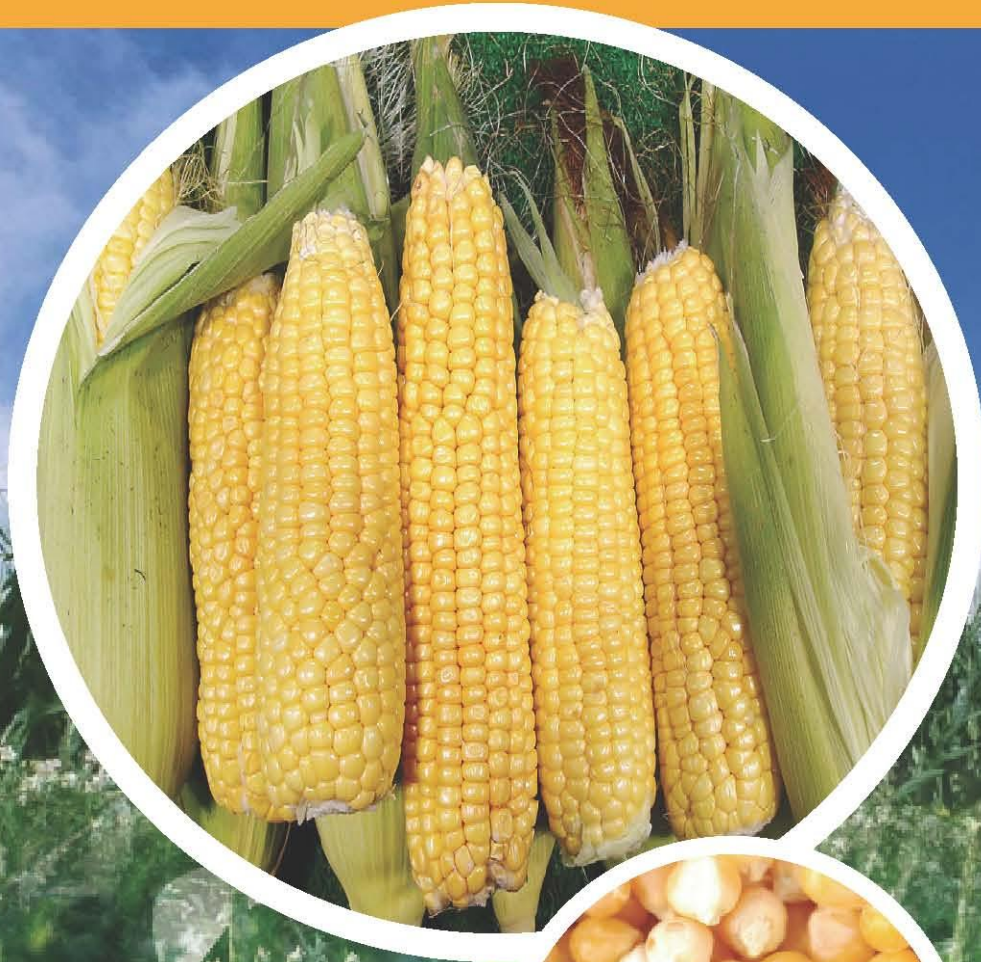


Corn Products China News 202210

Issue 10 October 31 2022





Contents

Headline	1
Editor's Note	3
Governmental Direction	4
Draft Industry Standard for N-Acetylneuraminic Acid released to solicit public opinion	4
Draft Association Standard for Special Maize Oil issued for public comment	7
Market Analysis	10
Six listed hog enterprises plan to expand hog production capacity	10
Progress of two alcohol projects	11
Company Dynamics	14
Bangji Technology officially listed on SSE	14
BBCA Group expanding presence in domestic bio-based material industry	17
Jindan Technology's Q3 revenue & net profit decline	19
Fufeng Group sees bullish financial results in H1	21
Import and Export	24
Chinese corn products Imp. & Exp., Aug. 2022	24
China's MSG exports in Jan.–Aug. register YoY growth	26
Price Update	30
Price update of corn products, Oct. 2022	30
Ex-works price of corn starch goes up	31
News in Brief	33
CASDE for Oct. 2022	33
Ingredion Shandong to prolong commissioning of 100,000 t/a modified starch project	33
Zhongneng Biotech: 300,000 t/a corn-based fuel ethanol project resumes construction	33
Ningxia Qiyu activates Ningxia Hypow's L-lactic acid production line	34
Utilisation of straw resources in China	34
Jiangsu Mupro's 3,500 t/a potassium citrate expansion project approved	34
BSD's 4,000 t/a modified starch project to be approved	35
Chifeng Huaheng's 50,000 t/a of bio-based succinic acid project put on record	35
Shandong Jintaihe's glucosamine salts development project	36
COFCO Biomaterial (Yushu)'s 30,000 t/a lactide project starts construction	36





Headline

On 13 Oct., the draft Industry Standard for N-Acetylneuraminic Acid was released with the aim of soliciting public opinion.

On 18 Oct., the draft Association Standard for Special Maize Oil was issued for public comment.

Given the rapid increases in live hog prices, six listed hog enterprises have proposed to expand hog production capacity to seize market share.

Two alcohol projects were publicised at the end of Sept.

On 19 Oct., Bangji Technology was officially listed on the Main Board Market of the SSE.

BBCA Group is actively expanding its business presence in the bio-based material industry across China by increasing its production capacities of lactic acid and PLA.

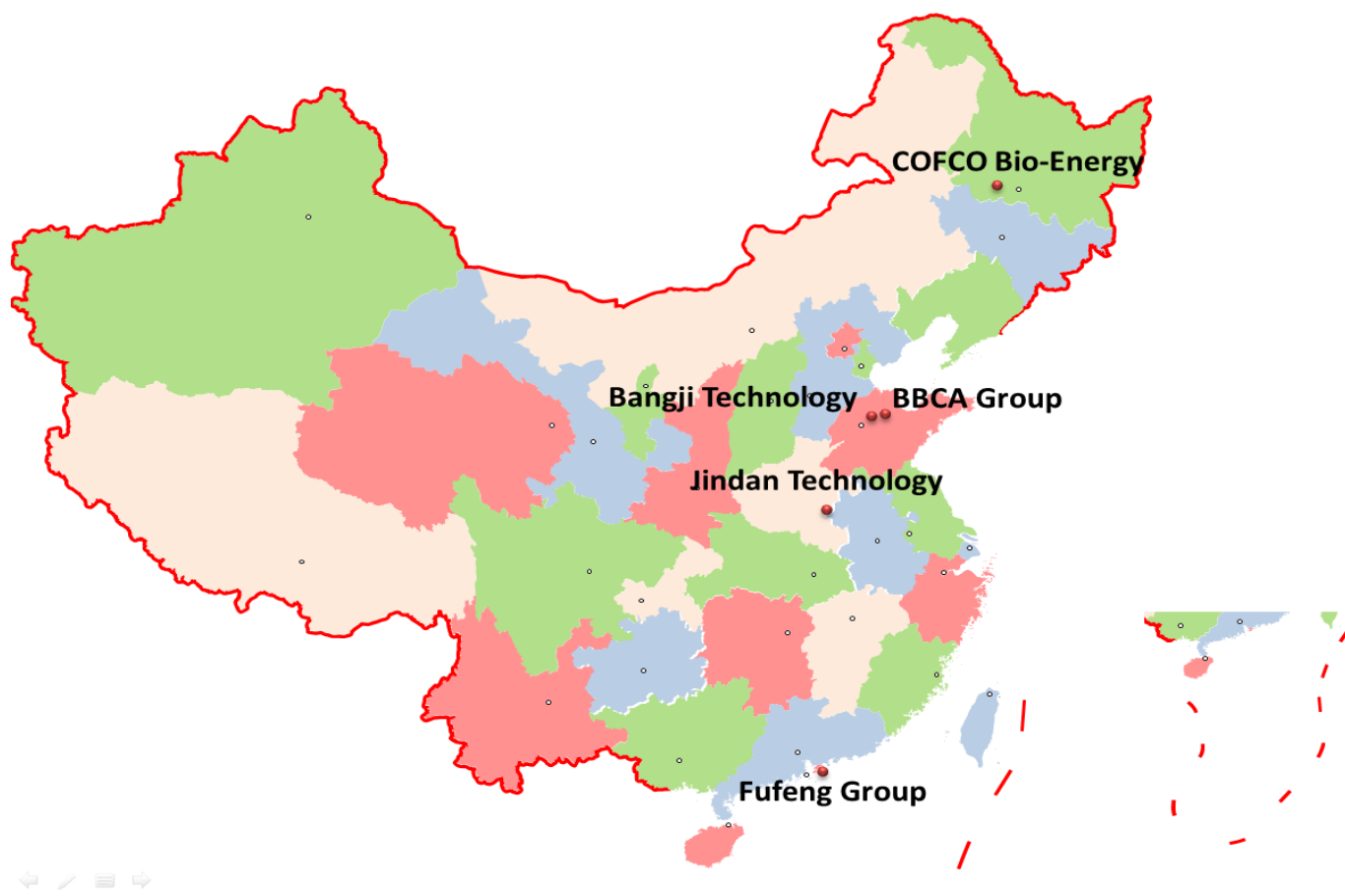
Jindan Technology's revenue and net profit in Q3 declined. Besides its application for issuing convertible corporate bonds to non-specific parties was accepted by the SZSE.

Fufeng Group's revenue, net profit and gross profit grew substantially in H1 2022.

China's export volumes and export prices of MSG in Jan.–Aug. 2022 rose over the same period of a year earlier.

In Oct., China's corn starch market rebounded. Higher production costs and demand pushed up the ex-works price of corn starch.







Editor's Note

In Oct., China's corn starch market rebounded. Higher production costs and demand pushed up the ex-works price of corn starch.

Policy

- On 13 Oct., the draft *Industry Standard for N-Acetylneuraminic Acid* was released with the aim of soliciting public opinion.
- On 18 Oct., the draft *Association Standard for Special Maize Oil* was issued for public comment.

