



Sweeteners China News

Vol.1 Issue 11 2011



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Welcome to the November issue of Sweeteners China News published by CCM International, a professional consulting company which has been extensively and intently focusing on dynamics of China's sweetener industry.

Domestic sucrose price decreased slightly in October 2011, about USD1,142.65/t, decreasing 6.82% over the highest price in mid August 2011, which benefited FOS' profits. For example, QHT's decline in net profit was narrowed in the first three months of 2011 owing to the small decrease in sucrose price and increase in sales value.

Besides, more and more starch sugar producers are targeting at HFCS market. For instance, five HFCS projects with total capacity of 55 thousand t/a will be launched in the next few months, with a possibility to lead to the price decrease of HFCS in H2 2012.

Moreover, a large number of sucralose producers never stop ameliorating their production technology of sucralose in China, availing competitiveness rise and price decrease in the future.

In addition, the price of xylose has been rising since 2010, which affected the production costs and raw material supply of xylitol producers. Hence, Shandong Lvjian acquired a xylose production line with capacity of 5,000t/a in June 2011. Upon completion of the new xylose project on 28 September 2011, Shandong Lvjian may have better control of the production cost of xylitol.



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Database of all CCM's research insights in sweeteners industry

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High Intensity Sweeteners

Saccharin
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



Sweeteners China News at a glance

■ It is estimated that the rice starch sugar industry will develop better in the future, but its market share in the whole starch sugar industry may keep stable.

■ Five High Fructose Corn Syrup (HFCS) projects will be launched soon, which may lead to the price decrease of HFCS in H2 2012.

■ So far, many domestic producers of sucralose improve their production technology actively, which may lead to competitiveness rise and price decrease.

■ In recent three years, domestic alitame industry developed slowly due to small capacity and high price, and the situation is estimated to continue in the next several years.

■ On 5 October, ACT announced its new partnership with Sinosweet, aiming to develop the UK and Irish markets of aspartame.

■ In October 2011, Shengxiangyuan puts its stevia sweetener production line with a total capacity of about 750t/a into trial production in Qufu City, Shandong Province, suggesting its business expansion ambition thanks to the increasing demand from downstream.

■ The decline of QHT's net profit in the first three quarters of 2011 is narrowed owing to a small decrease of sucrose price and increase of its sales value.

■ According to Suzhou Economic and Technological Development Zone, Anhui VitaSweet launches an acesulfame-K project with capacity of 5,000t/a in October 2011.

■ On 15 October 2011, Layn published a notice to revise its performance in the first three quarters of 2011, which explains that the company's net profit gets worse than expected.

■ According to Xiwang Sugar's operational performance report in Q3 2011, the gross margin of crystalline fructose decreases in Q3 2011 due to price increase of corn, but it is estimated to increase in Q4 2011.

■ Shandong Lvjian's xylose project with capacity of 5,000t/a is launched on 28 September 2011, which will ensure the raw material supply of xylitol.

■ China consumes about 21,000 tonnes of High Intensity Sweeteners in 2010, including aspartame, acesulfame-K, saccharin, cyclamate, sucralose and stevioside, most of which are used in three segments, including common food, soft beverages and dairy products.

Mongolia and 6.15 tonnes per ha. in Zhejiang respectively. And Mr. Xia said stevia had great growth potential thanks to its high economic benefit.

Guangxi Nanning Sugar may obtain good profit

On 11 Oct. 2011, Guangxi Nanning Sugar Industry Co., Ltd. (Guangxi Nanning Sugar) announced that the company's net profit might get a great increase during Jan. to Sept. 2011, by 60% to 90% year to year. The major reasons are considered to be the price increase of sugar and the sound development of the company's other businesses during Jan. to Sept. 2011.

Lanzhou Dafeng plans to build a science and technology zone of plants

As reported in October 2011, Lanzhou Dafeng Plant Technology Co., Ltd. (Lanzhou Dafeng) will spend USD946,014 to build a science and technology zone of plants in Lanzhou City in order to better promote the development of the liquorice industry and liquorice processing industry in Gansu Province. Upon completion of the project, Lanzhou Dafeng could produce 85 tonnes of all kinds of glycyrrhizin every year. And if this goes well, Lanzhou Dafeng may continue to support the development of the two industries.

New beet sugar marketed in Xinjiang

On 13 Oct. 2011, twelve out of the fourteen sugar producers have started operations in Xinjiang Uyghur Autonomous Region (Xinjiang). Thanks to the newly marketed beet sugar, the price of sugar was USD1,103.67/t on 13 Oct. 2011, down 16.67% over the last month. As Mr. Liang, Secretary-General of Xinjiang's Sugar Industry Association, said that owing to supply shortage, the price of sugar hit a new record of USD1,324.94/t in the past few months in Xinjiang. But this situation was eased when new beet sugar was put into the market.

GLG's new beverages to be late

On 20 Oct. 2011, GLG Life Tech Corporation (GLG) announced that it delayed the launch of new beverages. GLG explained that the following two reasons were majorly responsible for the delay. Firstly, some beverages' packaging had some inferiorities in quality. Secondly, the packaging company didn't have enough production capacity to meet the demand of the new beverages before Oct. 2011.

Wenshan Yingmao founded in Yunnan Province

On 27 Oct. 2011, Yunnan Wenshan Yingmao Sugar Industry Co., Ltd. (Wenshan Yingmao) was founded in Wenshan Zhuang and Miao Autonomous Prefecture in Yunnan Province. The leader of Wenshan, Mr. Li, said the move indicated that Wenshan's sugar industry would be more competitive in Yunnan, even in China. In addition, Wenshan Yingmao announced that it would invest USD157.69 million to construct three separate production lines of sugar, with processing abilities of 100,000 tonnes of sugar cane every day in the future.

News in Brief

Stevia may have bumper harvest in China in 2011

In Oct. 2011, stevia ushered in its new harvest season in China. Mr. Xia, the leader of Xing'anmeng Economic Crop Workstation in Inner Mongolia, expressed that China might enjoy a bumper harvest of stevia in 2011. At present, stevia yield reached 6.75 tonnes per ha. in Inner

Market Dynamic

Overview of rice starch sugar

Aided by the increasing demand for starch sugar, more and more producers are joining into the production of rice starch sugar. And it is estimated that the rice starch sugar industry will develop better in the future owing to rice starch sugar's stable raw material supply and its low price. But its market share in the whole starch sugar industry may keep stable due to the product's small production scale and complex techniques in separating protein flocculation from rice.

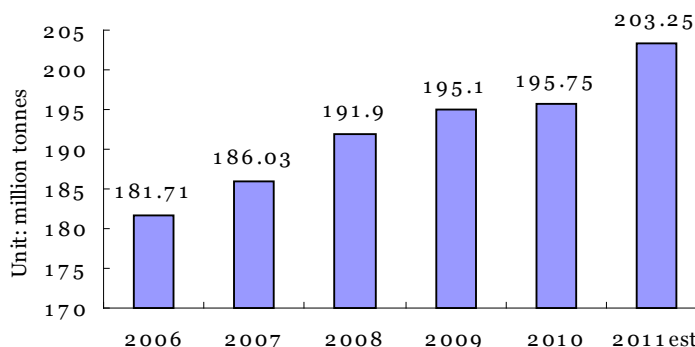
Starch sugar has been enjoying sound growth in recent years, attracting some rice producers to enter into this market. For example, the output of starch sugar showed a rising trend thanks to the downstream demand increase as well as high sucrose price (about USD1,144/t in mid October 2011) and it grew from 4.97 million tonnes in 2006 to about 9.2 million tonnes in 2010 in China, with a CAGR of 16.64%. Take Hunan Zhuoyue Grain and Oil Co., Ltd., a rice processor, as an example, the company started building a new project of rice starch sugar in 2011, which is estimated to be launched in H2 2012.

In order to acquire more detailed information about the rice starch sugar industry in China, CCM International investigated five rice starch sugar producers in October, three of which only apply rice as raw material, including Wanfu Biotechnology (Hunan) Agricultural Development Co., Ltd. (Wanfu Biotechnology), Anhui Youyong Biology Co., Ltd. (Anhui Youyong) and Jiangsu Meiweiyuan Bio-technology Co., Ltd. (Jiangsu Meiweiyuan). And the other two use corn and rice to produce starch sugar, containing Wuhan Jiabao Sugar Co., Ltd. (Wuhan Jiabao) and Jingzhou Hanke Biotechnology Co., Ltd. (Jingzhou Hanke). Though rice starch

sugar boasts certain advantages, such as lower price than corn starch sugar and sufficient raw material supply, the capacity of rice starch sugar is much smaller than that of corn starch sugar due to the fact that few producers are engaged in its production.

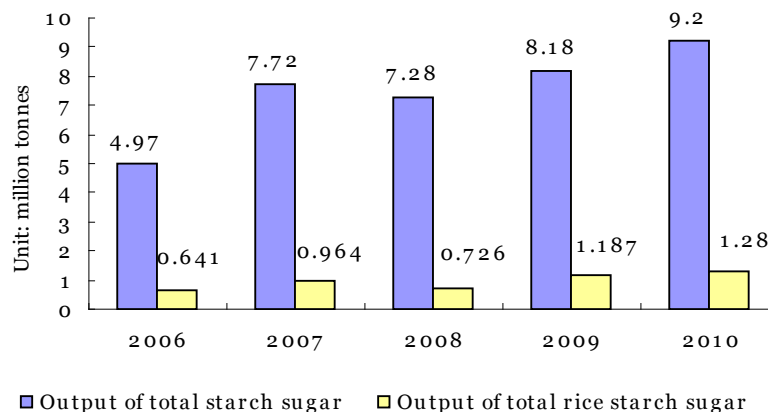
According to Jiangsu Meiweiyuan and Anhui Youyong, price of rice starch sugar is lower than that of corn starch sugar. For instance, Anhui Youyong's price of F42 made from rice was USD456/t in October 2011, while the average price of F42 made from corn was about USD509/t in October 2011.

