661% over that in 2009.

Furthermore, some kinds of major amino acids, like lysine and threonine, still have great prospect in the future. Actually, both amino acids have been researched to be applied in health care products, greatly arousing interests of health care product producers around the world. For example, an article from China Starch Industry Association reported that an oral capsule combined with some essential amino acids, such as lysine, threonine, valine, tryptophan, were able to effectively prevent or even cure COPD (chronic obstructive pulmonary disease), patients of which amounted a hundred million all over the world currently.

In addition, the Asia-Pacific region has already replaced the EU as the largest sales market of amino acids in the world in recent years. It's reported that about 78% of global glutamic acid's sales volume was concentrated in the Asia-Pacific region in 2010. Meantime, about 65%, 63% and 55% of the outputs of lysine, methionine and threonine in the world were consumed in the Asia-Pacific region. And that's because of the great development of the fish breeding and poultry raising industry, as well as the remarkable economic growth in the Asia-Pacific region. It's believed that amino acids' consumption in the region will keep increasing in the future, especially in China due to its huge population, which makes great news for domestic

amino acid industry.

However, some problems and weaknesses still exist in domestic amino acid industry. Firstly, with limited research ability, domestic amino acid industry bears less categories of the product with high added value than those in developed countries. Besides, the proportion of newly explored amino acids with high added value among total amino acids in terms of value is still rather small. Secondly, the production technology is inferior with low production rate and high pollution. For instance, the utilization rate of raw materials in some developed countries hits 99%, while it is only 95% in China.

Hence, domestic amino acid industry shall strengthen the research ability, improve the production technology and reduce the pollution in the future. Only by achieving the above goals can domestic amino acid industry head toward a promising future.



Environmental protection verification on some corn deep-processing industries being carried out

On 2 Nov. 2011, Ministry of Environmental Protection of China (MEP) published a notice that an environmental protection verification on the producers in starch, starch sugar, alcohol, monosodium glutamate (MSG) and citric acid industries was being carried out since Nov. 2011. The move shows the great determination of Chinese government to restrain the corn deep-processing industry, especially that with high pollution.

According to the notice, this environmental protection verification covers all producers in the related industries around the country (except Hong Kong, Macao and Taiwan) and is divided into four procedures.

Firstly, producers shall run self-examination on their own waste treatment situation, and deliver the results, related documents, and the application forms of this environmental protection verification to MEP before 1 Dec. 2011. Otherwise, they are automatically considered to have given up participations in the verification. Secondly, MEP will check the results of producers' self-examinations and related documents together with China Biotech Fermentation Industry Association and China Starch Industry Association. Thirdly, local environmental departments will onsite inspect the factories of producers who pass the second procedure. Fourthly, MEP will publish the list of producers who have passed all the verifications.

The verification is launched to impose restraining measures on producers which are not on the final list, either because of failing to apply for participation or meet the environmental protection standard in the verification. For example, local governments will refuse to accept any application for environmental examination, reject any environmental assessment for any new projects, whether newly-constructed or expanded, or provide any certificate of compliance for unlisted producers. Besides, the unlisted producers are forbidden to run IPO (initial public offerings) and will have difficulty in getting loans from financial institutes. In the mean time, local government will strengthen daily supervision over the unlisted producers. When producers fail to improve the environmental protection facilities as requested, they will be possibly compelled to stop productions.

The verification is one step for the government to restrain the corn deep-processing industry in order to reduce corn's consumption volume. According to *Guidance about Promoting the Healthy Development of Corn Deep-processing Industry* (the Guidance) published in 2007, the proportion of corn consumption in deep-processing industry among its total consumption shall be less than 26%. However, in terms of Mr. Sun, secretary general of China Starch Industry Association, corn's consumption

volume in deep-processing industry in 2010 reached about 52 million tonnes, accounting for 28.9% approximately in corn's total consumption. Moreover, he estimated that the proportion in 2011 might get higher. Thus, the government will keep regulating and restricting the corn deep-processing industry in order to reduce the proportion to the object one in 2012.

In fact, large producers hold a positive view about the verification. For example, Baolingbao Biology Co., Ltd. (Baolingbao), one of the biggest starch sugar producers in China, gives applause to the new move. "The strict environmental protection verification can help to accentuate our company's advantages in the fields of production technology and waste treatment," said by a manager in Baolingbao's bond department.