Market Analysis

- Given the rapid increases in live hog prices, six listed hog enterprises have proposed to expand hog production capacity to seize market share.
- On 27 Sept., the introduction and environmental impact assessment (EIA) information of Zhaodong COFCO Bio-Energy's alcohol industrial chain upgrading project were disclosed for public participation. On 28 Sept., the completion and acceptance inspection report of completed environmental protection facilities of Xinxiang Xianfeng's 50,000 t/a alcohol & 50,000 t/a DDGS project was publicised.

Company Dynamics

- On 19 Oct., Bangji Technology was officially listed on the Main Board Market of the SSE.
- BBKA Group is actively expanding its business presence in the bio-based material industry across China by increasing its production capacities of lactic acid and PLA.
- Jindan Technology's revenue and net profit in Q3 declined. Besides its application for issuing convertible corporate bonds to non-specific parties was accepted by the SZSE.
- Fufeng Group's revenue, net profit and gross profit grew substantially in H1 2022.

Import and Export

China's export volumes and export prices of MSG in Jan.–Aug. 2022 rose over the same period of a year earlier.

The USD/CNY exchange rate in this newsletter is USD1.00=CNY7.0992 on 10 Oct. 2022, sourced from the People's Bank of China. All the prices mentioned in this newsletter will include the VAT, unless otherwise specified.





Governmental Direction

Draft Industry Standard for N-Acetylneuraminic Acid released to solicit public opinion

Summary: On 13 Oct., the draft *Industry Standard for N-Acetylneuraminic Acid* was released with the aim of soliciting public opinion.

On 13 Oct., the Industrial Fermentation Sub-technical Committee of the National Food Industry Standardisation Technical Committee issued a circular to solicit public opinion on the draft *Industry Standard for N-Acetylneuraminic Acid*. This standard is jointly drafted by the China National Research Institute of Food & Fermentation Industries Co., Ltd. and other units.

In 2017, the announcement of ten new food raw materials such as shea butter published by the National Health and Family Planning Commission, approved N-Acetylneuraminic acid as a new food raw material, meaning that it can be used in the development and utilisation of dietary supplements, but the announcement also pointed out clearly that use scope of N-Acetylneuraminic acid does not include infant food.

As the production and the application market of N-Acetylneuraminic acid is expanding and becoming stable, in order to protect the legitimate rights and interests of consumers and production companies, the industry is in urgent need of the establishment of industry standards that are suitable for the development of N-Acetylneuraminic acid industry in China to promote the healthy development of the industry. Based on the announcement of new food raw materials mentioned above, this standard puts forward higher requirements for the product quality of N-Acetylneuraminic acid, so as to drive the high-quality development of the industry.

Main content of *Industry Standard for N-Acetylneuraminic Acid*

-Scope

- This standard is issued for the first time. This standard specifies the term and the definition, requirements, test methods, inspection rules and marks, packaging, transportation and storage of N-Acetylneuraminic acid.
- This standard is applicable to the production, inspection and sale of N-Acetylneuraminic acid produced via the fermentation method.

-Definition

N-Acetylneuraminic acid, also known as N-acetyl-D-neuraminic acid or NANA, is an acidic amino sugar made from glucose and corn steep liquor by microbial fermentation, filtration, sterilisation, hydrolysis and purification, and it is also a member of sialic acids.

-Sensory requirements

- Colour: White
- State: Uniform powder or crystalline particles; no impurities visible by normal vision
- Smell: It has a slightly acidic smell and no peculiar smell

-Significance:

The implementation of this standard will solve the problem that there is no standard for N-Acetylneuraminic acid products at present,





effectively promote the orderly development of the N-Acetylneuraminic acid industry, improve the market competitiveness of domestic N-Acetylneuraminic acid products, and safeguard the legal rights of producers, operators and consumers.

N-Acetylneuraminic acid is found naturally in breast milk, dairy products and egg foods, and has the functions of improving infant intelligence and memory, resisting senile dementia, improving intestinal absorption of vitamins and minerals, antibacterial, detoxification and antiviral, etc. With more and more research on the biological function of N-Acetylneuraminic acid, its derivatives have been widely used in food, medicine and disease diagnosis.





TABLE 1: Comparison of technical indicators stipulated in N-Acetylneuraminic acid related standards and regulations

Item	This standard	2017 Announcement of new food raw materials	Draft National food safety standards for "Three New Food"	EFSA	FDA
N-Acetylneuraminic acid/(g/100g)	≥98	≥98	≥98	≥97	≥97
pH value (2% aqueous solution)	1.8–2.3	1.8–2.3	1.8–2.3	1.7–2.5 (20°C, 5% aqueous solution)	1.7–2.5 (20°C, 5% aqueous solution)
Water content/(g/100g)	≤2	≤2	≤2	≤12.5%	≤12.5%
Total ash/(g/100g)	≤2	≤2	≤2	≤0.2%	≤0.2%
Lead/(mg/kg)	≤0.8	/	≤0.8	/	/
Total arsenic/(mg/kg)	≤0.4	/	≤0.4	≤0.1	≤0.1
Total mercury/(mg/kg)	≤0.2	/	≤0.2	/	/
Iron (mg/kg)	/	/	/	≤20	/
Acetic acid (free acid or sodium acetate)	/	/	/	≤0.5%	≤0.5%
2-propanol	/	/	/	≤0.1%	/
Ethyl acetate	/	/	/	≤0.1%	/
Residual protein	/	/	/	≤0.01%	≤0.01%
Remaining endotoxin	/	/	/	≤10	≤10
Residual solvents	/	/	/	/	≤0.1% (free state) ≤0.3% (conjugated state)
Aflatoxin B1/ (µg/kg)	≤5	/	≤5	/	/
Total number of bacterial colonies/(CFU/g)	≤1000	/	≤1000	/	/
Mould/(CFU/g)	≤100	/	≤100	≤10	≤10
Yeast/(CFU/g)	≤100	/	≤100	≤10	≤10



Escherichia coli/(MPN/100g)	/	/	/	/	/
Coliform bacteria	≤3MPN/g	/	≤60MPN/100g	/	/
Staphylococcus aureus/(25g)	Not detected	/	Not detected	/	/
Salmonella/(25g)	Not detected	/	Not detected	Not detected	Not detected
The number of mesophilic aerobic bacterial colonies/(CFU/g)	/	/	/	≤500	≤500
Enterobacteriaceae/(10g)	/	/	/	Not detected	Not detected
Cronobacter (Enterobacter sakazakii)/(10g)	/	/	/	Not detected	Not detected
Listeria monocytogenes	/	/	/	Not detected/(10g)	Not detected/(25g)
Bacillus cereus/(CFU/g)	/	/	/	≤10	≤50

Note: "Three New Food" refers to new food raw materials, new food-related products and new food additives

Source: Industrial Fermentation Sub-technical Committee of the National Food Industry Standardisation Technical Committee

Draft Association Standard for Special Maize Oil issued for public comment

Summary: On 18 Oct., the draft *Association Standard for Special Maize Oil* was issued for public comment.

On 18 Oct., the Chinese Cereals and Oil Association (CCOA) issued the draft *Association Standard for Special Maize Oil* for public comment.

Background: Currently, China adopts the national standard *GB/T 19111–2017* for maize oil. This national standard plays an important role in the production, business operations and market regulation regarding maize oil. But driven by the national "Quality Grain & Oil Project" and the "China Good Grain & Oil Plan" launched in recent years, known maize oil-producing enterprises have been promoting their high-quality development through scientific and technological innovation and have innovated the technology for maize oil production and upgraded the product. On the basis of meeting the national standard for maize oil, they have developed a kind of maize oil that does not contain trans fatty acid. What's more, in terms of the contents of aflatoxin, zearalenone (ZEA), chloropropanol esters, plasticiser, etc., the product quality of this maize oil is higher than the national standard requires and even reaches the world's advanced level. Besides, the precise processing technology better retains the vitamin E and phytosterol in the maize oil, making the maize oil safer and more nutritious and thus providing quality maize oil for the market and consumers. In order to guide the industry to upgrade its technology and products in the field of maize oil processing, improve quality and efficiency, and meet the development needs of the industry, it is necessary to formulate the *Association Standard for Special Maize Oil*.

Drafting units: Changshouhua Food Company Limited, Henan University of Technology and Wuhan Polytechnic University



www.cnchemicals.com

Copyright Kcomber Inc.

E-mail: econtact@cnchemicals.com

**Main content:****-Scope:**

- This standard is formulated for the first time. This standard specifies the term and the definition, requirements, test methods, inspection rules and marks, packaging, transportation and storage of special maize oil.
- This standard is applicable to the production and sale of special maize oil.

-Definition:

Special maize oil: Edible oil product made from maize germ, which meets this standard and the national food safety standard.

-Significance:

Special maize oil is rich in vitamins, minerals and a large number of unsaturated fatty acids, mainly oleic acid and linoleic acid that can reduce cholesterol in serum, prevent arteriosclerosis and help prevent and treat "three highs", namely high blood pressure, high blood fat, high blood sugar, and complications to some extent. Therefore, maize oil is increasingly favoured by consumers. At present, it is of great practical significance to formulate the association standard for special maize oil as it is more in line with the needs of China's vegetable oil industry, and it helps promote the healthy development and improvement of the special maize oil industry, provide nutritious and healthy edible oil for the market, and protect the interests of the country, consumers and manufacturers.



TABLE 2: Indicators stipulated in Association Standard for Special Maize Oil

Item	Indicators
Colour	Ranging from pale yellow to yellow
Smell and taste	No peculiar smell and taste good
Transparency (20°C)	Clear or transparent
Content of water and volatiles/(%)	≤0.1
Content of insoluble impurities	≤0.05
Acid value (KOH)/(mg/g)	≤0.5
Preoxide value/(g/100g)	≤0.25
Freezing test (store in 0°C for 5.5h)	Clear or transparent
Residual solvents/(mg/kg)	Adopts the GB2716 standard
Vitamin E (α-tocopherol equivalents)/(mg/100g)	≥16
Phytosterol/(mg/100g)	≥700
Dibutyl phthalate (DBP)/(mg/kg)	≤0.3
Di(2-ethylhexyl)phthalate (DEHP)/(mg/kg)	≤1.5
Di-iso-nonyl phthalate (DINP)/(mg/kg)	≤9
Trans fatty acid/(g/100g)	≤0.3
Benzo[a]pyrene/(ug/kg)	≤8
Aflatoxin B1/(ug/kg)	≤15

Source:CCOA





Market Analysis

Six listed hog enterprises plan to expand hog production capacity

Summary: Given the rapid increases in live hog prices, six listed hog enterprises have proposed to expand hog production capacity to seize market share.