FIGURE 1: Output of unhulled rice in China, 2006-2011



Source: www.cngrain.com

FIGURE 2: Output of total starch sugar and total rice starch sugar in China, 2006-2010



Source: *China Biotech Fermentation Industry Association*



Besides, the raw material supply of rice starch sugar is rather adequate at present. Actually, the raw materials of rice starch sugar are broken rice, a by-product during rice deep processing, and old rice which has been stored for many years, both of which are cheap in terms of rice starch sugar producers. And the bumper harvest of unhulled rice in recent years ensures the supply of them. In view of cngrain.com, a famous website of Chinese grain, the output of unhulled rice has been growing in recent five years (FIGURE 1), and it is estimated to be 203.25 million tonnes in 2011 thanks to the fair weather, which may help supply enough raw materials of rice starch sugar.

However, rice starch sugar has obvious shortages. And the total capacity of rice starch sugar is much smaller than that of corn starch sugar now, which may restrain its market share from growing. In light of the China Biotech Fermentation Industry Association, the output of rice starch sugar was about 1.28 million tonnes in 2010, accounting

for about 14% of the total output of domestic starch sugar in 2010 (FIGURE 2), while corn starch sugar took up the left 86%.

The production technology of rice starch sugar is more complicated than that of corn starch sugar, largely limiting the development of rice starch sugar. In fact, rice starch contains some proteins, which requires producers to split protein flocculation from rice. On the contrary, corn starch contains very few proteins. Therefore, technological requisite of rice starch sugar is much higher than that of corn starch sugar.

In terms of the above viewpoints, it is predicted that the rice starch sugar industry may continue growing in the near future thanks to the increasing demand for starch sugar. Meanwhile, its market share may keep stable due to the small production scale and complex production techniques.

As the above five producers say, there are only a few rice starch producers

domestically, most of which are located in Central China and South China, the major rice-producing areas. For example, Wanfu Biotechnology is located in Changde City, Hunan Province—one of the important commodity grain bases in China, ensuring the company's rice supply. Besides, though Northeast China is also a leading rice production region, there are hardly any rice starch producers due to insufficient competitiveness, such as low capacity and output.

High Fructose Corn Syrup (HFCS) and maltose syrup are common products of rice starch sugar producers. In terms of those five manufacturers, four produce HFCS, including Anhui Youyong, Jiangsu Meiweiyuan, Wuhan Jiabao and Jingzhou Hanke. And three of them produce maltose syrup, containing Wanfu Bio-technology, Wuhan Jiabao and Anhui Youyong.

Five HFCS projects to be launched

Five High Fructose Corn Syrup (HFCS) projects will be launched in China in the next few months, which may lead to the price decrease of HFCS in H2 2012.

According to CCM International's survey, five domestic HFCS producers will launch their HFCS projects in the near future, including Luzhou Bio-chem Technology Co., Ltd. (Luzhou Bio-chem), Shandong Xiangchi Group Co., Ltd., GBT-Cargill High Fructose (Shanghai) Co., Ltd., Wuhan COFCO Food Technology Co., Ltd. and Star

Lake Bioscience Co., Ltd. (Star Lake Bioscience) (TABLE 1). All of them will be engaged in the production of F55, one main kind of HFCS. Among the five companies, two will solely focus on F55 thanks to its profitable prospect in the near future. (Please refer to Sweeteners China News 1110, p2).

The HFCS industry in China is enjoying sound development at present. In accordance with CCM International's research, the capacity of HFCS is estimated to increase from about 1,200,000t/a in 2008 to

3,000,000t/a in 2011, with a compound annual growth rate (CAGR) of 35.72%.

It is the HFCS industry's promising future that attracts the five producers to join in the business. On one hand, due to HFCS' great taste and similar sweetness as sucrose, it is a perfect substitute for sucrose. Thus, when the price of sucrose goes up, HFCS becomes the first beneficiary. In terms of China Sugar Index, the market price of sucrose in China has been showing a rising trend since October 2008, which reached USD1,198/t in September 2011,

TABLE 1: Details of the five brand new HFCS projects, 2011-2012

Company	Project capacity, t/a	Specification	Launch time	Marketing area
Luzhou Bio-chem Technology Co., Ltd.	150,000	F55	Dec-11	All China
Shandong Xiangchi Group Co., Ltd.	100,000	F55 and some F42	Nov-11	Northern China
GBT-Cargill High Fructose (Shanghai) Co., Ltd.	100,000	F55	Early 2012	Central China
Wuhan COFCO Food Technology Co., Ltd.	100,000	F55 and F42	Oct-11	Central China
Star Lake Bioscience Co., Ltd.	100,000	F55 and some F42	Dec-11	Southern China

Source: CCM International



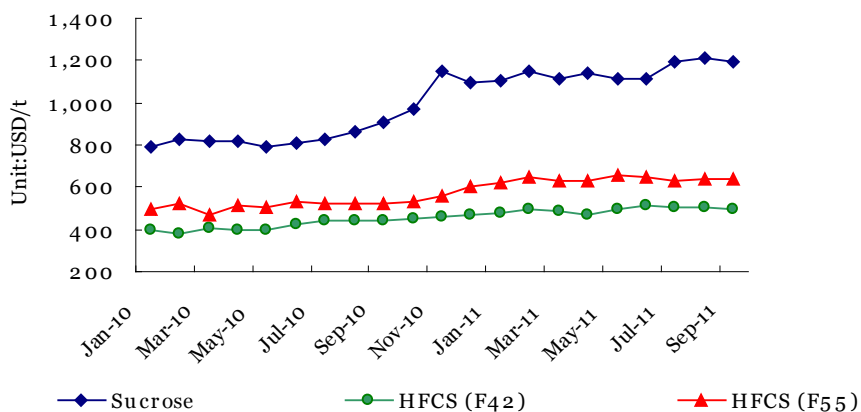
increasing 32.38% over the same period last year. Meanwhile, the prices of F42 and F55, the two major kinds of HFCS, rose by 13.01% and 23.17% respectively over September 2010 (FIGURE 3). As seen from the below data, the price growth rate of sucrose was much higher than that of HFCS. Thus, more and more downstream producers chose HFCS to replace sucrose, boosting the demand for HFCS. Hence, HFCS manufacturers begin to expand capacities of the product.

On the other hand, consumption increase also drives HFCS development. Actually, HFCS is mainly used in food, especially beverages and confectionery. In the recent three years, Chinese beverage and confectionery industries have been growing rather fast, promoting the consumption of HFCS. In light of the National Bureau of Statistics, the output of beverages has been growing considerably during the past. For example, the output of soft drinks reached about 66.9 million tonnes in the first seven months of 2011, up 23.36% over the same period last year. Besides, the output of confectionery rose to 1.07 million tonnes in the first seven months of 2011, growing by 19.10% over the same period last year. Booming growth of the two industries greatly pushes forward the consumption of HFCS.

Therefore, most HFCS producers believe in HFCS' huge development potential. Take Star Lake Bioscience as a good example, Ms. Sun, a representative of the company's bond department, explained that the increasing demand for HFCS attracted Star Lake Bioscience to construct a new HFCS project in early 2011.

Besides, some HFCS producers launch new projects in order to improve product structure. In view of Luzhou

FIGURE 3: Price trend of sucrose and HFCS (F42 and F55) in China, 2010 - Sept. 2011



Bio-chem, the company only has HFCS production lines of F42. As F55 is used more and more widely, Luzhu Bio-chem decided to build HFCS F55 production lines.

However, it is predicted that HFCS price may decrease after the five projects are launched.

Normally, the price of HFCS is affected by corn supply and its downstream demand. Domestic price of corn may stay relatively stable in the rest months this year thanks to the expected bumper corn harvest, indicating corn supply won't have notable effect on HFCS price in the near future. In accordance with a report published by China National Grain and Oils Information Center (CNGOIC) in Aug. 2011, China's corn output is estimated to increase by 2.96% to about 182.5 million tonnes this year over 2010, and the price of corn may stay comparatively steady, maintaining the cost of HFCS which is made from corn.

Under the above conditions, the rising new supply of HFCS may be the main reason for its prospective price decrease.

When those five HFCS projects with total capacity of 0.55 million t/a get launched, the supply of HFCS is estimated to increase abundantly, and its growth rate may also exceed that of HFCS demand from downstream industries. Therefore, HFCS price may decrease to some extent in the near future.

However, though the launches of those five HFCS projects may affect the price jointly, the five producers will not start keen competitions against each other owing to their different targeted sales regions. Because of HFCS' three months of short shelf life and high freight fees, companies usually market their products locally or nearby. Since the five producers are located in various regions around China, their newly launched HFCS projects will hardly overlap in marketing areas, avoiding contests against each other.



CCM's Trade Analysis Announcement:

For more details, please contact CCM at econtact@cnchemicals.com

- Stevia Export Analysis
- Neotame Export Report
- Sucralose Export Analysis
- Aspartame Export Analysis



Sucralose producers improve production technology actively

So far, many domestic producers of sucralose have improved their production technology actively, such as JK Sucralose Inc. (JK Sucralose), which may lead to producers' competitiveness rise and sucralose price decrease.

As a matter of fact, a large number of sucralose producers never stop ameliorating their production technology, especially leading enterprises. One typical example is JK Sucralose, the largest sucralose producer in China. In light of Mr. Wang, a publicity manager from the company, JK Sucralose has been constantly focusing on its production technology betterment. In addition, in correspondence with the State Intellectual Property Office, JK Sucralose has been continuing to patent eight technological innovations of its sucralose since 2006, including crystallization, reclamation, separation, synthesis and chlorination.