It's estimated that the whole verification project will be finished in H1 2012, with limited effect on relative industries in the short term. But in the long run, it can assist to weed out small producers with inferior technology and high pollution, contributing to improve the average quality level of products of those industries, increase industry concentration, and curb corn's consumption volume in related industries. Take the MSG industry as example, in correspondence with CCM International's latest report *Future of White Biotechnology in China* published in June 2011, the total MSG capacity of small producers with less than 100,000t/a capacity reaches over 810,000t/a in 2011, accounting for 26.8% among domestic total MSG capacity. However, most of the producers may have waste treatment issues that will put them into trouble or even force them to shut down during the verification.



Xiwang Sugar's sales volume of crystalline fructose enjoys obvious increase in Q3 2011

On 24 Oct. 2011, Xiwang Sugar Holdings Co., Ltd. (Xiwang Sugar) published its operational performance in Q3 2011, based on which, the company's sales volume of crystalline fructose increased by 67.3% to about 4,531 tonnes compared with that in Q3 2010, as a result of the company's continued promotion of crystalline fructose and high sucrose price.

Besides the sales volume, the price of Xiwang Sugar's crystalline fructose also saw a 17.4% rise in Q3 2011 over that in the corresponding period of 2010. However, the gross margin of the product decreased a little during the period due to the high price of corn, a key raw material of crystalline fructose. According to Xiwang Sugar's operational performance in Q3 2011, the company's average corn cost in the period reached about USD365/t (tax-inclusive), up 17.7% over that in Q3 2010. Moreover, Xiwang Sugar's total gross margin also witnessed a slight decline caused by the high corn price (TABLE6). Nonetheless, the company is still convinced that it will have better performance in Q4 this year in consideration of the probability that corn price will lower down by then.

Actually, Xiwang Sugar's sales volume of crystalline fructose during the first nine months this year also surged by 134.7% to 9,041 tonnes over that

in the same period in 2010, majorly attributed to the following reasons.

On one hand, Xiwang Sugar has kept promoting the product in recent years, which makes it well-known among more and more consumers, considerably accelerating its sales.

Xiwang Sugar strives to propagandize the functionalities and the YOHO brand of its fructose. In terms of the company, fructose is the sweetest sugar among all natural sugars. Therefore, its dosage in food is much smaller than other sugars', largely reducing the unit calorie value. In addition, the fruity fragrance of fructose gives a great sensation to mouth. With the lowest Glycemic Index ("GI") among all natural sugars, fructose is especially recommended to consumers with diabetes. Because of the various functionalities, crystalline fructose is used to produce healthy and high-end food products, such as cereals, sports drinks, cakes and milk powder.

Moreover, Xiwang Sugar has started to liaise with an assortment of retail channels such as supermarkets, health product specialty stores and online purchasing platforms this year, aiming to sell its fructose directly to the end consumers. For example, the company launched marketing campaigns for the product through group purchase, which is a

very popular buying means in China currently, and proved quite effective in advertisement of the product.

On the other hand, the high price of sucrose helps to stimulate the increase in Xiwang Sugar's sales volume of crystalline fructose. As a substitute for sucrose, crystalline fructose is normally used in high-end products thanks to its higher cost. When sucrose price continues to increase, even to a point at which it is higher than that of crystalline fructose, more and more customers started to choose crystalline fructose for its great properties. In Oct. 2010, Xiwang Sugar quoted its crystalline fructose at about USD1,089/t, and the average market price of sucrose was USD940/t, while in Oct. 2011, the former was USD1,030/t and the later reached USD1,169/t.

What's more important, Xiwang Sugar is the largest crystalline fructose producer in China with a capacity of 50,000t/a, accounting for over 80% in the total capacity at home. Besides, it is the only company that has a brand of crystalline fructose in domestic terminal market currently. Hence, Xiwang Sugar is the first and biggest beneficiary when the crystalline fructose industry booms.