Hog prices started to rebound after plummeting in March, and surged during the National Day holiday in Oct. Due to the rapid increases in live hog prices, hog producers saw good results in Q3. Net profits of Tech-bank Food Co., Ltd. and Guangdong HAID Group Co., Ltd. soared 120.38% and 453.20%, YoY, respectively. Although most of the listed hog-producing enterprises haven't published their Q3 report yet, some have already made plans to expand their hog production capacity to seize market share.

Muyuan Foods Co., Ltd. (Muyuan Foods): Construction of some raising projects resumed

Muyuan Foods unveiled its latest records of investor relations activities on 19 Sept., and said the company's cash flow had improved since Q3 because of the rising hog prices, and it had resumed the construction of some raising projects. Its hog production capacity under construction is about 6 million head as of yet.

New Hope Liuhe Co., Ltd. (New Hope Liuhe): To acquire 21 live hog-raising projects

New Hope announced at the end of Sept. that it plans to establish a joint venture with Chengdu Tianfu Rural Development Group Co., Ltd. (Tianfu Rural Development Group) to develop the live hog breeding and raising business. Tianfu Rural Development Group, a wholly-owned subsidiary of Chengdu Xingcheng Investment Group Co., Ltd. (CXIG), is actually held by the State-owned Assets Supervision and Administration Commission of Chengdu City.

The registered capital of this joint venture, tentatively named Xingxin Agriculture and Husbandry Co., Ltd., is expected to be USD140.86 million (RMB1 billion), of which USD84.52 million (RMB600 million) will be contributed by Tianfu Rural Development Group and USD56.34 million (RMB400 million) by New Hope Liuhe. Both companies will pay in cash. Tianfu Rural Development Group and New Hope Liuhe will hold a 60% and 40% stake in the joint venture, respectively. This joint venture plans to acquire 21 hog breeding and raising projects which will be carried out in Sichuan Province, Chongqing City or other designated locations. Currently, CXIG has published 4 announcements of comparison and selection of acquisition of hog breeding and raising projects, signalling that the cooperation of CXIG and New Hope Liuhe is about to enter the practical stage.

New Hope Liuhe estimated that there will be 14 million live hogs ready for slaughter in 2022 and the figure is expected to increase to 18.5–20 million head in 2023. According to the company, in Jan.–Sept. this year., a total of about 9.90 million hogs were slaughtered. Particularly, the number of ready-for-slaughter hogs in Sept. was back to the level of million head.

Tecon Biology Co., Ltd. (Tecon Biology): Hog production capacity may reach 3.5 million head by the end of the year

Tecon Biology said at the end of Sept. that the company has built a hog production capacity of 700,000 head in Gansu Province this year.





At present, Tecon Biology carries out its hog breeding and raising business in Xinjiang Uygur Autonomous Region, Gansu and Henan Provinces and plans to build a hog production capacity of 1 million head in each province. Among them, Xinjiang's 1 million production capacity has been built, forming a complete industrial chain including purebred hogs—tertiary breeding—fattening—slaughtering and processing; the basic construction of Henan Breeding & Raising Base, which is mainly breeding and raising farms, has been completed. Tecon Biology plans to build another 300,000 hogs project this year in Gansu, and it is estimated that by the end of this year, the construction of a hog production capacity of 1 million head in Gansu can be basically completed.

Tecon Biology disclosed that by the end of this year, its overall hog production capacity can reach 3–3.5 million. In the future, the company will further expand its hog breeding and raising business plans in Sichuan Province and Chongqing City.

Tangrenshen Group Co., Ltd. (TRS): To raise USD115.22 million (RMB818 million) for hog raising

TRS recently announced that its application for the non-public offering of shares has been examined and approved by the China Securities Regulatory Commission (CSRC). In Aug., TRS released the plan for the non-public offering of A shares in 2022 (the second revised draft), stating that the company intends to raise no more than USD160.58 million (RMB1.14 billion), and the proceeds after deducting the issuance expenditure will be invested in five pig breeding and raising projects such as building the farm of Pubei Meishen Breeding Co., Ltd., totalling about USD115.22 million (RMB818 million), and also used to increase working capital.

Yunnan Shennong Agricultural Industry Group Co., Ltd. (Shennong Group): 3 million hogs will be available for slaughter in 2025

According to Shennong Group's record of investor relations activities disclosed in Aug., Shennong Group plans to expand pig production capacity. At present, there is a sow farm capable to hold 24,000 head ready to be built in Yunnan and three sow farms with nearly 20,000–30,000 sows in Guangxi and pig farms in Guangdong are planned to be built.

Recently, Shennong Group has signed the Cooperation Intention Agreement with Wenshi Food Group Co., Ltd. (Wenshi Co., Ltd.). Shennong Group will accept the Naqin Breeding Project, Xinlong Breeding Project, Zaowa Breeding Project, Zhulu Breeding Project and Baishui Breeding Project and related assets of Wen's subsidiary in Chongzuo, Guangxi Zhuang Autonomous Region. For the above five projects, the main construction unit of the project will be changed and the procedures will be done as soon as possible, and the construction will be started in time to make sure that Shennong Group can realise the goal of slaughtering 3 million hogs in 2025.

Fujian Aonong Biotechnology Group Co., Ltd. (Aonong Group): 8 million hogs to be slaughtered in 2023 and 10 million head in 2024

When Aonong Group was investigated by 115 institutions recently, it said that its slaughter target this year remains at 5.5 million head, and the figure will increase to 8 million next year and 10 million in 2024. At present, the company has about 350,000 sow stalls and will have 370,000–380,000 stalls by the end of the year.

At present, Aonong Group has about 300,000 breeding sows and 60,000 reserve sows, and it set targets of 340,000 sows by the end of this year and 400,000 sows by the end of next year.





Progress of two alcohol projects

Summary: Two alcohol projects were publicised at the end of Sept.

On 27 Sept., the introduction and environmental impact assessment (EIA) information of COFCO Bio-Energy (Zhaodong) Co., Ltd. (Zhaodong COFCO Bio-Energy)'s alcohol industrial chain upgrading project were disclosed for public participation.

Overview of Zhaodong COFCO Bio-Energy's project:

- Construction nature: Expansion and retrofitting
- Location: In the factory of Zhaodong COFCO Bio-Energy, Zhaodong City (county-level), Suihua City, Heilongjiang Province
- Site area: 28,105 m²
- Total investment: USD49.51 million (RMB351.51 million)
- Construction content: Upgrade and retrofit the existing equipment built in Phases I & II to reduce energy consumption
 - Liquefaction process: Retrofit the liquefaction equipment for 250,000 t/a of fuel ethanol production and expand the capacity of the equipped powerhouse
 - Fermentation process: Retrofit some fermentation equipment for 250,000 t/a of fuel ethanol production
 - Feed production process: Retrofit the production equipment with an annual output of 218,000 t/a of feed in the drying and evaporation sections, the feed warehouse, the distribution substation and the central control system, and build a warehouse with a storage capacity of 5,000 tonnes.

Zhaodong COFCO Bio-Energy is a subsidiary of COFCO Biotechnology Co., Ltd. (COFCO Biotech). According to COFCO Biotech, this upgrading project can effectively reduce production costs and increase productivity.

On 28 Sept., the completion and acceptance inspection report of completed environmental protection facilities of Xinxiang Xianfeng Medical New Material Co., Ltd. (Xinxiang Xianfeng)'s 50,000 t/a alcohol & 50,000 t/a distillers dried grains with solubles (DDGS) project was publicised, with publication ending on 18 Oct. The construction of this project started in April 2022 and was completed at the end of July. In Aug. 2022, the company reapplied for the pollutant discharge permit.

Overview of Xinxiang Xianfeng's project:

- Construction nature: Expansion
- Location: Hongzhou Park of Huixian Industry Cluster, Xinxiang City, Henan Province
- Site area & Floor area: 28,414 m² & 9,471 m²
- Total investment: USD5.63 million (RMB40 million), of which USD1.99 million (RMB14.12 million) for environmental protection purposes including the treatment of wastewater, noise, solid waste, waste gas etc., accounting for 35.3%
- Construction content: Including changing the alcohol distillation process with four distillation towers for two times simple distillation and two times further rectification, which can effectively reduce the production costs, the steam consumption and most of the impurities in the alcohol to a trace amount
- Consumption of main raw materials:
 - 150,000 t/a of corn
 - 205 t/a of glucoamylase
 - 107.5 t/a of amylase
 - 5 t/a of dry yeast





- Production process: Including the pre-treatment of raw materials, cooking, liquefaction, saccharification, fermentation, evaporation, pressure filtration, evaporation and concentration of the filtrate, and drying
- Acceptance scope: The main structure of the building, main and supporting facilities and environmental protection facilities





Company Dynamics

Correction for Corn Products China News 202208

1

Published date: 31 Aug., 2022 (Corn Products China News 202208);

Issue: 08, 2022

Page and line: Page 11, Line 10 & Line 11

Original data: "Total investment: USB260.91million (RMB1.76 billion), of which USD2.31 million (RMB15.60 million) for environmental protection, accounting for 0.89%"

"USD2.31 million (RMB15.60 million) for environmental protection, accounting for 0.89%" should be "USD21.97 million (RMB156 million) for environmental protection, accounting for 8.9%"



**Bangji Technology officially listed on SSE**

Summary: On 19 Oct., Bangji Technology was officially listed on the Main Board Market of the SSE.

On 19 Oct., Shandong Bangji Technology Co., Ltd. (Bangji Technology) was officially listed on the Main Board Market of the Shanghai Stock Exchange (SSE). Previously on 30 Sept., the company released an IPO (Initial Public Offering) announcement stating that it plans to raise USD106.2 million (RMB753.9 million) by issuing 42 million shares at an issue price of USD2.53 (RMB17.95) per share, with a price-to-earnings ratio of 22.98. After deducting the issuance expenditure, the proceeds of USD96.20 million (RMB682.92 million) will be used to finance its projects as tabled below. As of the date of signature of the prospectus, Bangji Technology has 14 wholly-owned and holding subsidiaries.