Actually, domestic technological innovations of sucralose are usually embodied in patents owing to the public's growing awareness of intellectual property protection raised by the 337 Investigation. As an intellectual property right litigation, the 337 Investigation was applied by Tate & Lyle PLC (Tate & Lyle) against certain Chinese sucralose producers in 2007. The demandant requested the defendants to stop exporting low-price sucralose. Though domestic sucralose



Source: CCM International

producers finally won the case in 2009, this incident gave a blow to China's sucralose industry, particularly its export.

In recent three years, about 10 sucralose technological innovations were successfully patented annually in China, 13 patents of which belong to eight domestic sucralose producers, accounting for 43.33% of the total 30 patents. In terms of those eight producers' patents, most focus on the synthesis of sucralose, which is generally considered as the core of sucralose's technological innovation (TABLE 1).

Intense competition from overseas companies may serve as a major reason for domestic producers to innovate their sucralose production technology. In fact, sucralose is an export-oriented

High Intensity Sweetener (HIS) in China. For example, about 65.48% of the sucralose output was exported in 2010, and this trend seems to continue in 2011. Therefore, domestic sucralose producers have to fight for world market share against overseas manufacturers, especially Tate & Lyle, the largest sucralose producer globally.

In correspondence with Tate & Lyle's first quarterly report of 2011, the company's market share of SPLENDA, the trade name of its sucralose, accounted for approximately 90% of the global market share for sucralose by volume. This indicates Tate & Lyle's dominance over the whole industry, which drives domestic sucralose players to enhance their competitiveness. To achieve this goal, producers choose technological innovation as a long-

TABLE 2: Patents of sucralose producers in China, 2009-2011

Company	Number of patent	Content
JK Sucralose Inc.	3	Synthesis, reclamation, liquid sucralose
Changzhou Niutang Chemical Plant Co., Ltd.	2	Synthesis
Hubei Yitai Pharmaceutical Co., Ltd.	2	Synthesis
Zhejiang Hangzhou Xinfu Pharmaceutical Co., Ltd.	1	Synthesis
Jiangsu Jubang Pharmaceutical Co., Ltd	1	Synthesis
Shilang (Zhuoli Group)-Pharma (Nanjing) Co., Ltd.	2	Sucralose capsule
Suzhou Hope Technology Co., Ltd.	1	Synthesis
Hebei Sukerui Science and Technology Co., Ltd.	1	Synthesis
Total	13	—

Source: State Intellectual Property Office



term strategy since it efficiently helps to simplify production procedures, reduce costs and increase yields.

Furthermore, technological innovation may lead to price decrease of sucralose (FIGURE 4). According to CCM International's report *Production and Market of Sucralose in China*,

from 2006 to 2010, the average ex-factory price of sucralose dropped from USD188,470/t to USD114,385/t with a CAGR of -11.74%. In September 2011, it fell to USD99,717/t. The prior reason for this is the production cost reduction from the constant advancement of sucralose's production technology. Accordingly, price decrease of sucralose

is very likely to attract more and more end users abroad, especially after the 337 Investigation brought Chinese sucralose to the world stage, ultimately assisting domestic sucralose producers to contest against foreign counterparts.

Domestic alitame industry develops slowly

In recent three years, domestic alitame industry developed slowly due to small capacity and high price, and the situation is estimated to continue in the next several years.

Lately, CCM International investigated six major alitame producers in China with total capacity of about 900t/a in 2011. And the capacities of those producers keep the same from 2009 till now, indicating that domestic alitame industry has almost no capacity expansions. Besides, different from other High Intensity Sweetener (HIS) producers, most alitame producers in China are concurrently engaged in producing or selling other HIS, such as sucralose, aspartame and neotame.

One critical factor that restrains alitame's growth in China lies in the weak demand from domestic and overseas markets. On one hand, it is estimated that downstream demand for alitame is limited in China due to two major reasons.

Firstly, it bears lower popularity than most artificial HIS, such as acesulfame-K, aspartame, saccharin,

cyclamate and neotame, according to some domestic alitame producers (TABLE 3). Secondly, it is priced much higher than other HIS. For instance, alitame's unit sweetness price was as high as USD94/t in September 2011, caused by the high cost of D-alanine, one key raw material of alitame, which is more than USD400,000/t in September.

On the other hand, little alitame was exported to foreign countries due to the restrictions on its use. Most alitame producers surveyed by CCM International explained that a majority of alitame is consumed in China with rare exportation. Actually, it is reported that alitame is approved to be used in only six countries all over the world, such as Australia, New Zealand and China. While in the US and the EU, two major regions of sweetener consumption, it is not approved, considerably restraining China's export of alitame.

It is predicted that domestic alitame industry will not see an obvious growth. According to the above six alitame producers, they have no plans

to expand their capacities of alitame due to the unsatisfactory demand from downstream industries. For instance, a salesman of one alitame producer located in Zhengzhou City, Henan Province disclosed that the company had not increased its capacity of alitame since its establishment in 2005. As domestic demand for alitame is quite weak now, it won't expand its production in the near future.

The Ministry of Health of China has approved alitame, one kind of HIS that is 2,000 times sweeter than sucrose, as a food additive since 1994. And domestic producers may have begun to produce alitame since 2004. In accordance with the latest *Standard for Uses of Food Additives (GB2760-2011)*, alitame can be used in six segments, including frozen drinks (exclusive of 03.04 edible ice), liquorice products (e.g. preserved plum and prune), gum-based candy, tabletop sweetener, beverages excluding packaged drinking water 14.01 and jelly.

TABLE 3: Unit sweetness price of some artificial HIS and sucrose, September 2011

No.	Products	Ex-factory price in September 2011 (USD/t)	Sweetness compared with sucrose	Price of unit sweetness in September 2011 (USD/t)
1	Sucrose	1,154	1	1,154
2	Acesulfame-K	9,029	200	45
3	Aspartame	17,006	200	85
4	Saccharin	6,091	300	20
5	Cyclamate (NF13)	2,319	30	77
6	Neotame (98%)	91,214	8,000	11
7	Alitame	188,000	2,000	94

Source: CCM International

Company Dynamic

Sinosweet forms partnership with ACT

On 5 October, Atlantic Chemicals Trading (ACT), a global food ingredient supplier located in Germany, announced its new partnership with Jiangsu Sinosweet Co., Ltd. (Sinosweet), the largest aspartame producer in China at present, aiming to develop the UK and Irish markets of aspartame.

According to the announcement, Sinosweet UK, a previous subsidiary of Sinosweet focusing on the UK market of aspartame, becomes a wholly-owned subsidiary of ACT, which means that Sinosweet grants ACT the exclusive marketing right for Sinosweet's complete product range in the UK and Irish markets.

But based on CCM International's survey, Sinosweet has been cooperating with ACT for many years. In terms of the Chinese branch office of ACT, the company has been selling part of Sinosweet's aspartame to the UK market. And the exclusive marketing right for Sinosweet's aspartame in the UK and Ireland was given to ACT by Sinosweet earlier this year after further discussion, so Sinosweet UK has been practically taken over by ACT since then.

In order to export more aspartame to the market of the UK and Ireland, Sinosweet strengthens the aspartame sales network through partnership with ACT. At present, the UK and Ireland are two main export destinations of China's aspartame all over the world. For example, in view of CCM International's aspartame import and export analysis, China exported about more than 900 tonnes of aspartame to the above two

countries, accounting for about nearly 40% of the total export volume to the EU (FIGURE 5) and nearly 12% of the total export volume all over the world from January 2011 to August 2011.

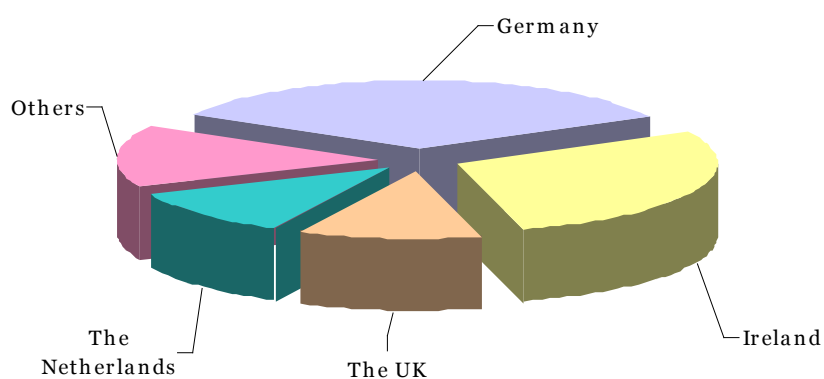
Besides, the collaboration can benefit Sinosweet in three aspects. Firstly, it can improve Sinosweet's sales network through ACT's existing mature ones of sweeteners and other food ingredients in the UK and Ireland. Secondly, establishing an exclusive agency helps Sinosweet cut down the business running cost in its UK subsidiary after Sinosweet UK was taken over by ACT. Thirdly, ACT's sound reputation and renowned competitiveness in the UK and Ireland may favor Sinosweet's international fame and brand recognition.

Expectedly, the partnership may lead to the export volume increase of Sinosweet's aspartame in the UK and

Ireland. As a staff from the Chinese branch office of ACT revealed, Sinosweet has sold more aspartame to those two countries since ACT took over Sinosweet UK at the beginning of 2011. Actually, Sinosweet's total export volume of aspartame to the UK and Ireland increased by 20% to about 600 tonnes in the first eight months of 2011 over the same period of 2010 according to CCM International's aspartame import and export analysis, which is contributed by the increase in export volume to Ireland, which was about 580 tonnes, up about 40% over the first eight months of 2010.