It's believed that crystalline fructose will become more and more popular in the future, and its domestic demand

TABLE 6: Xiwang Sugar's operational performance, Q3 2011

Product	Sales volume, tonne	Increase/decrease over Q3 2010	Average ex-factory price, USD/t	Gross margin	Increase/decrease over Q3 2010
Crystalline glucose	126,716	-3.6%	632	16.4%	1.1%
Crystalline fructose	4,531	67.3%	1,323	18.6%	-3.2%
HFCS (high fructose corn syrup)	36,337	114.4%	411	11.1%	-3.5%
Corn gluten meal	18,266	32.0%	695	-47.2%	-19.0%
Corn gluten feed	49,765	-5.0%	182	-13.6%	-12.9%
Corn germ	24,181	2.5%	644	12.0%	16.4%
Corn starch	6,849	-64.1%	464	8.4%	-3.3%
Sodium gluconate	31,451	2.6%	890	20.2%	-2.6%
Total	298,096	-2.7%	/	10.7%	-1.2%

Source: Xiwang Sugar's operational performance in Q3 2011



will enjoy stable growth year by year, in view of the discussion meeting about crystalline fructose's functionalities, which was co-held by China National Food Industry Association and Xiwang Sugar on 3 Sept. 2011. A manager in Xiwang Sugar disclosed that the company's crystalline fructose was export-oriented in the last two years, but now, it shifted to focus on

domestic market. It's reported that if sucrose price keeps at a high level, 10% of domestic sucrose's market share in terms of sales volume will be occupied by crystalline fructose in the future, availing Xiwang Sugar an excellent chance to grow stronger.

Meihua Group to acquire a starch producer

In Oct. 2011, Meihua Holdings Group Co., Ltd. (Meihua Group) decided to wholly acquire a starch producer in Tongliao City, Inner Mongolia Autonomous Region, named Tongliao Tongde Starch Co., Ltd. (Tongde Starch), and this move is believed to further secure Meihua Group's supply of corn starch, a key raw material of the company.

According to an announcement of Meihua Group, the company will invest about USD2.8 million to wholly acquire Tongde Starch from Hebei Derui Starch Co., Ltd., and Meihua Group's board already approved this decision in Oct. 2011. In terms of a manager in Meihua Group's bond department, Tongde Starch owns 60,000t/a capacity of corn starch in 2011, but it has suspended the production for a while this year, resulting in its deficit during the first seven months in 2011: the total revenue of Tongde Starch was about USD16.3 million, but the net loss was USD1.1 million. Detailed reasons for Tongde Starch's suspension have not been disclosed yet, but the loss is the key factor for the company to be sold.

The acquirement can guarantee Meihua Group's supply of corn starch to step further and prepare for the company's launch of new projects in Tongliao City. In fact, having started at the end of 2009, those new projects, including threonine with 70,000t/a capacity, lysine with 30,000t/a capacity, nucleotide with 6,000t/a capacity and so on, will be put into operation at the end of 2011 as planned, in accordance with the manager in Meihua Group. Then the company's demand for corn starch will get an obvious increase, which is hard to be fully satisfied by itself under Meihua Group's current corn starch's capacity (about 500,000t/a). Hence, Meihua Group needs to expand its corn starch capacity.

In view of the current governmental restrain on the corn deep-processing industry, it is quite difficult for new establishments or expansion projects of corn starch to be approved by the government. It's the very reason for Meihua Group to acquire existing starch producers to expand its corn starch capacity. Actually, Meihua Group is not the first one to adopt this method. For example, Xiwang Sugar Holdings Company Limited (Xiwang Sugar) decided to purchase starch production lines with 750,000t/a capacity of corn starch totally from Shandong Xiwang Pharmaceutical Co., Ltd. in June 2011; Global Sweeteners Holdings Limited acquired a corn refinery with 600,000t/a capacity for corn processing from Global Bio-chem Technology Group Co., Ltd. in Aug. 2011. What's more

important, the government encourages large companies to merge small ones for higher industry concentration, which can reduce environmental pollution, stabilize corn starch's price and better control corn's consumption volume in the starch industry.

Actually, small corn starch producers are trapped in predicaments in 2011. On one hand, they suffer from a low profit level due to high corn price and inferior production technology. On the other hand, they are confronted with financial strains because it's more difficult to get loans from financial institutes currently. Thus, some small corn starch producers have to suspend or even shut down their productions at present, which makes a perfect chance for large enterprises to merge or acquire these small producers.