TABLE 3: Use of IPO proceeds

Construction unit	Project	Total investment, million USD
Changchun Bangji Hongyun Feed Co., Ltd.	Construction of smart manufacturing workshop with an annual output of 120,000 t/a high-end formula feed	8.29
Shanxi Bangji Biology Co., Ltd.	Construction of smart manufacturing workshop with an annual output of 240,000 t/a high-end formula feed and concentrate feed	22.54
Yunnan Bangji Feed Co., Ltd.	Construction of smart manufacturing workshop with an annual output of 180,000 t/a high-end formula feed and concentrate feed	20.27
Bangji Technology	Construction of smart manufacturing workshop with an annual output of 120,000 t/a high-end formula feed	8.29
Zhangjiakou Bangji Feed Co., Ltd.	Construction of smart manufacturing workshop with an annual output of 120,000 t/a high-end pig formula feed and concentrate feed	14.79
Liaoning Bangji Feed Co., Ltd.	Construction of manufacturing workshop with an annual output of 120,000 t/a high-end formula feed	14.4
Bangji (Shandong) Agricultural Technology Co., Ltd.	Construction of R&D Centre	8.54
Total		97.13

Source: Bangji Technology

Bangji Technology's H1 2022 revenue was down slightly from the same period of last year, mostly because:

- The COVID-19 flare-ups in Zibo, Changchun and other cities where its production bases are located restricted the production and transportation of feed.
- Decreased demand for feed, caused by low live hog prices and reduced stocks and weight of live hogs, affected the company's financial performance in the first six months of 2022.

But as the hog prices have rebounded and the COVID pandemic is gradually under control, Bangji Technology has seen great





improvement in its financial results since Q2 2022, with its revenue and net profit after deducting non-recurring gains and losses up 23.59 and 43.97 percentage points from Q1. However, the company projected that its revenue and net profit attributable to shareholders of the listed company in Jan.–Sept. may drop 18.83%–28.20% and 7.75%–17.95%, respectively, as a result of the above-mentioned resurgence of the pandemic and the low prices of live hogs.

TABLE 4: Financial highlights of Bangji Technology in H1 2022

Financial metric	H1 2022, million USD	YoY change
Revenue	106.43	-27.29%
Net profit attributable to shareholders of the listed company	8.06	-15.26%
Net profit after deducting non-recurring gains and losses	7.15	-22.49%

Source: Bangji Technology

Bangji Technology has been focusing on the R&D, production and sale of pig feed since its founding in 2007, and it has now successfully stepped in the sales business of pig feed, layer pre-mixed feed, feed for meat-producing animals and ruminant, veterinary drugs, etc. The company is a feed manufacturer that provides professional products to modern farms. In addition, it has a relatively large market share and high brand awareness in Shangdong City and the Northeast region. Currently, its product market is in East, Northeast, North and Southwest China, but it will gradually expand to cover the whole nation. The company said, unlike most of the listed companies in the same industry which specialises in both feed and farming businesses, Bangji Technology only concentrates on the feed business, focusing on producing professional pig feed of good quality. Therefore, the company's operation is more stable as it is less affected by the hog price cycles.



TABLE 5: Production and sales of Bangji Technology's main products, 2019–2021

Product	Item	2021	2020	2019
Pig formula feed	Production volume, tonne	330,761.15	302,089.20	184,437.85
	Sales volume, tonne	328,148.43	298,369.38	182,679.43
	The rate of sale	99.21%	98.77%	99.05%
Pig concentrate feed	Production volume, tonne	103,129.07	124,685.36	81,593.49
	Sales volume, tonne	103,856.23	119,818.38	77,776.74
	The rate of sale	100.71%	96.10%	95.32%
Pig pre-mixed feed	Production volume, tonne	18,832.02	16,572.84	11,063.62
	Sales volume, tonne	17,365.00	17,256.78	11,180.68
	The rate of sale	92.21%	104.13%	101.06%

Source: Bangji Technology

BBCA Group expanding presence in domestic bio-based material industry

Summary: BBCA Group is actively expanding its business presence in the bio-based material industry across China by increasing its production capacities of lactic acid and PLA.

On 27 Sept., the environmental impact (EI) reports of the 5,000 t/a D-lactic acid industrialisation demonstration project and the 3,000 t/a polylactic acid (PLA) industrialisation demonstration project of Anhui BBCA Biochemical Co., Ltd. (BBCA Biochemical), a subsidiary of China BBCA Group Corporation (BBCA Group), were publicised before getting approval. It is understood that the above-mentioned two projects are the first phase of the 10,000 t/a D-lactic acid & 5,000 t/a poly-D-lactic acid project announced previously by BBCA Biochemical.

Overview of 5,000 t/a D-lactic acid industrialisation demonstration project:

- Construction nature: New construction
- Location: Guzhen Economic Development Zone, Bengbu City, Anhui Province
- Product scheme: 5,000 t/a of D-lactic acid and by-product 4,500 t/a of gypsum
- Total investment: USD15.92 million (RMB113 million), of which USD1.99 million (RMB14.10 million) for environmental protection, accounting for 12.48%
- Labour quota: 80 employees
- Working system: Three 8-hour shifts per 24-hour workday, totalling 300 days annually
- Production process: Lactic acid is produced from 6,250 t/a of glucose (substrate) and D-Lactic acid bacteria strain through fermentation, extraction, refining and other processes. (The product produced in this project will be provided to Anhui BBCA Taifu PLA Co., Ltd. (BBCA Taifu) for the production of PLA and lactide)



Overview of 3,000 t/a PLA industrialisation demonstration project:

- Construction nature: New construction
- Location: Guzhen Economic Development Zone, Bengbu City, Anhui Province
- Product scheme: 3,000 t/a of PLA and by-product 1,000 t/a of racemic lactic acid
- Total investment: USD18.73 million (RMB133 million), of which USD1.45 million (RMB10.30 million) for environmental protection, accounting for 7.74%
- Labour quota: 80 employees
- Working system: Three 8-hour shifts per 24-hour workday, totalling 300 days annually
- Production process: The project will adopt the two-step method (ring-opening polymerization of lactide) to synthesise PLA. The project will use D-lactic acid as the starting raw material, dehydrate lactic acid molecules by pressing and heating to first produce lactide with initiators or catalysts, and then produce PLA after purifying, extracting, and concentrating the lactide.

Up to now, BBCA Group's existing or under-construction lactic acid and PLA production capacities include:

- BBCA Biochemical: It launched production lines for lactic acid (5,000 t/a) and PLA (3,000 t/a) in Nov. 2019.
- Anhui BBCA Futailai Lactic Acid Co., Ltd. (BBCA Futailai): Its 150,000 t/a lactic acid & 100,000 t/a PLA project was fully put into production in Dec. 2021.
- BBCA Taifu: Its 500,000 t/a lactic acid project and the 300,000 t/a PLA project are expected to start production in H2 2022.

In addition, BBCA Group is actively expanding its business presence in the bio-based material industry across China. It has proposed three bio-based degradable material projects in Hainan, Heilongjiang and Anhui provinces, aiming for a PLA production capacity of over 1 million tonnes.

Bio-based Industrial Base in Hainan (to start construction in 2022)

In mid-June, BBCA Biochemical received investment funds totalling USD42.26 million (RMB300 million) from Hainan Suida Equity Investment Fund Partnership (Limited Partnership) and is planning to set up a subsidiary in Hainan to build up a plant in the province. That will help diversify the local green industrial system and develop a bio-based degradable material industrial hub.

Straw-based PLA Whole Industrial Chain Project in Heilongjiang

On 27 May, collaborating with the Heilongjiang Provincial Government, BBCA Group brought up a special fund plan—initial fundraising seeks around USD352.15 million (RMB2.5 billion)—to level up the local comprehensive utilisation of straw. This proposed plan intends to start a China-first PLA bio-based new material whole industrial chain project using agricultural and forestry wastes in a new strain centre set in Heilongjiang, which will leverage the biological technologies self-developed by BBCA Group. The construction of this project will be performed over three phases to form capacities of 800,000 t/a PLA, 1,200,000 t/a of lactic acid and 1,360,000 t/a straw-based mixed syrup in its entirety.

Bio-based Material Manufacturing Park in Fuyang City, Anhui Province

On 10 May, BBCA Group negotiated and sealed a contract with Hailuo Group Co., Ltd. through a video link. The contractual terms enable USD3.8 billion (RMB27 billion) of investment in co-establishing a bio-based new material manufacturing park with over 100 billion t/a





capacities of biomaterials in Linqun County of Fuyang City, Anhui Province, including in modular distributed sugar plants and production projects of polyol, polyurethane (PU or PUR), etc.

Jindan Technology's Q3 revenue & net profit decline

Summary: Jindan Technology's revenue and net profit in Q3 declined. Besides its application for issuing convertible corporate bonds to non-specific parties was accepted by the SZSE.

On 24 Oct., Henan Jindan Lactic Acid Technology Co., Ltd. (Jindan Technology) released its Q3 report. Its revenue and net profit both declined in the third quarter.

Compared with the same period in 2021, its net profit attributable to shareholders of the listed company plummeted by 51.49% and net profit attributable to shareholders of the listed company after deducting non-recurring gains and losses decreased by 45.33%, primarily because:

- Sales saw a YoY decline due to lower demand for the company's products from downstream sectors caused by the global economic downturn, especially the high inflation in overseas markets, and the intensified competition in the industry.
- Prices of some raw materials such as coal, liquid caustic soda and calcium oxide increased compared to the previous year.

The net cash flow from operating activities in the first three quarters increased by 410.65% YoY, mainly because:

- The company's revenue in Jan.–Sept. 2022 increased by 14.34% YoY.
- As China has implemented a large-scale value-added tax (VAT) credit refund policy, the tax refund received by the company has greatly increased.

On the same day, Jindan Technology issued an announcement to carry out hedging business and foreign currency hedging business to stabilise operations.