However, ACT may have to market more of Sinosweet's aspartame in the UK, where it only sold about 20 tonnes in the first eight months of 2011, down about 80% over the same period of 2010.

FIGURE 5: Export volume's proportion of Chinese aspartame in the EU, Jan. 2011-Aug. 2011



Source: CCM International



Shengxiangyuan puts stevia sweetener production line into trial production

In October 2011, Shengxiangyuan Biological Technology Co., Ltd. (Shengxiangyuan), a stevia sweetener producer, put its stevia sweetener production line with a total capacity of about 750t/a into trial production in Qufu City, Shandong Province.

According a report from the Government of Qufu City, Shengxiangyuan spent USD24.74 million (RMB160 million) to construct a new stevia sweetener production line which was put in trial production in October 2011. In terms of a manager from Shengxiangyuan, the new production line with a total capacity of about 750t/a, includes 250t/a of high purity products, such as RA95, RA97 and varieties with even high purity, as well as 500t/a of low purity products. And the new production line will be formally put into production in Dec 2011. Upon completion of the project, Shandong Qufu Xiangzhou Stevia Products Co., Ltd. (Shandong Xiangzhou), the parent company of Shengxiangyuan, may become a leading company in the stevia sweetener industry in China, attributed to the fact that its capacity of high purity stevia sweeteners will reach 600t/a and the total capacity of stevia sweeteners will amount to 2,500t/a.

Shandong Xiangzhou will grow into a strong competitor in the expanding market of high purity stevia sweeteners because the new production line is going to increase its capacity of high purity stevia sweeteners, which is helpful for the company to seize more market share. The following two reasons are majorly responsible for Shandong

Xiangzhou's capacity expansion.

On one hand, Shandong Xiangzhou believes in the stevia sweetener industry's bright future and hopes to take this opportunity to enlarge its business. As a natural sweetener, stevia sweetener boasts excellent sweetness. Furthermore, its price of unit sweetness is only USD345/t in September 2011, much less than sucrose's USD1,169/t. Stevia sweetener has been widely accepted by downstream enterprises as a new type of sweetener in the past few years. A manager from Shandong Xiangzhou, Mr. Zhuo said that stevia sweeteners, especially high purity ones, have been more and more extensively used in the food, beverage, health care product industries now. Thus, the growing demand for stevia sweetener is boosting domestic stevia sweetener industry.

On the other hand, Shandong Xiangzhou expressed that high purity stevia sweeteners are popularly received in overseas countries because its premium quality meets foreign consumers' demand. At present, the US is the largest export destination of Chinese stevia sweetener. And after EU's approval for stevia sweetener which is expected to be launched by the end of 2011, the EU, together with the US, will turn into a major consumption destination of high purity stevia sweeteners in the coming years. Mr. Zhuo revealed that in order to expand business in overseas countries, the company is recruiting more agents in the US and looking for new agents in the EU. But, EU agents are unwilling

to work with Shandong Xiangzhou in consideration of the possibility that the producer's limited capacity of high purity stevia sweeteners will incur supply shortage of the products.

However, Shandong Xiangzhou is likely to be confronted with fierce competitions since it doesn't bear impressive advantages in product quality or capacity. Besides Shandong Xiangzhou, three other major domestic producers including GLG Life Tech Corporation (GLG), Shandong Huaxian Stevia Co., Ltd. (Shandong Huaxian) and Shandong Haigen Stevia Products Co., Ltd. (Shandong Haigen) are engaged in the production and export of high purity stevia sweeteners such as RA80, RA95 and varieties with even high purity. At the same time, they expect the current international market demand for high purity stevia sweeteners to continue growing, especially after the opening of stevia sweetener market in the EU. And they revealed that they had no intentions of expansions now, but would keep developing their high purity productions in the future. The three companies will serve as a huge threat to Shandong Xiangzhou in sales volume and market share.

All in all, development of high purity stevia sweeteners may be the direction of related domestic producers in the future as the market is inclined to adopt more high purity sweeteners. It is believed that more and more small producers will expand their capacities of high purity stevia sweeteners.

QHT's Q1-Q3 net profit loss narrows

According to Jiangmen Quantum Hi-tech Biological Co., Ltd. (QHT)'s third quarterly report of 2011, the decline of its net profit loss in the first three quarters of 2011 was narrowed owing to a small decrease of sucrose price and increase of its sales value.

In the first three quarters of 2011, the

revenue of QHT was about USD16.15 million, up 15.94% over the same period last year, and its net profit was about USD2.90 million, down 25.32% year on year. Actually, though the net profit was still at a loss, the decline was narrowed: in light of QHT's semi-annual report of 2011, the net profit of QHT in H1 2011 was about USD1.47 million, decreasing

by 48.30% over H1 2010. Because the net profit of QHT in Q3 2011 increased by about 36.71% over Q3 2010, the net profit loss was narrowed in the first three quarters of 2011.

Sucrose price decrease and sales value increase were the major reasons for the decline in QHT's net profit loss. And



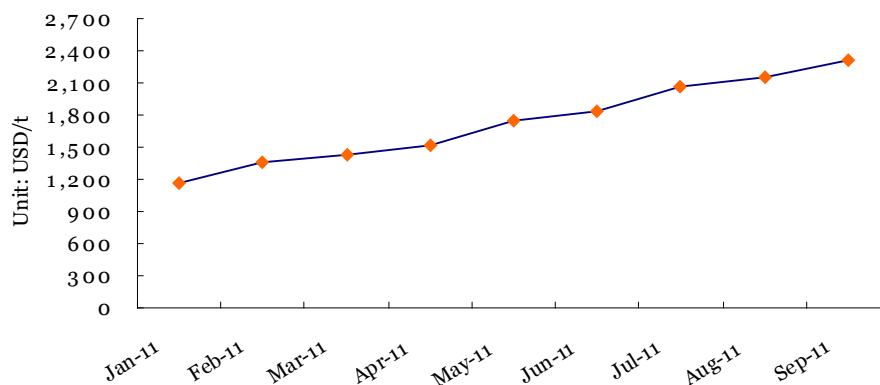
QHT declared that the small decrease of sucrose price benefited the net profit in the third quarter of 2011. In fact, the revenue of a major product of QHT, fructo-oligosaccharide (FOS), accounted for 70% of the company's total revenue in 2010. Furthermore, FOS is made from sucrose, therefore, sucrose's price fluctuation can directly affect FOS' gross margin. On 16 August 2011, domestic sucrose price has reached the highest point so far, which was about USD1,226.29/t. Then the sucrose price continued to decrease, which was about USD1142.65/t at the end of October, down 6.82% over the highest price. Hence, price decrease of sucrose reduces parts of QHT's raw material costs, favoring the decline in its net profit loss.

QHT increased its total sales value by raising market prices, selling more products with high gross margin and strengthening the sales management in the third quarter of 2011. According to Ms. Gan, a staff from QHT's bond department, the company raised the market price of most of its products in order to abate the impact of raw material price increase. Besides, QHT spared no effort to increase the sales of products with high gross margin, such as FOS and galacto-oligosaccharide (GOS) powder, gross margins of which are more than 70%. Moreover, QHT improved the sales plan and after-sales service of primary salesmen to maintain current clients and explore new customers.

Given the fact that the net profit of QHT is still at a loss now, QHT pays more attention to end products in 2011, which may serve as a new profit growth point for QHT in the future. On one hand, QHT formally successfully closed a cooperation with Jiangmen Sheng He Tang Foodstuffs Co., Ltd. (Sheng He Tang), a tortoise jelly producer in China, on 17 October 2011 so as to extend its industry chain to downstream areas through Sheng He Tang's outstanding sales network. On the other hand, QHT has begun looking for distributors since October 2011 for its new end product: Honey Refined OLIGO containing oligosaccharide. Because the end product can bring considerable profits to QHT in accordance with Mr. Gan, the company's performance is expected to become better in the future.

However, QHT may also face some challenges in the future. For example, lactose price is likely to increase in the next few months. Lactose is the raw material of GOS, a product with the highest gross margin of QHT, and its price has been growing since January 2011 (FIGURE 6). Actually, most lactose used in China relies on import, so the price of Chinese lactose is apparently affected by price fluctuations of lactose from foreign countries. Yet, it is reported that the output of US lactose decreased noticeably in the off seasons of milk, such as August, September and October. So lactose price is likely to increase in the future, which may lift up the cost of QHT.

FIGURE 6: Market price of lactose in China, Jan. 2011-Sept. 2011



Source: CCM International

Anhui VitaSweet launches an acesulfame-K project with capacity of 5,000t/a

According to Suzhou Economic and Technological Development Zone in Suzhou City, Anhui Province, Anhui VitaSweet Co., Ltd. (Anhui VitaSweet) launched an acesulfame-K project with capacity of 5,000t/a in October 2011.

Anhui VitaSweet, a subsidiary of Beijing VitaSweet Co., Ltd. (Beijing VitaSweet), one major acesulfame-K producer in China with total capacity of 1,200t/a in 2010, invested about USD15.46 million to build a new acesulfame-K production line in Suzhou Economic and Technological

Development Zone in mid 2010. And the construction of this new production line has been finished in October 2011 with acesulfame-K capacity of 5,000t/a and magnesium sulfate capacity of 20,000t/a as by-product, meaning that Beijing VitaSweet's capacity of acesulfame-K has been increased from 1,200t/a to 5,000t/a.