Meihua Group owns two major production bases, located in Tongliao City, Inner Mongolia Autonomous Region and Bazhou City, Hebei Province respectively, with 350,000t/a monosodium glutamate capacity, 35,000t/a threonine capacity, 300,000t/a feed capacity, 200,000t/a corn byproducts capacity and 80,000t/a ammonia capacity.



Henan Lotus Flower to sell its subsidiaries for debt payment

On 4 Nov. 2011, Henan Lotus Flower Gourmet Power Co., Ltd. (Henan Lotus Flower) published an announcement that the company would auction its stock rights of three subsidiaries on 11 Nov in order to pay for its debt. However, no one participated in the auction that day and Henan Lotus Flower would choose another day for the re-auction. Obviously, the news signifies that the company is confronted with a very awkward situation this year.

According to the announcement of Henan Lotus Flower, the auction aimed to collect fund to pay for its debt about USD39.4 million to Shanghai Pudong Development Bank, which provided the loan during 2005 to 2006. And Henan Lotus Flower pledged its stock rights of three subsidiaries to the bank, including Henan Xiangcheng Jianeng Thermoelectricity Co., Ltd. (Xiangcheng Jianeng), Henan Lotus Flour Co., Ltd. (Lotus Flour), and Henan Lotus Tian'an Food Co., Ltd. (Lotus Tian'an Food). (TABLE7) Apparently, no one has paid any interested in the three companies till now, which had poor performance in 2011.

Nonetheless, Henan Lotus Flower is left without other choices but to sell the subsidiaries to pay for the debt given the fact that it has suffered a great loss in 2011. During Jan. to Sept. 2011, the net loss of the company reached over USD37.4 million, while it

harvested a net profit about USD21.7 million in the corresponding period of 2010. The gross margin of Henan Lotus Flower's monosodium glutamate (MSG) even plunged to only 1.25% in H1 2011 from 14.18% in H1 2010. Henan Lotus Flower blames the loss on the rise of raw material cost, labor cost, and the slight decline of MSG price. In terms of the interim report 2011 of Henan Lotus Flower, the raw material cost grew by 11.74% in H1 2011 year-on-year. Meanwhile, sales price of the company's MSG reduced by 0.73%.

In fact, Henan Lotus Flower is the third largest MSG producer in China with a 350,000t/a capacity in 2011 in accordance with CCM International's latest report *Future of White Biotechnology in China* published in June 2011. However, with less competitive power than the top two producers, Fufeng Group Limited (Fufeng Group) and Meihua Holdings Group Co., Ltd. (Meihua Group), most of Henan Lotus Flower's lost market was seized by the two industry giants.

On one hand, the production base of Henan Lotus Flower is located in the corn-insufficient Henan Province, resulting in the high cost of corn, the company's major raw material. For instance, the gap between corn's output and consumption volume in the province was as large as over 1 million tonnes in 2010. Thus, corn price there normally is higher than that in the Inner Mongolia Autonomous Region,

where Meihua Group and Fufeng Group's production bases locate. And it is even worse when corn supply gets tight. For example, corn price reached USD386/t in Sept. 2011 in Henan Province, while it was USD371/t in Inner Mongolia Autonomous Region.

On the other hand, Henan Lotus Flower does not pay enough attention to MSG's market promotion and the research of new amino acids with high added value, where Meihua Group and Fufeng Group inject abundant investment. For example, Fufeng Group strives to promote its MSG brand of "U Fresh Series" and launched its production lines of threonine in 2011; some of Meihua Group's amino acid products with high added value, such as threonine, nucleotide, glutamine, proline, isoleucine, arginine etc, contribute remarkably in its profit growth in 2011.

Overall, Henan Lotus Flower needs a series of reformations so as to turn over its difficult situation at present, like improvement of production technology to reduce costs and exploitation of new products.

