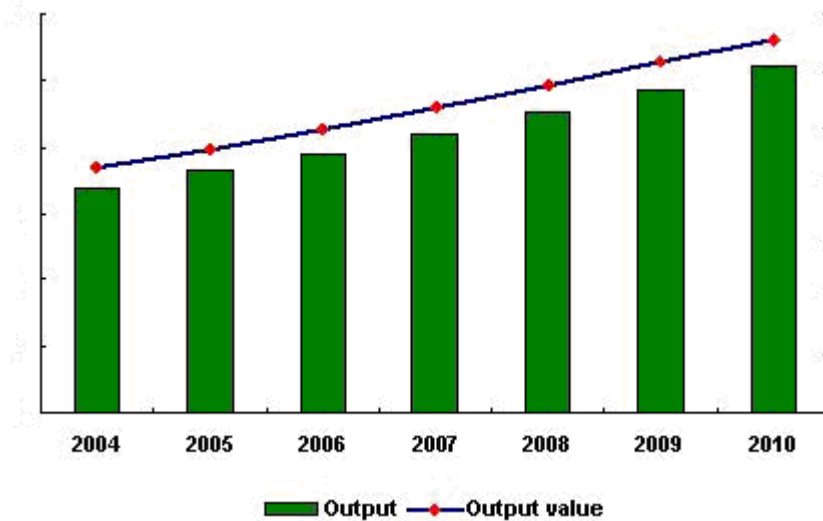


Note: Key data/information in this sample page is hidden, while in the report it is not.

1 Production

Both high temperature-resistant α -amylase and medium temperature α -amylase are widely used in brewing industry. The former can tolerate a temperature above 90°C, while the latter 60-90°C. In 2010, China's output of high temperature-resistant α -amylase comes up to [REDACTED] tonnes in 2010, about [REDACTED] tonnes more than that in 2009; the output of medium temperature α -amylase reaches about [REDACTED] tonnes, [REDACTED] tonnes more than that of 2009. As for fungal α -amylase, it's almost supplied by Novozymes and Jiangsu Wuxi Genencor Bioengineering Co., Ltd. (Jiangsu Wuxi Genencor), totally constituting [REDACTED]% or even more share in China's fungal α -amylase market. Till 2010, the production of fungal α -amylase hasn't been industrialized in China yet.

Figure 1-1 Output and output value of α -amylase in China, 2004-2010



Source: CCM International

2 Producers

Table 2-2 Capacity and output of major α -amylase producers in China, 2009-2011

| No. | Abbreviation | Total capacity '11, t/a | Total capacity '10, t/a | Total capacity '09, t/a | High temperature resistant α -amylase | | Medium temperature α -amylase | |
|--------------|-----------------------|-------------------------|-------------------------|-------------------------|--|---------------|--------------------------------------|---------------|
| | | | | | Output '10, t | Output '09, t | Output '10, t | Output '09, t |
| 1 | Novozymes | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 2 | Hunan Hong-Ying-Xiang | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 3 | Zhaodong Sun Shine | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 4 | Jiangyin BSDZYME | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 5 | | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Total | | ■ | ■ | ■ | ■ | ■ | ■ | ■ |

Source: CCM International