Factory relocation may be the major reason for Beijing VitaSweet to build the new production line. It is reported that Beijing VitaSweet had to move its factory from Beijing City due to

environmental issues. In fact, Beijing VitaSweet is originally located in Pinggu District, Beijing City. However, Pinggu government has been strengthening supervision over environmental protection in recent years. Therefore, some chemical plants in the district were requested to move out of Beijing since 2010, including Beijing VitaSweet. At present, Beijing VitaSweet's factory has been moved to Suzhou, though the sales office is still in Beijing.

Besides, the acesulfame-K project can assist Beijing VitaSweet in enhancing



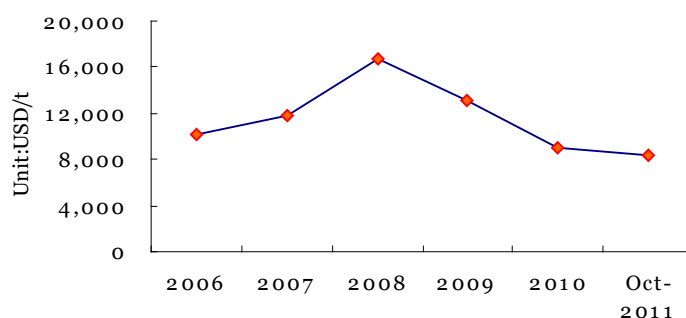
its competitiveness. In terms of *CCM International's report of Survey of High Intensity Sweeteners in Asia Pacific*, Beijing VitaSweet was the second largest acesulfame-K producer in China by capacity in 2010, which was about 1,200t/a. At present, the company's capacity of acesulfame-K is 5,000t/a, up about 316% over 2010. A manager of Suzhou Hope Technology Co., Ltd. (Suzhou Hope), the biggest acesulfame-K producer in China located in Suzhou City, Jiangsu Province with capacity of 10,000t/a at present, pointed out that it was necessary for Beijing VitaSweet to expand its capacity of acesulfame-K. As the average market price of acesulfame-K has fallen to a low level, about USD8,348/t in October 2011, down 50.13% over that in 2008 (FIGURE 7), if Beijing VitaSweet chooses to increase its capacity of acesulfame-K now, the company's competitiveness can be greatly enhanced.

December is a peak season for acesulfame-K's sales owing to distributors' stocking of the product at the end of every year. And it is estimated that the market price of

acesulfame-K may increase a little in the last two months of 2011 and keep stable in H1 2012. However, it is likely to decrease in H2 2012 owing to the launch of a new acesulfame-K expansion project with capacity of 5,000t/a, expected to be finished in June 2012. The project belongs to Anhui Jinhe Industrial Co., Ltd. (Anhui Jinhe), a major acesulfame-K producer in China with capacity of 4,000t/a in October 2011. After the launch, the acesulfame-K capacity of Anhui Jinhe will reach 9,000t/a.

Beijing VitaSweet is a High Intensity Sweetener producer in China with two production bases in Anhui and Jiangsu. Specifically, the one in Anhui is called Anhui VitaSweet which focuses on acesulfame-K's production. And Jiangsu Liyang VitaSweet Biological Engineering Co., Ltd. and Jiangsu Liyang Weixin Chemical Co., Ltd. are the two bases in Liyang City, Jiangsu Province, majorly engaged in the production of aspartame and sucralose.

FIGURE 7: Average market price of acesulfame-K in China, 2006-2010 & Oct. 2011



Source: CCM International

Layn revises performance in the first three quarters of 2011

On 15 October 2011, Guilin Layn Natural Ingredients Corp. (Layn) published a notice to revise its performance in the first three quarters of 2011, which explains that the company's net profit gets worse than expected.

In light of the latest revision of Layn, the loss of net profit may rise from USD4.638 million to USD5.411 million in the first three quarters of 2011, while it was expected to grow from USD3.092 million to USD3.865 million in the last forecast about semi-annual report.

The fact that sales of main business has not increased may be the key reason of Layn's net profit loss. In accordance with Mr. Tang, a staff of Layn's bond department, orders of plant extract, the company's main business, have not achieved the intended goal in the first three quarters of 2011. As he further

explained, the poor performance was caused by the economic recessions in the EU and US, which consume a large part of Layn's 90% exported products.

Besides, Layn's expected cooperations with major customers have been delayed. In terms of Mr. Tang, though the company has been struggling to win opportunities to cooperate with major customers, it never practically succeeded in realizing one. Compared with Layn, one of its competitors in the monk fruit extract segment—Guilin GFS Bio-tech Co., Ltd. (Guilin GFS) does better in the aspect in question. For example, in April 2011 Guilin GFS' parent company—BioVittoria Ltd., a monk fruit extract producer, has entered into a five-year strategic partnership agreement with Tate & Lyle PLC (Tate & Lyle), a leading sweetener producer in the world. In correspondence with the agreement, Guilin GFS will supply monk

fruit extract to Tate & Lyle. And this event indicates Layn's need to cooperate with major customers in order to ensure sales.

Moreover, Layn's gross margin failed to rise according to the latest revision of Layn. And Mr. Tang explained that price increase of most plants, such as monk fruit, poses pressure to Layn's gross margin. Besides, Ms. Li, a salesman of Changsha Huajin Biotechnology Co., Ltd. which is a small-sized plant deep processing producer, claimed that some companies' loss and declining orders are caused by price increase of raw material.

In addition, fiscal charges of Layn's other businesses increased in the first three quarters of 2011. In fact, Guilin Layn Investment Co., Ltd. (Layn Investment), a subsidiary wholly owned by Layn, won the bid of a large flood control project in January 2011. In



order to collect enough fund for the project, Layn successfully applied for a handsome loan from a bank, and the financial cost increased a lot against the background of the national tightening monetary policy, resulting in a loss more than the expected number in the first three quarters of 2011.

Accordingly, Layn will minimize the loss by strengthening its sales in overseas market. At present, Layn aims at new markets, such as the EU and the US. On one hand, the company has previously established a new subsidiary—Layn USA, Ltd. in the US in August. Meanwhile, Layn has got the certificate s of GRAS (Generally Recognized As Safe)

of fruit extract and stevia extract from the US Food and Drug Administration (FDA) in April 2011 and July 2011 respectively. So Layn expects to get more orders through the new subsidiary and those certifications.

On the other hand, Layn also targets at the market of stevia sweeteners with high purity in the EU, which is expected to open at the end of 2011. And the company will continue to promote its stevia sweeteners in the EU and begin exploring new customers in the future.

It is estimated that Layn's performance may not turn better in the next two months of 2011. But the two natural

sweeteners, monk fruit extract and stevia extract, which are more and more popular in overseas market, may help Layn expand its business and reduce net profit loss next year.

As a plant extract producer in China, Layn has been focusing on natural botanical ingredients, including grape seed extract, monk fruit extract, rhodiola rosea extract, cowberry extract, medlar extract, star anise extract, stevia extract, etc., among which monk fruit extract and stevia extract are the two future directions of Layn.

Xiwang Sugar's gross margin of crystalline fructose decreases in Q3 2011

According to Xiwang Sugar Holdings Limited (Xiwang Sugar)'s operational performance in Q3 2011, its gross margin of crystalline fructose decreased in Q3 2011 due to price increase of corn, but it is estimated that the gross margin will increase after corn harvest in Q4 2011.

Actually, there are only three crystalline fructose producers in China, and Xiwang Sugar is the largest one, accounting for 54% of the total output and 86% of the total capacity in 2010, indicating that the company's performance can almost reflect the industry's general situation in China.

In Q3 2011, crystalline fructose's sales volume growth rate was much larger than those of any other main products of Xiwang Sugar, and its sales volume reached about 4,531 tonnes, up about 67.3% over the same period last year (TABLE 4). Besides, average ex-factory price of crystalline fructose also increased in Q3 2011, which was about USD1,323/t including tax (USD1,131/t before tax), up about 17.4% over Q3 2010. Yet, the gross margin of crystalline fructose decreased to 18.6%, down 3.2% over Q3 2011.

Ms. Sun, a representative of Xiwang Sugar's bond department, explained that

the increasing corn price led to the gross margin decrease of crystalline fructose. And Xiwang Sugar's average cost of corn reached about USD357/t including tax (USD316/t before tax) in Q3 2011, which increased by about 17.7% over Q3 2010. In fact, most corn is harvested in October every year in China, and the corn stock is quite small before harvest. Therefore, corn supply was tight and corn price continued to rise in Q3 2011. For instance, so far domestic average market price of corn reached the highest level in Q3 2011. Average market price of corn in Changchun, one main corn-producing area, was about USD290/t at the beginning of 2011, while it increased

TABLE 4: Xiwang Sugar's operational performance, Q3 2011

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

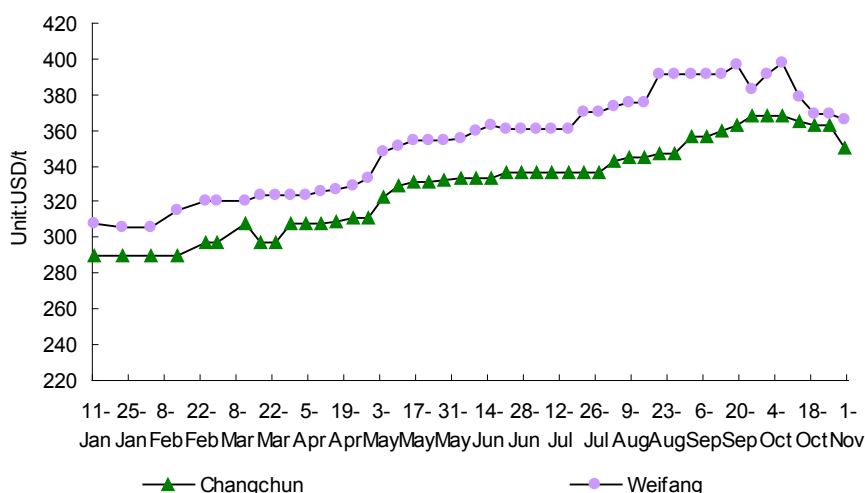
Source: Xiwang Sugar's operational performance in Q3 2011

to about USD368/t in the latest October (FIGURE 8). However, Xiwang Sugar only raised 17.4% of crystalline fructose's market price to transfer part of the high cost of corn and it shouldered the rest by itself in consideration of the possibility that over-high price level of crystalline fructose is not acceptable to downstream customers. Thus, crystalline fructose's gross margin of Xiwang Sugar decreased in Q3 2011.