TABLE 7: Information about the three subsidiaries of Henan Lotus Flower, 16 Nov. 2011

Subsidiary	Stock rights held by Henan Lotus Flower	Stock rights to be sold by Henan Lotus Flower	Total assets by 30 Sept. 2011, million USD	Net assets by 30 Sept. 2011, million USD	Revenue during Jan. to Sept. 2011, million USD	Net profit during Jan. to Sept. 2011, million USD
Xiangcheng Jianeng	100%	95%	53.39	18.79	40.66	-3.69
Lotus Flour	100%	90%	26.09	6.54	46.04	0.39
Lotus Tian'an Food	49%	49%	55.46	27.06	56.44	-1.41

Source: Henan Lotus Flower Gourmet Power Co., Ltd.



Competitiveness

Price of home-made potato starch rebounds in Nov. 2011

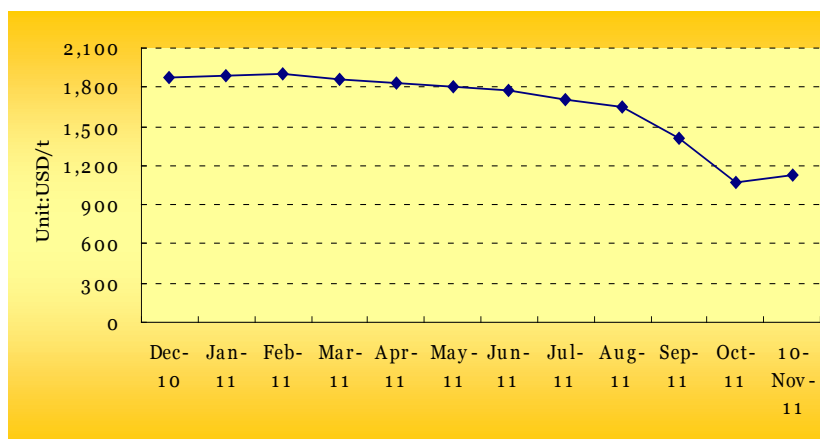
Marching into Nov. 2011, average ex-factory price of home-made potato starch has enjoyed an increase, jumping to about USD1,126/t on 10 Nov. 2011 from USD1,069/t in Oct. 2011. (FIGURE7) Detailedly, the price in lots of regions also witnesses a rise. (TABLE8)

One of the key reasons for the rise of home-made potato starch price in Nov. 2011 lies in the domestically booming demand for the product. As a major downstream market of potato starch, noodles are consumed in large bulk in winter China, directly driving noodle producers to start increasing operating rates of the product. Moreover, as home-made potato starch price continued declining this year, users like noodle producers are more willing to accept the product. Especially when potato starch boasts better properties than other native starches (corn starch and cassava starch), such as higher viscosity and better water retention, users are happy to choose potato starch, pushing up the product's domestic demand.

Besides, partly caused by the 7.5%-12.4% anti-subsidy duty and the 12.6%-56.7% anti-dumping duty on EU's potato starch, imported potato starch's price has maintained an uptrend since Sept. 2011. For example, a trading company quoted its imported potato starch of AVEBE U. A. at USD2,287/t on 10 Nov. 2011, while it was USD2,191/t a month ago. Even though imported potato starch bears superior quality, its price disadvantage pushes away users toward home-made one, boosting domestic demand for home-made potato starch.

In addition, the rise of potato price also accelerates the rebound of potato starch's price. Chinese government published detailed measures to increase potato price in order to

FIGURE 7: Average ex-factory price of home-made potato starch, Dec. 2010-Nov. 2011



Source: CCM International

TABLE 8: Average ex-factory price of home-made potato starch in some regions, Oct.-Nov. 2011

Region	Average ex-factory price on 10 Nov. 2011, USD/t	Increase/decrease over 10 Oct. 2011
Heilongjiang	1,136	3%
Hebei	1,041	5%
Inner Mongolia Autonomous Region	1,136	3%
Gansu	1,073	6%
Ningxia Hui Autonomous Region	1,088	6%
Shaanxi	1,025	5%
Yunnan	1,104	2%
Guizhou	1,136	2%
Qinghai	1,262	3%

Source: CCM International

protect the profit of peasants at the end of Oct. 2011. For example, the government in Ningxia Hui Autonomous Region published an indicative purchasing price of potato, which is more than USD110/t. In the mean time, the government in Inner Mongolia Autonomous Region budgeted about USD3.2 million for the reserve of potato, which can help farmers better reserve potato and prolong its preservation period. These measures yielded certain effects in raising potato price locally. For instance, the price in Ningxia Hui Autonomous Region climbed to USD120/t in Nov. 2011 from USD80/t

at the beginning of Oct. 2011.