- Hedging business
 - In order to prevent market risks caused by price changes of raw materials and products and reduce the impact of price fluctuations of raw materials and products on the normal operation of the company, Jindan Technology intends to carry out domestic futures and options hedging business to use the hedging functions of relevant futures and options markets.
- Foreign exchange hedging business
 - International market business is important to Jindan Technology. As the company's export business is mainly settled in foreign currency, when the exchange rate fluctuates greatly, the exchange gains and losses will have a certain impact on the company's performance. Therefore, to reduce the impact of exchange rate fluctuations on the company's profits, make the company maintain stable profits and focus on production and operation, the company plans to carry out foreign exchange hedging business with banks at an appropriate time.





TABLE 6: Jindan Technology's financial highlights, million USD

Financial metric	Q3 2022	YoY change	Q1-Q3 2022	YoY change
Revenue	49.59	-0.83%	163.23	14.34%
Net profit attributable to shareholders of the listed company	2.79	-51.49%	15.2	-2.88%
Net profit attributable to shareholders of the listed company after deducting non-recurring gains and losses	2.8	-45.33%	15.23	9.86%
Net cash flow from operating activities	/	/	24.46	410.65%

Source: Jindan Technology

On 11 Oct., Jindan Technology announced that its application for issuing convertible corporate bonds to non-specific parties was accepted by Shenzhen Stock Exchange (SZSE). Jindan Technology plans to raise no more than USD98.6 million (RMB700 million) within 6 years. Some of the proceeds will be used for the 75,000 t/a polylactic acid (PLA) biodegradable new materials project, and the rest will be used to increase its working capital.

Overview of PLA biodegradable new materials project:

- Total investment: USD124.26 million (RMB882.12 million), of which USD77.47 million (RMB550 million) will be sourced from the above-mentioned proceeds and the rest from the balance of the previously raised funds, funds originally for other projects and self-raised funds.
- Construction unit: Jindan Biological New Material Co., Ltd., a subsidiary of Jindan Technology
- Location: Zhoukou City, Henan Province
- Construction period: 24 months
- Production capacity: 75,000 t/a of PLA
- Progress: This project was put on record by the Development and Reform Commission of Dancheng County in July 2022
- Estimated economic benefits: This project is expected to generate USD194.51 million (RMB1.38 billion) in revenue and USD21.62 million (RMB153.48 million) in net profit annually.



TABLE 7: Production and sales of Jindan Technology's main products, 2019–H1 2022

Item		Production volume, tonne	Sales volume, tonne	The rate of sale
Lactic acid	Jan.–June 2022	52,626.93	53,522.11	101.70%
	2021	103,746.75	100,768.20	97.13%
	2020	92,310.49	92,637.78	100.35%
	2019	77,591.47	77,282.65	99.60%
Lactic acid salts	Jan.–June 2022	12,761.58	12,659.93	99.20%
	2021	28,343.34	28,171.65	99.39%
	2020	22,583.39	22,792.52	100.93%
	2019	21,661.73	22,059.14	101.83%

Source: Jindan Technology

Fufeng Group sees bullish financial results in H1

Summary: Fufeng Group's revenue, net profit and gross profit grew substantially in H1 2022.

Fufeng Group Co., Ltd. (Fufeng Group)'s semi-annual report unveiled on 20 Sept. showed its revenue, net profit and gross profit rise significantly in H1 2022.

- Revenue: USD1.82 billion (RMB12.93 billion), up 35.8% YoY. The revenue growth was primarily due to the increased sales revenue from business segments of food additives, animal nutrition and colloid.
- Net profit attributable to shareholders of the listed company: USD285.39 million (RMB2.03 billion), surging 242.8% YoY. That was because of the higher sales volume and average selling prices of main projects and the company's stronger profitability.
- Gross profit: USD504.37 million (RMB3.58 billion), soaring 102.8% YoY, which could be attributed to the increased gross profit of food additives, animal nutrition and colloid products.

Performance of main products

- Food additive segment
 - This segment registered increases in revenue, net profit and gross profit margin, which was mainly because of the rise in the average selling price and sales volume of monosodium glutamate (MSG). During the reporting period, the average selling price of MSG went up about 18.1% YoY to USD1,194/t (RMB8,476/t), which was because the market demand rebounded, the prices of major raw materials trended higher and the company successfully passed costs on to downstream customers. Fufeng Group led the market by actively adjusting the MSG price, and at the same time, it maximised its profitability. The sales volume was approximately 590,574 tonnes, representing an increase of around 18.5% compared to the corresponding period last year.
- Animal nutrition segment
 - Threonine:
 - Sales revenue: USD194.59 million (RMB1.38 billion), up 25.2% YoY, mainly due to increased average selling price and



sales volume of the product.

- Average selling price: USD1,487/t (RMB10,555/t), an increase of 12.4% YoY, mainly due to the supply shortage in the international markets caused by the COVID-19 pandemic and the global market demand recovery in 2021 continued well into the reporting period.
- Sales volume: 130,871 tonnes, up 11.5% YoY

- Lysine:

- Revenue: USD143.9 million (RMB1.02 billion), leaping about 59.1% YoY
- Sales volume: 131,628 tonnes, a YoY increase of about 27.2%. It shared the same reason for the increase as threonine.

- High-end amino acid segment

- Sales revenue shrank by 22.4% in comparison to the same period last year. The decreased revenue from the high-end amino acid segment was mainly due to the company's strategy to expand into new markets and the change in client mix.

- Colloid segment

- Sales revenue from the colloid segment surged 137.7% YoY, mainly due to increased revenue from xanthan gum as demand for oil revived, which led to increases in the sales volume and average selling price of xanthan gum. As xanthan gum was in short supply, the average selling price of the product had been on the rise; the average selling price of xanthan gum jumped by 61.5% to approximately USD3,993 /t (RMB28,344/t).

- Others

- Revenue generated from the sales of other products rose 32.8% YoY, mostly due to increased sales revenue from fertilisers. Increased food supply in China was a main contributor to the strong fertiliser demand.

TABLE 8: Performance of Fufeng Group's business segments for H1 2022

Product	Revenue, million USD	YoY change	Gross profit, million USD	YoY change
Food additives	854.39	34.94%	178.92	110.81%
Animal nutrition	669.68	37.31%	196.90	128.48%
High-end amino acid	75.34	-22.36%	30.03	-30.95%
Colloid	132.44	137.73%	66.95	215.25%
Others	89.60	32.85%	31.57	143.28%

Source: Fufeng Group

Fufeng Group's production strategy remained unchanged and it set the production volume according to market demand in order to minimise the risk from price competition. During the reporting period,

- The utilisation rate of MSG capacity stayed around 94%.
- The utilisation rate of starch-based sweetener capacity was only about 66%, mainly because of the oversupply in the market.
- Threonine and lysine were produced at full capacity, mostly due to the rising demand from the overseas market.
- As the domestic demand picked up, production of xanthan gum reached full capacity.



**TABLE 9:** Fufeng Group's designed annual capacity for its products in H1 2021 & H1 2022, t/a

Product		H1 2022	H1 2021
Food additives	MSG	665,000	665,000
	Starch-based sweeteners	360,000	360,000
Animal nutrition	Threonine	121,500	121,500
	Lysine	100,000	100,000
Colloid	Xanthan gum	32,500	32,500
Other	Fertilisers	540,000	540,000

Source: Fufeng Group



Import and Export

Chinese corn products Imp. & Exp., Aug. 2022

TABLE 10: Import and export values of corn products in China, Aug. 2022

Product	Import value, USD	MoM change	Export value, USD	MoM change
Corn	666,132,467	28.67%	/	/
Corn starch	439,914	65.48%	520,471	-97.53%
Citric acid	2,203,738	62.12%	126,904,102	-46.27%
Citrate	708,677	19.46%	33,071,194	-33.18%
Glucose and glucose syrup (fructose content <20%, dry state)	360,240	-38.16%	37,884,964	-21.32%
Glucose and glucose syrup (20%≤fructose content<50%, dry state)	4	-99.99%	483,858	-24.04%
Other fructose and fructose syrup (fructose content>50%, dry state)	435,273	73.10%	11,087,863	12.10%
Mannitol	1,620,440	13.34%	3,691,611	260.36%
Xylitol	38,951	-33.08%	16,259,585	-0.95%
Sorbitol	555,994	27.48%	14,848,159	6.00%
Furfural	5,646	-37.59%	2,073,624	27.92%
Furfuryl alcohol and tetrahydrofurfuryl alcohol	20,307	96.85%	16,124,778	12.46%
Lysine	11,151	-95.42%	177,581	29.83%
Lysine ester and salt	132,694	155.86%	88,266,546	-13.40%
Glutamic acid (GA)	2,320	-92.87%	10,613,880	-2.31%
Sodium glutamate	43,004	-65.02%	82,103,422	0.32%
Inositol	115,174	139.39%	6,643,730	676.87%
Total	672,825,994.00	28.59%	450,755,368.00	-27.50%

Note: Sorbitol refers to item under HS code 29054400 & 38246000.

Source: China Customs



TABLE 11: Import and export volumes of corn products in China, Aug. 2022

Product	Import volume, tonne	MoM change	Export volume, tonne	MoM change
Corn	1,797,703.94	16.95%	/	/
Corn starch	259.75	24.00%	902.47	-97.86%
Citric acid	404.93	76.54%	68,796.02	-41.69%
Citrate	92.26	-38.88%	17,263.91	-26.64%
Glucose and glucose syrup (fructose content <20%, dry state)	254.43	-13.85%	58,812.75	-20.24%
Glucose and glucose syrup (20%≤fructose content<50%, dry state)	0.001	-100.00%	738.31	-27.45%
Other fructose and fructose syrup (fructose content>50%, dry state)	125.63	40.23%	21,536.38	8.93%
Mannitol	211.11	23.14%	1,256.10	208.06%
Xylitol	2.46	364.03%	4,815.54	-2.27%
Sorbitol	192.31	23.22%	19,424.82	11.71%
Furfural	0.07	-55.63%	1,089.80	36.81%
Furfuryl alcohol and tetrahydrofurfuryl alcohol	1.78	47.79%	7,938.27	15.70%
Lysine	0.02	-99.89%	11.33	-22.50%
Lysine ester and salt	70.00	9026.73%	71,907.25	2.28%
Glutamic acid (GA)	0.01	-98.44%	7,608.19	-0.79%
Sodium glutamate	20.01	-70.60%	62,301.44	-0.93%
Inositol	4.01	165.01%	385.90	-43.03%
Total	1,799,342.72	16.95%	344,788.47	-23.60%

Note: Sorbitol refers to item under HS code 29054400 & 38246000.