Nonetheless, crystalline fructose's gross margin is expected to increase in Q4 2011. On one hand, Ms. Sun expressed that corn price would decrease in Q4 2011, which would benefit the gross margin increase of crystalline fructose. And Xiwang Sugar predicts the average price of corn will decrease by 10% from its peak in Q3 2011. As a matter of fact, in October 2011, the price of corn witnessed a downtrend since new corn was put on the market. For example, the average market price of corn dropped to USD378/t on 19 October from USD389/t on 19 September. Moreover, the tendency is expected to remain in the next few months.

Besides, Ms. Sun added that Xiwang Sugar would lay more focus on retailing

FIGURE 8: Market price of corn in Changchun and Weifang, Jan. 2011-Oct. 2011



Note: Weifang City is also a major corn-producing area in China.
Source: CCM International

crystalline fructose in small packages, whose gross margin is considerable, in the hope to increase the overall gross margin of crystalline fructose in the future. Currently, the company has promoted YOHO, the name of its retailing crystalline fructose, in Beijing's supermarkets. And Xiwang Sugar will continue marketing the product as much as possible in the future, accelerating

the gross margin growth of crystalline fructose.

Raw Material Supply

Shandong Lvjian's xylose project launched

According to the website of Shandong Lvjian Biological Technology Co., Ltd. (Shandong Lvjian), a major xylitol producer in China, its xylose project with capacity of 5,000t/a was launched on 28 September 2011 (PICTURE 1), which may ensure the raw material supply of xylitol.

In fact, CCM International proved from Lishu Economic Cooperation Bureau that the xylose project was acquired by Shandong Lvjian in June 2011 from

Siping Hongzui Group several years ago, an enterprise focusing on metallurgy, machinofacture, food processing and farming. And the project contains a xylose production line with 5,000t/a capacity and corollary equipment in Lishu District, Siping City, Jilin Province.

The main purpose of the above acquisition is to ensure the xylose supply for Shandong Lvjian's xylitol production. In correspondence with Ms.

Zuo, a salesman of Shandong Lvjian, the company had been purchasing xylose from other xylose producers before launch of the new xylose project. And all xylose produced by the new project will be used in Shandong Lvjian's xylitol production as raw material.

In terms with CCM International's report *Production, Market and Manufacturing Cost of Sugar Alcohols in China*, Shandong Lvjian's capacity of xylitol was about

6,000t/a in 2010, while the capacity of xylose was merely 3,000t/a before the new project's launch. Because about 1.1 tonnes of xylose can produce about 1 tonne of xylitol, it is estimated that Shandong Lvjian needs about 6,600 tonnes of xylose annually as raw material to produce xylitol. Therefore, the company's previous capacity of xylose is not able to satisfy the need for production. That is why Shandong Lvjian decides to expand its capacity of xylose.

After launch of the new xylose project, Shandong Lvjian may better control the production cost of xylitol. Previously, xylose relied on outsourcing; the company was directly restrained by the price fluctuation of xylose. In accordance with Ms. Wang, a salesman of Shandong Lvjian, the price of xylose has been increasing since 2010, raising

the production cost of xylitol. For example, the market price of xylose was about USD2,135/t in January 2010 and it rose to USD2,858/t in October 2010 and more than USD3,092/t in October 2011. The constant price growing is directly caused by the price rise of its raw material—corn cob and additional fee of environmental management. Under this circumstance, to acquire a xylose production line may assist Shandong Lvjian in reducing the negative effect from price increase of xylose.

Besides, the xylose project can strengthen Shandong Lvjian's competitiveness in xylitol's raw material supply. Actually, the company is the fourth largest xylitol producer in China, ranking only after Shandong Futaste Pharmaceutical Co., Ltd., Zhejiang Huakang Pharmaceutical Co., Ltd. and

Shandong Longlive Bio-technology Co., Ltd., which are also leading xylose producers and self-sufficient in their xylitol supply. In fact, domestic xylose supply is tight sometimes when the demand exceeds the supply. And the new xylose project can supply sufficient raw material for xylitol production, which can strengthen Shandong Lvjian's competitiveness.

Shandong Lvjian is a major maltitol and xylitol producer located in Yucheng City, Shandong Province, whose capacities of xylitol and maltitol were about 6,000t/a and 10,000t/a respectively in 2010.

PICTURE 1: The ceremony of Shandong Lvjian's xylose project, 28 September 2011



Source: http://www.maltitol.com.cn/news_detail/newsId=8ecafc5a-188b-4a2c-9d06-33f70610667a&comp_stats=comp-FrontNews_list01-1262008627433.html

Price Update

Ex-factory prices of China's sweeteners in October 2011

According to CCM Internationals investigation, the average quotation of acesulfame-K from different manufacturers was USD8,942/t in Oct. 2011. For instance, Suzhou Hope Technology Co., Ltd. and Beijing VitaSweet Co., Ltd. quoted their prices of acesulfame-K at USD8,506/t and USD8,978/t in Oct. 2011 separately, down 1.82% and 5% respectively over those in last month, in terms of their sales managers. Both managers revealed that the price of acesulfame-K would probably decline in the next two months, attributed to the fact the product's business is entering a dull season.

Furthermore, the average price of glycyrrhizin (tripotassium glycyrrhinate) was USD17,017/t in Oct. 2011, increasing by 10.07% over last month. For example, Fanzhi Pharmacy Group (Fanzhi), a leading glycyrrhizin processor based in China, says that it is the constant and considerable price rise of liquorice (raw material of glycyrrhizin) in the past few months that is mainly responsible for glycyrrhizin's price increase. Besides, the sales manager from this company predicts that if the price of liquorice keeps going up, glycyrrhizin price may maintain an uptrend in the future.

TABLE 5: Ex-factory prices of Chinese sweeteners, October 2011

No.	Products	Price in October 2011	Price in September 2011	Sweetness compared with sucrose	Price of unit sweetness in October 2011	Growth rate of price
		(USD/t)	(USD/t)		(USD/t)	
1	Sucrose	1,160	1,154	1.00	1,160	0.54%
2	Steviol glycosides (RA95)	149,164	144,809	450.00	331	3.01%
3	Sucralose	102,419	99,717	600.00	171	2.71%
4	Acesulfame-K	8,942	9,029	200.00	45	-0.96%
5	Aspartame	17,120	17,006	200.00	86	0.67%
6	Glycyrrhizin (Tripotassium glycyrrhinate)	17,017	15,460	150.00	113	10.07%
7	Saccharin	5,680	6,091	300.00	19	-6.75%
8	Cyclamate (NF13)	2,403	2,319	30.00	80	3.62%
9	Neotame (98%)	93,754	91,214	8,000.00	12	2.78%
10	Erythritol	4,826	4,793	0.65	7,425	0.70%
11	Mannitol (Food grade)	3,572	3,401	0.70	5,102	5.01%
12	FOS (Fructooligosaccharide)	7,863	8,194	0.30	26,209	-4.04%
13	XOS (Xylooligosaccharide 95%)	37,818	38,650	0.40	94,545	-2.15%
14	Maltose syrup (80%)	487	462	0.90	541	5.41%
15	Sorbitol (70%)	644	634	0.70	920	1.58%
16	Xylitol (68%, Liquid)	939	915	0.90	1,043	2.62%
17	HFCS (Fructose: 42%)	509	495	1.00	509	2.83%
18	HFCS (Fructose: 55%)	652	635	1.10	593	2.68%
19	Crystalline isomaltitol	5,027	4,851	0.55	9,140	3.63%
20	Maltitol (75%, Liquid)	754	739	0.90	838	2.03%
21	Anhydrous glucose (Food grade)	833	845	0.74	1,126	-1.42%
22	Glucose monohydrate	621	626	0.74	839	-0.80%
23	Crystalline maltitol	3,020	2,736	0.35	8,629	10.37%
24	Crystalline sorbitol	1,032	1,051	0.50	2,064	-1.84%
25	Crystalline xylitol	4,727	4,844	1.20	3,939	-2.41%

Note: The price is an average of different manufacturers' quotations inc. VAT.

Source: CCM International

Import & Export Analysis

Import & export analysis of China's xylitol in Jan.-Sept. 2011

Export analysis (TABLE 6)

According to the following table, the export volume of Chinese xylitol from Jan. to Sept. 2011 totally reached 12,748.54 tonnes, increasing by 5.31% year to year. At the same time, the export value of xylitol also grew by 34.94% year to year. Thanks to the raw material price rise this year, the average export price of xylitol witnesses an uptrend. The latest data shows that the average export price of xylitol increased from USD2,922.76/t in Jan. to USD3,357.61/t in Sept. 2011, up 14.89%. If the export price of xylitol keeps rising, its export volume will be limited or even go down in the near future.

TABLE 6: Export overview of xylitol in China, Jan.-Sept. 2011

Month	Export volume, tonne	Export value, USD	Price, USD/t	Yearly growth rate of volume	Yearly growth rate of value
Jan-11	1,001.35	2,926,706	2,922.76	-20.65%	-6.98%
Feb-11	1,271.22	3,934,452	3,095.02	26.90%	58.04%
Mar-11	1,430.93	4,372,147	3,055.46	-10.78%	12.00%
Apr-11	1,634.32	5,196,826	3,179.81	6.10%	33.97%
May-11	1,577.18	5,055,513	3,205.41	-3.65%	26.13%
Jun-11	1,212.38	3,915,151	3,229.32	-1.29%	30.03%
Jul-11	1,622.19	5,378,657	3,315.68	28.11%	63.54%
Aug-11	1,657.39	5,566,256	3,358.45	16.56%	52.78%
Sep-11	1,341.59	4,504,540	3,357.61	17.25%	55.13%
Total	12,748.54	40,850,248	3,204.31	5.31%	34.94%

Source: China Customs

Major export destinations (TABLE 7)

Total export volume of China's xylitol was 1,341.59 tonnes in Sept. 2011, decreasing by 19.05% over Aug. 2011. Japan, the US, Turkey and South Korea are the top four export destinations of China's xylitol, whose total import volume reached 1,069.6 tonnes, accounting for 79.72% of the total export volume in China in Sept. 2011. But, the export volume of xylitol to Turkey and South Korea witnessed a significant decrease, amounting to 180.00 tonnes and 129.20 tonnes, down 70.98% and 22.26% respectively in the month over those in Aug. 2011, majorly responsible for the decline in xylitol's total export volume in Sept. 2011.

TABLE 7: Export destinations of China's xylitol, Sept. 2011

No.	Destination	Export volume, tonne	Export value, USD	Monthly growth rate of volume	Monthly growth rate of value
1	Japan	387.80	1,247,424	16.95%	10.23%
2	The US	373.14	1,264,402	22.24%	19.18%
3	Turkey	180.00	639,844	-70.98%	-67.96%
4	South Korea	129.20	458,684	-22.26%	-24.18%
5	Poland	60.00	153,437	/	-0.10%
6	South Africa	36.00	147,848	227.27%	244.55%
7	Taiwan	36.00	99,758	89.47%	85.86%
8	Argentina	28.10	83,833	119.53%	106.40%
9	Germany	19.05	67,977	111.67%	135.61%
10	Norway	18.00	69,745	/	/
11	Others	74.30	271,588	-39.24%	-39.90%
—	Total	1,341.59	4,504,540	-19.05%	-19.07%

Source: China Customs

Major export provinces (TABLE 8)

In Sept. 2011, Shandong, Zhejiang and Jiangsu are the three primary provinces to export xylitol in China, with a total export volume accounting for 93.01% of the domestic total. Moreover, export volume of the first export province of xylitol, Shandong, fell from 1,150.76 tonnes in Aug. 2011 to 810.70 tonnes in Sept. 2011, down 29.55%.

TABLE 8: Major export provinces of China's xylitol, Sept. 2011

No.	Province	Export volume, tonne	Export value, USD	Monthly growth rate of volume	Monthly growth rate of value
1	Shandong	810.70	2,607,541	-29.55%	-32.26%
2	Zhejiang	376.95	1,350,527	-3.07%	4.25%
3	Jiangsu	58.00	178,209	39.51%	38.57%
4	Others	95.94	368,263	25.98%	25.78%
—	Total	1,341.59	4,504,540	-19.05%	-19.07%

Source: China Customs

Import analysis (TABLE 9)

China imported 575.80 tonnes of xylitol from Jan. to Sept. 2011, decreasing by 70.96% compared with the figure of 1,982.93 tonnes in the same period of 2010. The reason behind this is estimated to be the high price of xylitol in 2011, as the data of 2011 illustrates: the average xylitol price increased from USD1,741.40/t in 2010 to USD2,524.19/t in Jan.-Sept. 2011. And the trend is expected to remain in the near future, especially when the price stays at such a high level.

TABLE 9: Import overview of xylitol in China, Jan.-Sept. 2011

Month	Import volume, tonne	Import value, USD	Price, USD/t	Yearly growth rate of volume	Yearly growth rate of value
Jan-11	457.00	1,132,559	2,478.25	728.20%	915.49%
Feb-11	114.45	285,555	2,495.11	-69.63%	-53.27%
Mar-11	0.75	3,375	4,500.00	-99.79%	-99.42%
Apr-11	0.05	888	17,760.00	-99.95%	-99.62%
May-11	0.15	2,646	17,640.00	-99.96%	-99.54%
Jun-11	0.40	6,941	17,266.17	-99.88%	-98.94%
Jul-11	2.75	17,878	6,498.73	-99.06%	-96.06%
Aug-11	0.25	3,587	14,640.82	-99.71%	-97.25%
Sep-11	0.00	0	/	/	/
Total	575.80	1,453,429	2,524.19	-70.96%	-56.73%

Source: China Customs

Import & export analysis of China's cyclamate in Jan.-Sept. 2011

Export analysis (TABLE 10)

The total export volume of China's cyclamate was 19,343.85 tonnes from Jan. to Sept. 2011, decreasing by 7.62% over the same period last year. At the same time, the total export value was about USD36 million, reducing by 5.91%. Nevertheless, the export volume and value increased by 21.60% and 23.63% respectively in Sept. 2011 over Sept. 2010. As shown in the following table, the average export price of China's cyclamate has been fluctuating within a narrow range since Jan. 2011, and it increased from USD1,802.39/t in Jan. to USD1,838.13/t in Sept. 2011, up 1.98%. Moreover, the export price of China's cyclamate is expected to keep stable in the next few months.

TABLE 10: Export overview of cyclamate in China, Jan.-Sept. 2011

Month	Export volume, tonne	Export value, USD	Price, USD/t	Yearly growth rate of volume	Yearly growth rate of value
Jan-11	2,747.49	4,952,046	1,802.39	24.06%	25.34%
Feb-11	1,610.58	2,964,567	1,840.69	-0.99%	2.34%
Mar-11	2,453.93	4,542,836	1,851.25	-18.17%	-17.19%
Apr-11	2,040.66	4,002,779	1,961.52	-12.52%	-6.80%
May-11	2,262.62	4,176,949	1,846.07	-27.57%	-22.24%
Jun-11	2,166.20	4,122,458	1,903.09	-17.78%	-18.70%
Jul-11	2,119.97	3,865,889	1,823.56	-16.67%	-16.80%
Aug-11	2,143.29	3,862,630	1,802.20	7.95%	5.78%
Sep-11	1,799.13	3,307,031	1,838.13	21.60%	23.63%
Total	19,343.85	35,797,185	1,850.57	-7.62%	-5.91%

Source: China Customs

Major export destinations (TABLE 11)

South Africa, the Netherlands and Burma are the top three export destinations of China's cyclamate in Aug. 2011. Nonetheless, the export volume to these three destinations in Sept. 2011 are 366.00 tonnes, 147.70 tonnes and 132.00 tonnes, decreasing by 26.28%, 27.74% and 45.00% over Aug. 2011 respectively. In addition, the monthly growth rates of export volume to other countries declined too. Therefore, China's total export volume decreased by 16.06% in Sept. 2011 over Aug. 2011.

TABLE 11: Export destinations of China's cyclamate, Sept. 2011

No.	Destination	Export volume, tonne	Export value, USD	Monthly growth rate of volume	Monthly growth rate of value
1	South Africa	366.00	655,830	-26.28%	-25.95%
2	Germany	166.40	327,916	67.24%	70.23%
3	Brazil	154.82	301,729	-1.78%	10.14%
4	The Netherlands	147.70	293,805	-27.74%	-27.72%
5	Burma	132.00	209,819	-45.00%	-46.30%
6	Argentina	128.38	230,061	12.22%	14.70%
7	Pakistan	126.00	220,135	32.63%	42.16%
8	Malaysia	85.50	146,051	46.15%	46.64%
9	Chile	57.90	101,325	48.75%	34.49%
10	Uzbekistan	38.50	68,795	/	/
11	Others	395.93	751,565	-37.98%	-36.45%
—	Total	1,799.13	3,307,031	-16.06%	-14.38%

Source: China Customs

Major export provinces (TABLE 12)

Jiangsu, Guangdong and Shanxi are the top three export provinces of cyclamate in Sept. 2011 in China. However, the export volume of cyclamate in these provinces all witnessed decline by 21.21%, 14.27% and 34.04% over Aug. 2011 respectively. Hence, the total export volume of cyclamate fell in the month.

TABLE 12: Major export provinces of China's cyclamate, Sept. 2011

No.	Province	Export volume, tonne	Export value, USD	Monthly growth rate of volume	Monthly growth rate of value
1	Jiangsu	893.00	1,549,384	-21.21%	-20.41%
2	Guangdong	438.38	934,131	-14.27%	-9.82%
3	Shanxi	265.50	452,090	-34.04%	-36.20%
4	Others	202.25	371,426	110.68%	116.64%
—	Total	1,799.13	3,307,031	-16.06%	-14.38%

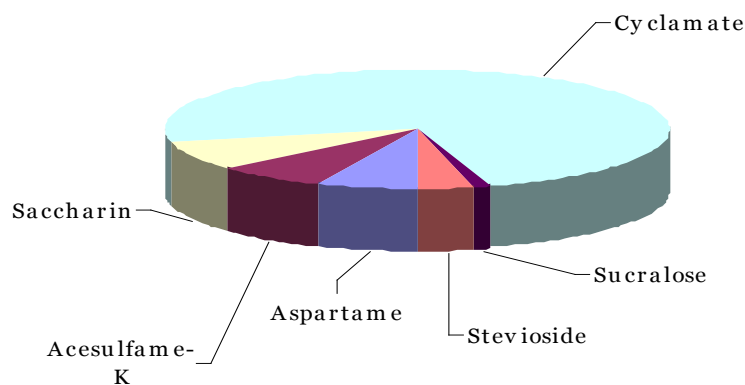
Source: China Customs

Consumption Trend & Competitiveness

About 21,000 tonnes of major High Intensity Sweeteners consumed in 2010

According to CCM International's latest consumption report of High Intensity Sweeteners (HIS), China consumed about 21,000 tonnes of major HIS, including aspartame, acesulfame-K, saccharin, cyclamate, sucralose and stevioside in 2010 (FIGURE 9). And the consumption volume of cyclamate was much larger than those of the other five HIS, accounting for more than 70% of the total consumption volume in 2010 thanks to its lowest price. In the future, it is estimated the consumption volume of major HIS will see an obvious increase owing to downstream industries' possible fast development in 2011 and 2012.

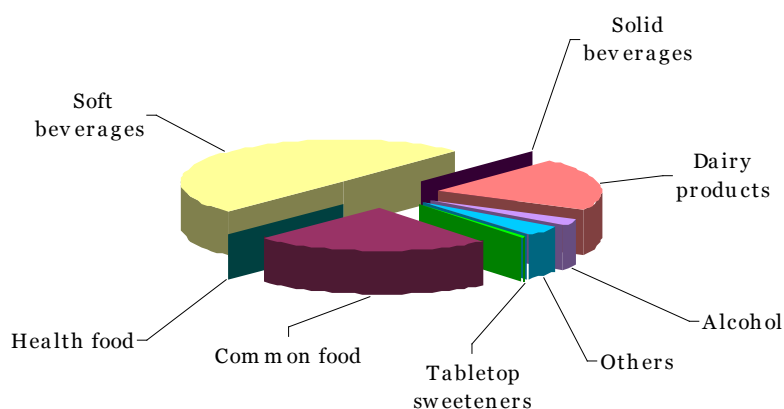
FIGURE 9: Proportion of High Intensity Sweeteners' consumption volume in China, 2010



Source: CCM International

About 96% output of major HIS was used in food and beverage segments (TABLE 13) in 2010. Additionally, three major downstream industries took up most share of HIS' consumption (FIGURE 10), including common food (confectionery, jelly, glace fruit, canned food, pickles, seasonings and baking food), soft beverages (carbonated beverage, juice beverage, tea beverage and coffee beverage) and dairy products (yogurt, milk beverage, pure milk, ice cream and desserts).

FIGURE 10: Proportion of major High Intensity Sweeteners' consumption in downstream industries by volume in China, 2010



Source: CCM International

Soft beverage industry is the largest downstream consumption field of sweeteners in 2010, covering all of the six major HIS. Moreover, cyclamate and acesulfame-K are the first and second largest consumed sweeteners in soft

TABLE 13: Downstream industries of major High Intensity Sweeteners in China, 2010

Food	Common food (including confectionery, jelly, glace fruit, canned food, pickles, seasonings, baking food)
	Tabletop sweeteners
	Health food
Beverages	Soft beverages (including carbonated beverage, juice beverage, tea beverage and coffee beverage)
	Solid beverages (including milk power and instant coffee)
	Dairy products (including yogurt, milk beverage, pure milk, ice cream and desserts)
	Alcohol (including rataree, distilled spirit and beer)
Others	Pharmaceuticals (including tablet, syrup, oral liquid and electuary)
	Chemical commodities (including toothpaste, lipstick and other oral care products)

Source: CCM International

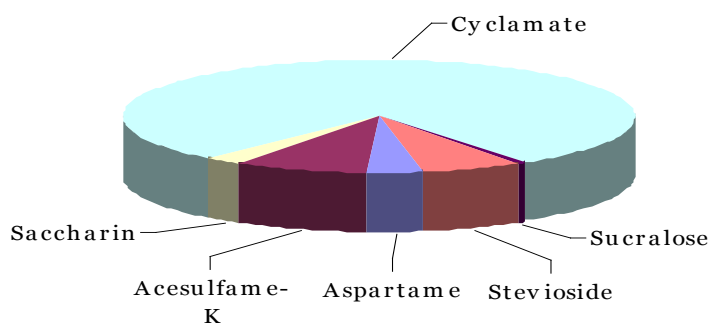
beverages, because they can reduce downstream producers' costs with lower prices. And stevioside is the third largest consumed sweetener thanks to the public's increasing awareness of health (FIGURE 11).

Domestic high sucrose price pushed beverage manufacturers to choose sweeteners over sucrose. As a matter of fact, domestic sucrose price has been increasing since October 2008, when it was about USD415.82/t. In order to reduce the cost of sucrose in soft beverages, more and more producers are using sweeteners, especially low-cost ones, such as cyclamate and acesulfame-K.

With the public's increasing awareness of health, soft beverages with low or even zero calorie are becoming more and more popular in China, attracting more beverage producers to launch sugar-free beverages. Take PepsiCo as a good example, the company started marketing Pepsi MAX, a sugar-free cola with aspartame, acesulfame-K and sucralose, in April 2009, indicating PepsiCo's belief in the promising future of sugar-free beverages. Besides, tea beverages, a branch of soft beverages, are the largest downstream consumption segment of stevioside, which is a natural extract from plant suitable to be used in tea beverages including traditional herbal tea.

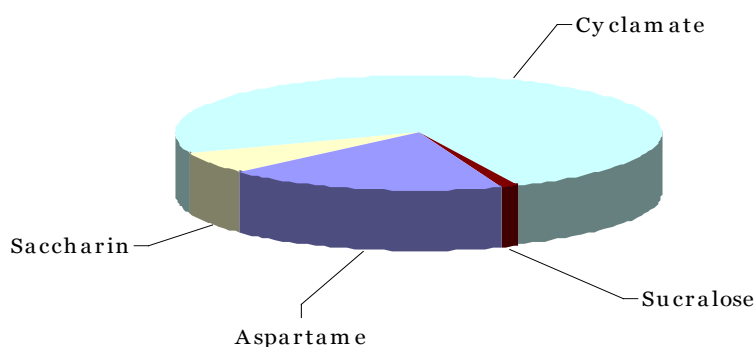
It is estimated that all of the six major HIS will be consumed more and more in 2011 and 2012 thanks to the speedy growth of domestic beverage industry. Furthermore, the market share of stevioside may increase in the soft beverage segment in 2011 and 2012. As a natural and zero-calorie sweetener, stevioside is getting more and more popular in 2011. For instance, GLG Life Tech Corporation (GLG), a world leader in the production of high quality stevia, successfully launched a series of zero-calorie and low-calorie beverages containing stevioside, such as carbonated drinks, juice milk, children's drinks, functional/health beverages, etc. So far, the sales volume of GLG's beverages has continued increasing,

FIGURE 11: Proportion of major High Intensity Sweeteners' consumption in soft beverages by volume in China, 2010



Source: CCM International

FIGURE 12: Proportion of major High Intensity Sweeteners' consumption in dairy products by volume in China, 2010



Source: CCM International

which may boost the market share rise of stevioside in 2011 and 2012.

In terms of the dairy product segment, cyclamate, aspartame, saccharin and sucralose are added to dairy products to replace sucrose, with the first two as the largest consumed sweeteners. Nevertheless, acesulfame-K and stevioside are hardly used in dairy products (FIGURE 12).

Similarly, dairy producers are also confronted with the cost pressure of sucrose, so some of them choose to add HIS to their products, especially cyclamate owing to its lower price. In fact, most cyclamate is applied in yogurt

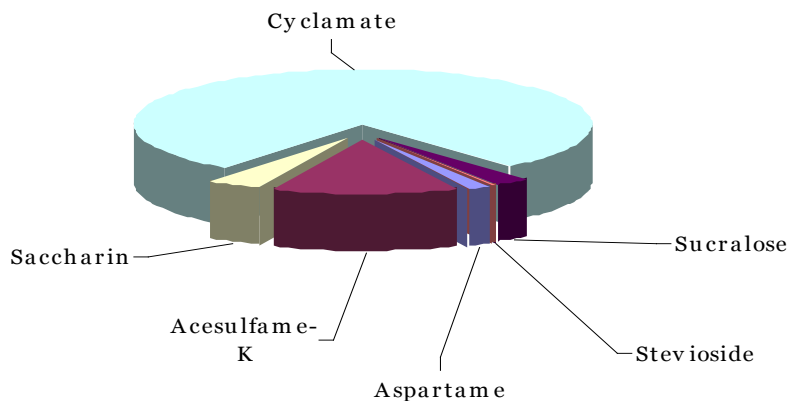
and ice cream. Besides, aspartame is mostly used in milk beverages. Take Hangzhou Wahaha Group Co., Ltd. (Wahaha), a leading beverage producer in China, as a good example, the company adds aspartame to its main product—Nutri-Express Drink, which is a new milk beverage that is contained with sweetener to replace parts of sucrose. As this product is quite popular among Chinese people, it has been appealing more producers to launch similar products.

It is predicted that the consumption of HIS will increase in the dairy product segment in 2011 and 2012 owing to the segment's rapid development. And it is

expected the market share of HIS with bad fame in safety, such as cyclamate and saccharin, in dairy products may decrease in consideration of the rising concern over dairy products' safety in recent years.

In the common food segment, jelly, glaze fruit, canned food, pickles and seasoning are the main downstream industries of HIS. In fact, glaze fruit and canned food consumed most of the sweeteners in 2010 (FIGURE 13). Cyclamate was majorly consumed in jelly, glaze fruit and canned food, and acesulfame-K was primarily consumed in canned food and seasoning. It is estimated that HIS' consumption may keep stable or increase slightly in 2011 and 2012 due to the steady output of common food.

FIGURE 13: Proportion of major High Intensity Sweeteners' consumption in common food by volume in China, 2010



Source: CCM International



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