It's believed that price of home-made potato starch will maintain a slight uptrend in the remaining days this year thanks to its strong demand. Furthermore, starting from Dec. 2011, potato starch producers will be relieved from the production season's financial pressure to pay for raw materials. Therefore, they do not have to sell the product to recall money, assisting the increase of home-made potato starch.



Corn Supply

Domestic corn price sees a slight downtrend in Nov. 2011, but may rebound later

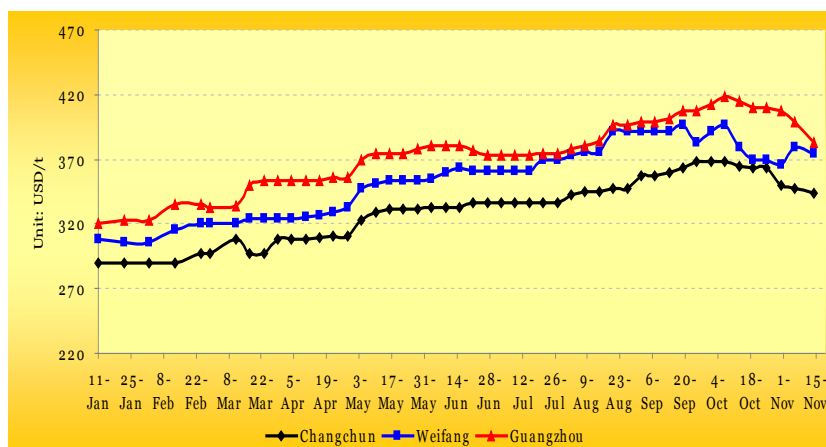
In Nov. 2011, corn price in China maintains a slight downtrend, which began in the previous month due to the newly marketed corn. Specifically, average market price of corn around the country dropped from USD378/t on 17 Oct. 2011 to USD367/t on 14 Nov. 2011. (FIGURE8) Besides, corn prices in different cities witness a decline by different scopes during the same period. (TABLE9) However, it's believed that the price may rebound at the end of this year, when Chinese government begins to purchase corn for temporary national reserve.

The decline of corn price in recent two months is seasonal as a large quantity of new corn has been marketed during the period. According to a latest report published on 9 Nov. 2011 by the United States Department of Agriculture, the estimation of Chinese corn's output in 2011/2012 is increased to about 184.5 million tonnes, up 1.4% over that in the October edition. In addition, China will release 3.7 million tonnes of national old corn reserve at the end of Nov. 2011, which may also help to curb the price.

However, it's believed that corn price will rebound at the end of this year after Chinese government begins to purchase corn for temporary national reserve. It's reported that the State Administration of Grain organized a symposium in Heilongjiang Province on 16 Nov. 2011, discussing the issues about the procurement of corn for temporary national reserve starting at the end of this year, after which corn price will probably go up.

Moreover, corn's demand in China will be strong in the remaining days this year, favoring the price to rebound. On one hand, the demand

FIGURE 8: Average market price of corn in some cities, Jan.-14 Nov. 2011



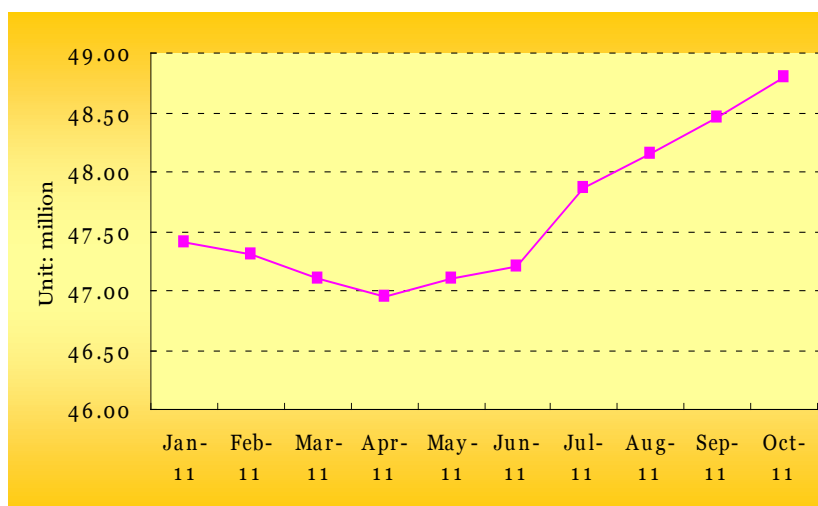
Source: CCM International

TABLE 9: Average market price of corn in some cities, 17 Oct.-14 Nov. 2011

City	Province	Market price on 14 Nov. 2011, USD/t	Increase/decrease over 17 Oct. 2011, USD/t
Zhengzhou	Henan	347	-25
Dezhou	Shandong	363	-13
Shijiazhuang	Hebei	363	-13
Harbin	Heilongjiang	341	-14
Shenyang	Liaoning	347	-16
Lianyungang	Jiangsu	382	-15
Shanghai	/	396	-9

Source: CCM International

FIGURE 9: Number of sow with fertility in China, Jan.-Sept. 2011



Source: Ministry of Agriculture of China

for corn in the feed industry is believed to remain robust in spite of the decline of pork price since Oct. 2011. In terms of the Ministry of Agriculture of China, the number of sow with fertility has kept rising since April 2011, which jumped to a peak 48.8 million during the first nine months this year in Oct. (FIGURE9) Thus, the number of live pigs will keep increasing in the rest of this year, leading to the strong demand for corn.

On the other hand, corn's demand in its deep-processing industry is also believed to surge at the end of 2011 thanks to

the brisk demand for food. Normally, along with the coming of Spring Festival (23 Jan. 2012), output of food will post a great increase, especially those of candy and beverages, considerably stimulating the productions of starch sugar and sugar alcohol and ultimately contributing to the demand and price increase of corn.

New Technology & New Products & R&D

An advanced MSG production technology proved successful

At the end of Oct. 2011, China Biotech Fermentation Industry Association (CBFIA) held a meeting in Meihua Holdings Group Co., Ltd. (Meihua Group), in order to share the successful experience of an advanced monosodium glutamate (MSG) fermentation production technology adopting temperature sensitive mutant. This technology has been experimented for a year in one of Meihua Group's production lines of MSG with 100,000t/a capacity since 2010, and proved quite successful, which has great demonstrational significance in MSG even other amino acid industries.

Temperature sensitive mutant refers to a strain which can grow well under normal temperature, but when the temperature increases to certain extent, like from 30 °C to 40 °C, it will stop growing and starts producing acid. What's more important, during the MSG production process, what has to be taken care of is the temperature change when using temperature sensitive mutant, instead of the suboptimal dose of biotin when adopting other strains. A most apparent strength of the new technology is that it is able to avoid the instability when applying the strain to produce acids and shorten the fermentation period.

Moreover, it's reported that the new technology can reduce pollution and energy consumption: the output of COD (chemical oxygen demand) and ammonia nitrogen can decrease by 30% and 60% respectively; the unit consumption of water and energy can also drop by 88% and 34% separately. Thanks to these advantages, the technology is encouraged to be promoted in the whole MSG industry even other amino acid industries.

Actually, China has been constantly encouraging the adoption of advanced technologies with low pollution and energy consumption. According to the 12th Five-Year Plan about energy saving and emission reduction, China tries to reduce the outputs of COD and sulfur dioxide all over the country to below 23.48 million tonnes and 20.86 million

tonnes by 2015, from 25.52 million tonnes and 22.68 million tonnes respectively in 2010. Besides, China also spares no efforts to cut down the outputs of ammonia nitrogen and oxynitride around the country to below 2.38 million tonnes and 20.46 million tonnes by 2015, both down 10% over those in 2010.

In order to achieve the above goals, the government has taken detailed measures, such as stimulation of the research and development of progressive manufacture technologies, including the MSG fermentation production technology adopting temperature sensitive mutant. In fact, this technology was granted special funds from governments for its research in 2010 and bears the potential to be applied in the whole MSG industry in the future.



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