Source: China Customs

TABLE 12: Import and export prices of corn products in China, Aug. 2022

Product	Import price, USD/t	MoM change	Export price, USD/t	MoM change
Corn	370.55	10.02%	/	/
Corn starch	1,693.62	33.45%	576.72	15.35%
Citric acid	5,442.24	-8.17%	1,844.64	-7.86%
Citrate	7,681.64	95.45%	1,915.63	-8.91%
Glucose and glucose syrup (fructose content <20%, dry state)	1,415.85	-28.22%	644.16	-1.35%
Glucose and glucose syrup (20%≤fructose content<50%, dry state)	4,000.00	241.35%	655.36	4.70%
Other fructose and fructose syrup (fructose content>50%, dry state)	3,464.64	23.44%	514.84	2.91%
Mannitol	7,675.95	-7.96%	2,938.96	1.82%
Xylitol	15,808.04	-85.58%	3,376.48	1.35%
Sorbitol	2,891.16	3.45%	764.39	-5.11%
Furfural	79,521.13	40.65%	1,902.76	-6.50%
Furfuryl alcohol and tetrahydrofurfuryl alcohol	11,440.56	33.19%	2,031.27	-2.80%
Lysine	484,826.09	3,893.66%	15,680.44	67.53%
Lysine ester and salt	1,895.57	-97.20%	1,227.51	-15.33%
Glutamic acid (GA)	331,428.57	358.20%	1,395.06	-1.53%
Sodium glutamate	2,148.91	18.98%	1,317.84	1.26%
Inositol	28,743.20	-9.67%	17,216.33	10.35%

Note: Sorbitol refers to item under HS code 29054400 & 38246000.

Source: China Customs

China's MSG exports in Jan.–Aug. register YoY growth

Summary: China's export volumes and export prices of MSG in Jan.–Aug. 2022 rose over the same period of a year earlier.

China's monosodium glutamate (MSG) exports had been staying at high levels between Jan. and Aug. 2022. During this period, monthly export volumes saw substantial YoY growth and export prices also rose from the same period in 2021, which has boosted the domestic MSG market.

As revealed by China Customs, China's MSG exports in 2022 are as follows:

Aug.:

- Export volume: 62,301 tonnes, down 0.9% MoM but up 18.8% YoY
- The average export price: USD1,318/t, up 1.3% MoM and 20.2% YoY

Jan.–Aug.:

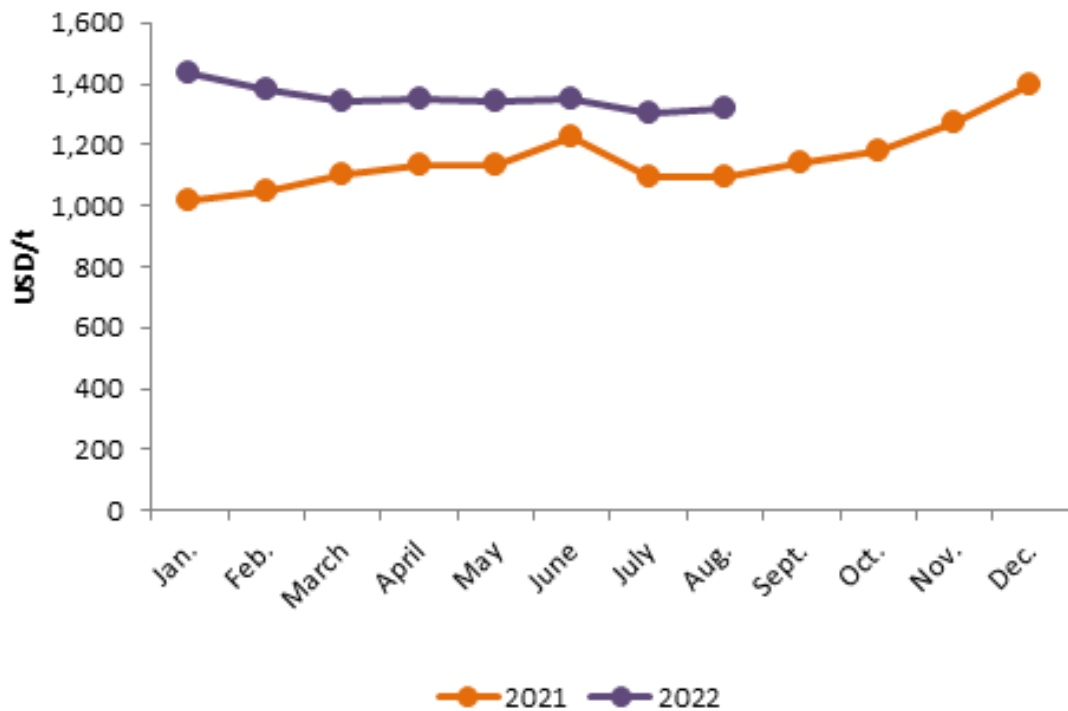
- Export volume: 526,642 tonnes, up 35.63% YoY
- The average export price: USD1,353/t, up 22.3% YoY

FIGURE 1: China's export volume of MSG, 2021 vs. 2022



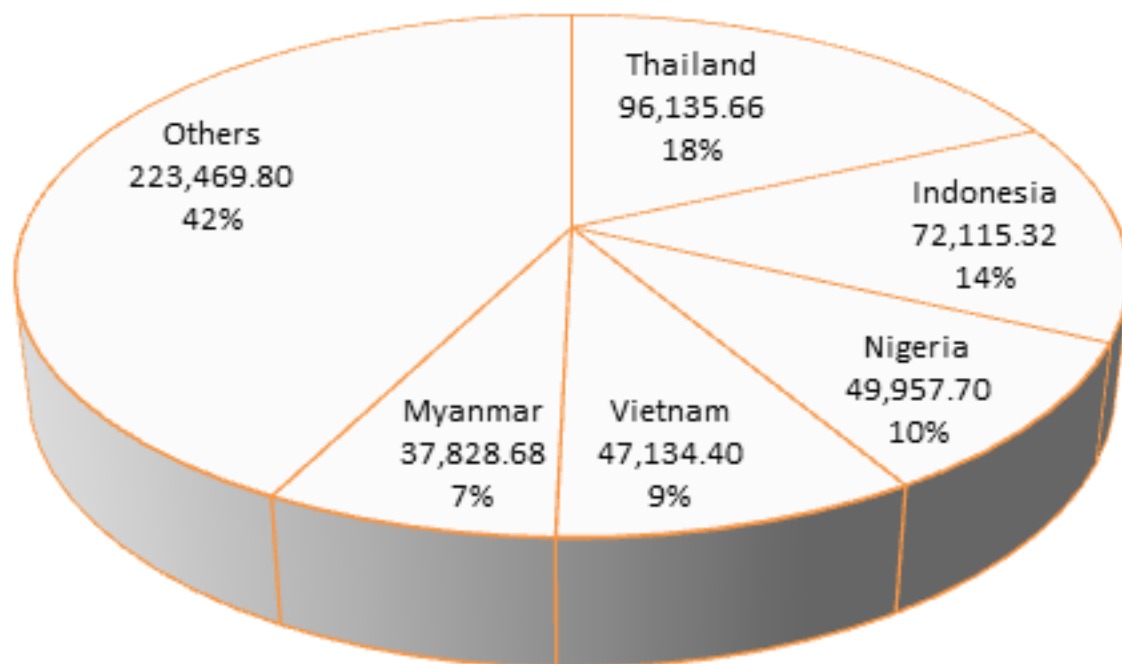
Source:China Customs

FIGURE 2: China's average export price of MSG, 2021 vs. 2022



Source: China Customs

In terms of export destinations, in Jan.–Aug., China's MSG exports to Thailand were the largest, and exports to Indonesia saw the biggest YoY increase. The top 5 export destinations ranked by their total export volume during this period were Thailand, Indonesia, Nigeria, Vietnam and Myanmar, exports to which grew 35.88%, 81.63%, 40.52%, 18.03% and 5.10%, YoY, respectively.

FIGURE 3: China's top 5 export destinations of MSG in Jan.–Aug. 2022, tonne

Source: China Customs



Price Update

Price update of corn products, Oct. 2022

TABLE 13: Price update of corn products, Oct. 2022

Product	Oct-22		Sept-22	
	USD/t	RMB/t	USD/t	RMB/t
Corn	386.52	2,744	395.25	2,720
Corn starch (North China)	435.26	3,090	447.97	3,083
Furfural	1,302.12	9,244	1,452.25	9,995
Ethanol (Food grade)	983.07	6,979	1,009.96	6,951
75% maltose syrup	408.50	2,900	433.01	2,980
70% sorbitol syrup	493.01	3,500	512.20	3,525
Anhydrous citric acid	962.50	6,833	1,073.36	7,387
Monohydrate citric acid	845.17	6,000	950.15	6,539
Oxidized corn starch (Food grade)	787.84	5,593	812.25	5,590
Crystalline xylitol	3,662	26,000	3,777.92	26,000
HFCS (Fructose: 42%)	387.37	2,750	421.38	2,900
HFCS (Fructose: 55%)	450.76	3,200	479.50	3,300
Corn oil (First grade)	1,926.83	13,679	1,881.33	12,948
Maltodextrin	589.93	4,188	633.04	4,357
75% maltitol (Liquid)	591.62	4,200	617.54	4,250
Glucose monohydrate (Food grade)	521.19	3,700	541.26	3,725
Monosodium glutamate	1,430.87	10,158	1,434.13	9,870
Corn gluten meal	988.56	7,018	909.18	6,257
Distillers dried grains with solubles (high-fat)	469.21	3,331	447.76	3,082

Note: The USD/CNY exchange rate in this newsletter is USD1.00=CNY7.0992 on 10 Oct. 2022, sourced from the People's Bank of China. All the prices mentioned in this newsletter will include the VAT, unless otherwise specified.

Source: CCM





Ex-works price of corn starch goes up

Summary: In Oct., China's corn starch market rebounded. Higher production costs and demand pushed up the ex-works price of corn starch.

In Oct., China's corn starch market rebounded. Corn starch manufacturers received more orders as stocking demand from the downstream sectors was improving. Meanwhile, the production costs of corn starch rose due to higher raw material prices. In this month, the ex-works price of corn starch averaged at USD435.3/t, up 0.2% MoM but down 7.8% YoY.

Looking back, in Q3, the average ex-works price of corn starch came in at USD442.87/t, down 5.6% MoM and 3.6% YoY. In July and Aug., the ex-works price of corn starch slumped as a result of lower production costs, oversupply and sluggish demand. Later, although the price drop carried into Sept., as the inventory decreased gradually, the price of corn starch declined at a slower pace.

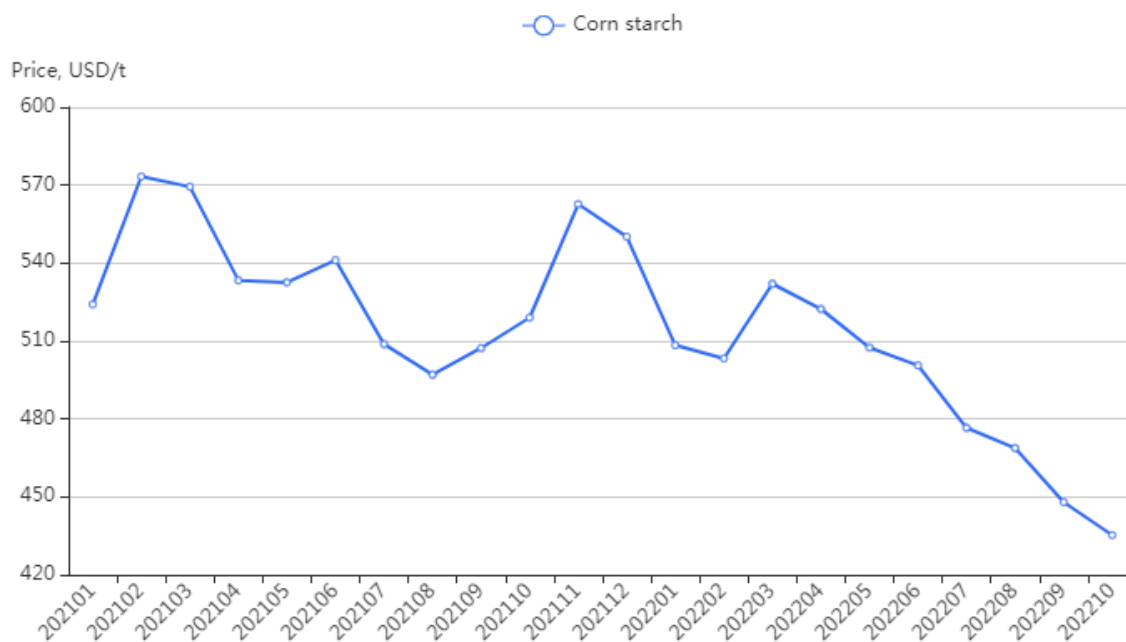
Moving into Oct., the seasonal peak season for the paper-making, packaging and fermentation industries was coming. Corn starch manufacturers who had cut production previously were producing at an increased capacity in Oct. But the demand for corn starch was stronger, leading to a drop in the inventory of the industry. The average corn price in Oct. was USD387/t, up 0.9% MoM and 12.9% YoY. The increased production costs and demand further pushed up the ex-work prices for corn starch. However, as the supply of corn starch bounded back slowly, some suspended production lines resumed production. Consequently, the corn starch market saw sufficient supply, which dampened the further increase of the price.

The corn starch price in Q4 is forecast to see a slight increase. Newly-harvested corn from North and Northeast regions will enter the market after Nov. As the supply grows, there's a high possibility that the corn price will fall. Therefore, production costs may hardly prop up the price of corn starch. But since there are holidays such as National Day and New Year's Day during Q4, demand from paper-making and packaging industries may grow over the previous quarter and as temperatures start to drop, fermentation, chemical and other industries will enter their busy season, and accordingly their demand for corn starch will become stronger. Hence, the inventory of corn starch manufacturers is likely to decrease, thus pushing up the price of corn starch.





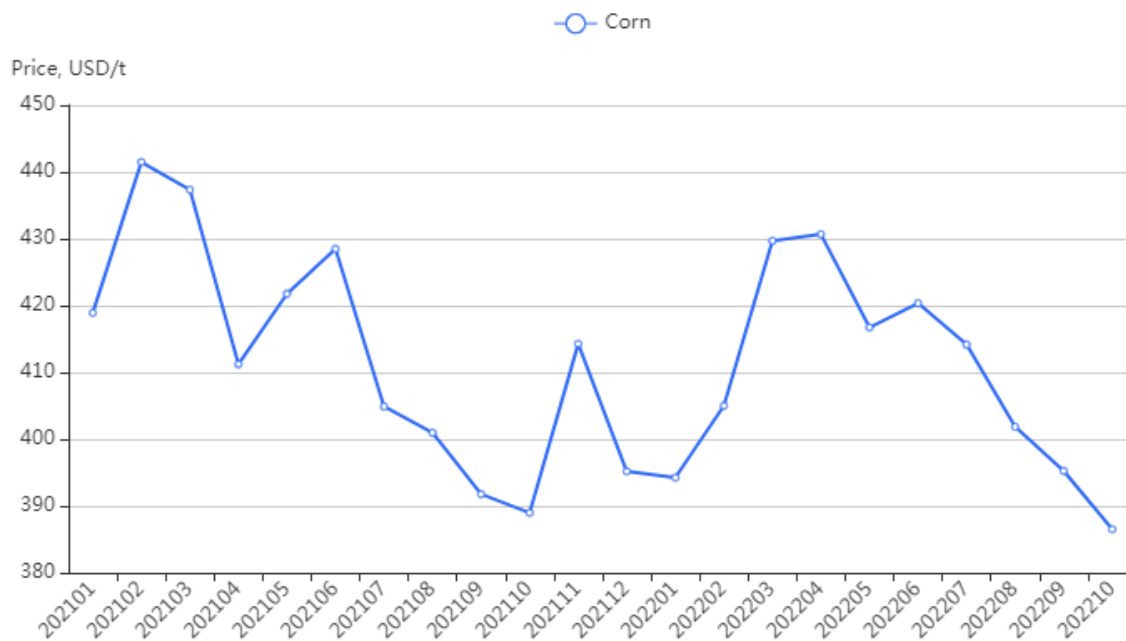
FIGURE 4: Ex-works prices of corn starch in China, Jan. 2021–Oct. 2022



Note: The ex-works price of corn starch grew slightly in Oct. The downward trend in the graph between Sept. and Oct. was caused by the depreciation of RMB.

Source: CCM

FIGURE 5: Market prices of corn in China, Jan. 2021–Oct. 2022



Note: The corn price rose slightly in Oct. The downward trend in the graph between Sept. and Oct. was caused by the depreciation of RMB.

Source: CCM





News in Brief

CASDE for Oct. 2022

On 12 Oct., the Ministry of Agriculture and Rural Affairs of the People's Republic of China (MARA) published the Chinese Agriculture Supply and Demand Estimates (CASDE).

China's marketing year (MY) 21/22 for corn ended in Oct 2022. Oct. estimates for MY21/22 are as follows:

- Corn imports in MY21/22 are forecast at 22 million tonnes, up 2 million from last month's estimate.
- The annual average wholesale price of domestic corn is forecast to remain flat from the previous marketing year, staying at USD372.01/t (RMB2,641/t).
- The annual average CIF price of imported corn after taxes is projected to grow 19.6% from last marketing year to USD405.12/t (RMB2,876/t).

Based on the survey data, Oct. estimates for the MY2022/23 are as below:

- China's planting acreage of corn is predicted to increase by 426,000 ha to 42.95 million ha.
- Corn production is expected to rise by 2.75 million tonnes to 275.31 million tonnes.
- Other figures remain the same as last month's estimates.

The light and temperature conditions in most of the major corn-producing areas are in the normal state, which is favourable for corn yield and drying of corn after being harvested. The improved profitability of live hog breeding leads to a rebound in feed demand; therefore, corn feed consumption is rising steadily, while industrial consumption remains stable.

Ingredion Shandong to prolong commissioning of 100,000 t/a modified starch project

Ingredion Shandong Limited (Ingredion Shandong) published an announcement on 29 Sept., stating that due to equipment and raw materials factors, the production activities of its 100,000 t/a modified starch project have been conducted on and off since the commissioning began in May. Therefore, the company applied to extend the commissioning of the environmental protection facilities for this project to 15 April, 2023. The original commissioning period was from 16 May to 15 Nov., 2022.

With an investment of USD97.90 million (RMB695 million), this project covers a site area of 159,333 m² and a floor area of 94,700 m²; a corn starch production line with an absolute dry yield of over 98%, which can increase the company's processing capacity of waxy corn by 160,000 t/a, were built and 528 sets of equipment were installed; the design production capacity of this project is 100,000 t/a of special modified starch, which can be used in industries such as healthcare food, medical services and bio-fermentation.

Zhongneng Biotech: 300,000 t/a corn-based fuel ethanol project resumes construction

According to the Inner Mongolia Daily on 9 Oct., Inner Mongolia Zhongneng Biotechnology Co., Ltd. (Zhongneng Biotech) has resumed the construction work of its 300,000 t/a corn-based fuel ethanol project. With a total investment of USD166.22 million (RMB1.18 billion), the company plans to build two 150,000 t/a fuel ethanol production lines in two phases. This project is expected to take up a site area of 513,333 m². Once this project is completed, the company will be able to produce 300,000 t/a bio-fuel ethanol from corn and achieve the





co-production of 270,000 t/a good-quality high-protein distillers dried grains with solubles (DDGS) and 270,000 t/a nitrogen dioxide. This project is estimated to generate more than USD422.58 million (RMB3 billion) in annual revenue.

Due to the internal restructuring and reform of investors and the COVID pandemic, the construction work of this project has been halted since 2019 until the end of Aug. 2022.

Ningxia Qiyu activates Ningxia Hypow's L-lactic acid production line

According to the news report on 8 Oct., the research team of Ningxia Qiyu Biological New Materials Co., Ltd. (Ningxia Qiyu) is using new technology to screen and cultivate excellent strains.

The L-lactic acid production line, which once belonged to Ningxia Hypow Bio-technology Co., Ltd. (Ningxia Hypow), could not be put into normal production at that time due to the immature production process and other factors. In 2021, Ningxia Qiyu invested about USD39.44 million (RMB280 million) to upgrade this L-lactic acid production line with new technology. The original 30,000 t/a L-lactic acid production line will be transformed into the 50,000 t/a high-purity L-lactic acid production line. With high-quality strains, advanced technology and modularisation management, fermentation efficiency and product purity are expected to be improved.

Ningxia Qiyu said, "We have achieved breakthroughs in technology. Test results from a third-party authority showed the L-lactic acid produced in the trial production in Jan. this year contains 100% L-lactic acid and has a high optical purity of 100%. These two key indicators have reached the advanced level of the industry at home and abroad."

Utilisation of straw resources in China

According to a report on the comprehensive use of straw resources in China recently released by the Ministry of Agricultural and Rural Affairs (MARA), China's utilisation of straw is rising steadily. In 2021, China's straw utilisation reached 647 million tonnes, with a comprehensive utilisation rate of 88.1%, an increase of 3.4 percentage points compared to 2018.

- Returning straws to fields has achieved desirable results in protecting the environment and increasing crop yield. In 2021, 400 million tonnes of straws were returned to farmlands, including 126 million tonnes of corn straws, 113 million tonnes of rice straws and 104 million tonnes of wheat straws.
- There are rising uses of straws for other purposes such as making feed, fuel, base materials and raw materials, etc., with the utilisation rate recorded in 2021 reaching 33.4%. 132 million tonnes were processed into feed, with a utilisation rate of 18%, up 3.7 percentage points from 2018; straws used in fuel production stabilised at around 60 million tonnes; 12.08 million tonnes were for making base materials and raw materials.
- The commercial scale of straw utilization is expanding at a faster clip. In 2021, market entities that commercially utilise straw resources in China rose by 7,747 from 2018 to 34,000, of which feed producers accounted for 76.9%; there were 1,718 market entities that used more than 10 thousand tonnes of straw annually, up 268 entities in comparison to 2018.

Jiangsu Mupro's 3,500 t/a potassium citrate expansion project approved

The approval of the EI report of Jiangsu Mupro lft Corp. (Jiangsu Mupro)'s 3,500 t/a potassium citrate expansion project was made public from 12 Oct. to 20 Oct.



**Project overview:**

- Construction nature: Expansion
- Location: Guannan Economic Development Zone, Lianyungang City, Jiangsu Province
- Site area: 12,627 m²
- Total investment: USD0.49 million (RMB3.50 million), of which USD119,732 (RMB850,000) for environmental protection, accounting for 24.29%
- Construction content: To expand the current capacities of 500 t/a of potassium citrate and 500 t/a of potassium chloride to 3,500 t/a and 13,000 t/a, respectively
- Consumption of major raw materials:
 - 1,100 t/a of monohydrate citric acid
 - 1,000 t/a of anhydrous citric acid
- Production process of potassium citrate: With anhydrous citric acid or monohydrate citric acid and potassium hydroxide as raw materials, potassium citrate is obtained after neutralisation, primary filtration, pressure filtration, microfiltration, concentration, centrifugation, drying, screening, packaging.
- Construction period: 3 months
- Working system: Three shifts (24-hour workday), totalling 300 working days

BSD's 4,000 t/a modified starch project to be approved

On 14 Oct., the Zhenhai Branch of Ningbo Municipal Ecology and Environment Bureau publicised the EI report of Ningbo BSD Biotechnology Co., Ltd. (BSD)'s 4,000 t/a modified starch project before giving approval.

Project overview:

- Construction nature: New construction (relocation)
- Location: In the rented factory in Zhenhai District, Ningbo City, Zhejiang Province
- Area: 2,098 m²
- Total investment: USD0.85 million (RMB6 million), of which USD 21,129 (RMB150,000) for environmental protection, accounting for 2.5%
- Product scheme:
 - Before relocation: modified starch (3,000 t/a)
 - After relocation: modified starch (4,000 t/a)
- Consumption of major raw material: 3,840 t/a of corn starch
- Labour quota: 10 employees
- Working system: One shift per 24-hour workday, totalling 300 working days annually
- Construction period: 2 months

Chifeng Huaheng's 50,000 t/a of bio-based succinic acid project put on record

On 13 Oct., Chifeng Huaheng Synthetic Biotechnology Co., Ltd. (Chifeng Huaheng)'s production base project for bio-based succinic acid and raw materials of bio-based products was put on record.

Project overview:

- Location: Chifeng City, Inner Mongolia Autonomous Region
- Total investment: USD119.66 million (RMB849.51 million)





- Construction period: From Nov. 2022 to April 2025
- Construction scale & content: Restore the acquired equipment and plant; transform and expand the acquired 300,000 t/a corn deep processing project; build a plant for the production of bio-based succinic acid and its salts; install equipment such as air system, succinic acid fermentation system, and equipment for extraction, production of sugar from starch and by-product processing, digital automatic control system, sewage and tail gas treatment facilities, etc.,
- Processing capacity: This project can process 600,000 tonnes of corn annually
- Product scheme:
 - Bio-based raw materials (340,000 t/a) including starch (180,000 t/a) and glucose (160,000 t/a)
 - Bio-based succinic acid and its salts (50,000 t/a) (succinic acid is produced from bio-based raw materials via synthetic biotechnology)
 - By-products (180,000 t/a)

Chifeng Huaheng is a wholly-owned subsidiary of Anhui Huaheng Biotechnology Co., Ltd. (Huaheng Biotech). In Sept., Huaheng Biotech announced that it had signed the Technology License Agreement with Hangzhou Ouhe Biotechnology Co., Ltd., and obtained the relevant technical authorisation of "succinic acid production by fermentation".

Shandong Jintaihe's glucosamine salts development project

On 17 Oct., the environmental impact (EI) report of Shandong Jintaihe Biotechnology Co., Ltd. (Shandong Jintaihe)'s Technology R&D Centre project for the green manufacturing of functional sugar was publicised before getting approval.

Project overview:

- Construction nature: New construction
- Location: Zouping City, Binzhou City, Shandong Province
- Site area: 1,917 m²
- Total investment: USD718,391 (RMB5.10 million)
- Development period: 5 years
- Consumption of main raw materials: 4,000 t/a of fermentation broth containing N-Acetyl-D-Glucosamine, ammonia, etc.
- Construction contents: To build an R&D centre for glucosamine, a functional sugar, equipped with R&D laboratories, physical and chemical index inspection laboratories, refining and purification experimental equipment, etc. and purchase 82 sets of equipment to carry out scientific and technological development such as the process route for green engineering, the patent and yield improvement of functional sugar. It is expected that 150 batches of glucosamine hydrochloride and 50 batches of glucosamine sulfate will be developed and tested each year.
- Labour quota: 28 employees
- Working system: Three shifts, totalling 330 working days

COFCO Biomaterial (Yushu)'s 30,000 t/a lactide project starts construction

A ground-breaking ceremony for COFCO Biomaterial (Yushu) Co., Ltd. (COFCO Biomaterial (Yushu))'s 30,000 t/a lactide project was held on 23 Sept.

Project overview:

- Location: Wukeshu Economic and Technological Development Zone, Yushu City, Jilin Province





- Total investment: USD82.68 million (RMB586.94 million)
- Construction unit: COFCO Biotechnology Co., Ltd. (COFCO Biotech), China Aerospace Investment Holdings Ltd. and Shaanxi Guohua Convergent Industry Development Fund Partnership (L.P.)
- Construction content: To build a 90 t/d lactide processing and production line, material warehouse, tank farm for raw materials, tank farm for finished products, water station for fire-fighting, etc.
- Construction period: Starting from the date of environmental impact assessment (EIA) approval to the commissioning, lasting 24 months

As the intermediate for the production of polylactic acid (PLA), lactic acid is essential in the entire production line from corn to PLA. The commencement of the construction of this project marks that the building of corn bio-based material bases in Yushu City officially begins. Once this project is completed, COFCO Biotech's PLA entire industrial chain will come into being and the company will tap into fields such as the cutlery, textile and healthcare according the market demand.



Journalist : Wanlan Lin
Editor : Caiting Zhang, Fengyi Yan
Chief Editor : Bo Xu
Publisher : Kcomber Inc.

Kcomber's legal disclaimers

1. Kcomber guarantees that the information in the report is accurate and reliable to the best of its knowledge and experience. Kcomber defines the report as a consulting product providing information and does not guarantee its information is completely in accordance with the fact. Kcomber shall not have any obligations to assume any possible damage or consequences caused by subscribers' any corporate decisions based upon subscribers' own understanding and utilization of the report.
2. The complete copyright of the report is and will be held by Kcomber. Subscribers shall not acquire, or be deemed to acquire the copyright of the report.
3. The report provided by Kcomber shall be only used as source of subscriber's internal business decisions and shall not be used for any other purposes without Kcomber's prior written consent, unless stated and approved in license contract signed by both parties. Subscribers shall not distribute, resell and disclose the whole report or any part of the report to third parties and shall not publish any article or report by largely or directly copying or citing the information or data based on Kcomber's report without the prior written consent of Kcomber.
4. **"Single User License"** means that there shall be only ONE person to receive, access and utilize the report. Subscriber can present the content of the report that marked the source from Kcomber to their internal colleagues for their internal communication and utilization, but cannot share the whole report to other individuals. Any citation, distribution, reselling and disclosure of the report as well as its partial content to any third party are prohibited, including but not limited to their parent companies or subsidiaries.
5. **"Corporate License"** means that subscriber shall not cite, distribute, resell the report or disclose information of the report to any third party without Kcomber's prior written consent, except subscribers' affiliates controlled with ownership of more than 50% of shares.

Kcomber Inc.

Any publication, distribution or copying of the content in this report is prohibited.

17th Floor, Huihua Commercial & Trade Building, No.80 XianlieZhong Road Guangzhou, 510070, P. R. China

Tel:+86-20-37616606

Fax:+86-20-37616768

E-mail:econtact@cnchemicals.com

Website:www.cnchemicals.com