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# China, Peoples Republic of

# Sugar

# Artificial Sweetners Update

# 2001

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**Report Highlights:**
**Widespread use of artificial sweetners continue to cause problems for China's sugar industry. Although the Chinese government is attempting to reduce both production and consumption of these products, high sugar prices have undermined their efforts.**

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## Artificial Sweetners Leave a Sour Taste

Artificial sweetners have long been the bogeyman of China's sugar industry. In 1998, total consumption of artificial sweetners was estimated at the equivalent of nearly 4 MMT of sugar. Compare this to total sugar production of slightly over 9 MMT in the same year, and surplus stocks of over 2.5 MMT, and the impact on sugar demand becomes clear. Widespread use of artificial sweetners has undermined sugar prices, leading to heavy financial losses for sugar refiners. Health concerns are also growing over the overuse of these substitutes, particularly in children's snacks and beverages.

The underlying causes of substitution are the high support prices for sugar cane and beets, set by the Chinese government. These high prices are passed directly on to refiners, who must then charge higher prices for sugar. Sugar imports are also severely restricted. This has made artificial sweetners, which trade at market prices, much more attractive to food and beverage manufacturers. In addition, artificial sweetners are easier to use in manufacturing. Saccharine, the most popular sweetner, is up to 300 times as sweet as sugar, making it less expensive to handle and store. As a result, China has become the largest consumer of artificial sweetners in Asia, despite its relatively low per-capita consumption of sweetners in general.

## Fertile Fields

This should be among the best of times for China's sugar industry. The market for sweetners is large and growing rapidly. Soft drinks form a key component of this demand. In 2000, soft drink production reached 14.92 MMT, an increase of 25.7% over the previous year. Despite this growth, per capita consumption is still only 10 kg per year, leaving plenty of room for expansion. Industry sources expect average annual growth of 14% over the next five years, bringing the total up to 27 MMT by 2005. Fruit juice represents a particularly strong segment of this market, with consumer surveys indicating that over 76% of children in major urban areas aged six to fifteen drink fruit juice regularly.

Due to high sugar prices, nearly all of the increase in demand is being filled by artificial sweetners. As a result, artificial sweetners are now widely used in standard consumer products, rather than being limited to diet foods. The China Consumer Association (CCA) recently conducted a survey of over one hundred brands of soft drink finding that over 61% used artificial sweetners, and over 55% used saccharine. Of these, nearly half (24.46% of the total) failed to list saccharine or cyclamate in the ingredients. (Fruit juice manufacturers, particularly foreign joint-ventures, tend to favor Aspartame over saccharine). The problem is most severe in rural areas, where the food industry is poorly regulated. In small and medium sized cities, 90.9% of soft drinks contain saccharine. Use of saccharine and cyclamate regularly exceeds national guidelines, with the use of cyclamate reaching as much as 644 mg./kg., compared to a national standard limiting cyclamate to 150 mg./kg.

The problem extends to foods as well as beverages. The same CCA survey found that, of popular snack foods such as fruit gelatin and 'eight-treasure porridge,' more than 70% contained excessive amounts of cyclamate, while never even indicating the presence of cyclamate on the label. According to regulations, saccharine content may not exceed 1 gram/kilogram in toasted

nuts or beans, 1.5 grams/kilogram in dried figs or mangoes, 5 grams/kilogram in other dried fruits, and .15 grams/kilogram in ice cream, pastries, breads, marinated fruits, gelatin snacks and soft drinks. National standards also restrict the usage of Aspartame, cyclamate and other sweetners, but these regulations are widely flouted. Many manufacturers hide the artificial sweetner content by using euphemisms such as 'protein sugar.'

## Biting Back

China's artificial sweetner industry was originally established as an export industry. In 1997, export earnings from saccharine alone amounted to nearly $34 million. