Note: Key data/information in this sample page is hidden, while in the report it is not.

1 Raw material analysis

1.1 Major raw materials' output, 2006-2010

1.1.1 Corn starch

With rapid development of corn starch industry in recent years, China has become the second largest corn starch producer and consumer in the world, only next to the US. The output of corn starch jumps to [redacted] million tonnes in 2010 from [redacted] million tonnes in 2006, with a CAGR of [redacted]%. Corn starch's capacity has reached [redacted] million tonnes per year by the end of 2010, increasing by [redacted]% compared with that in 2009. It is estimated that corn starch industry will develop with growth rate of at least [redacted]% in 2011-2015.

Small producers with little investment in environmental protection have been gradually phased out from the market in the past [redacted] years because they were not able to meet requirements of environmental protection. By contrast, large-scale producers have dominated the market aided by lower production cost and better quality of products.

1.1.2 Corncob

Corncob is the most widely-used raw material for sugar alcohol production. China has a long history of corn production and is the second largest corn production country in the world, following the US. In 2010, its output of corncob has reached [redacted] million tonnes in China, with CAGR (2006-2010) of [redacted]%. The increase in corncob output attributes to the increasing yield of corn.

2 Technology

In China, production technologies of sugar alcohols have been developed rapidly in recent years; devices and product quality in the production have been constantly improved.

Traditionally, glucose was hydrogenated in the presence of nitrogen as a catalyst under high pressure and high temperature, which is easy to realize industrial production of sugar alcohols on a large scale.

However, traditional chemical technology has disadvantages below:

- Limited reaction conditions, including temperature, catalyst, pressure and complicated technology

- Frequently accompanied by side reactions

- Many pollutants like waste water and exhaust emissions

Table 2-1 Comparison of different production methods in sugar alcohol industry

Method	Production cost	Waste discharge	Procedure	Investment in equipment	Product quality
Tradition chemical method	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Bioproduction	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Source: CCM International

2.1 Sorbitol

2.1.2 Technology innovation

Sorbitol is widely used in food additives, medical and chemical engineering. Production technology of sorbitol gradually improves as demand for it has increased. Currently, there are three trends in sorbitol's research: developing catalyst in hydrogen-reduction process of glucose, electro-reduction of sucrose to produce sorbitol and bioproduction of sorbitol.

2.1.3 Introduction to key patent

Table 2.1.3-1 Key patents about sorbitol production in China, 2000-2010

Patent No.	Applicant of patent	Name of patent
[redacted]	Wen Jianping	The production technologies for sorbitol using loop reactor
[redacted]	Wang Zhonghong	Hydrogenation tank reactor in sorbitol production
[redacted]	Liu Haichao	A production method of sorbitol and mannitol using cellulose as raw material
[redacted]	Huanghe	A production method for isosorbitol
[redacted]	Zhang Meng	A production method for sorbitol by hydrogenation of glucose

Source: CCM International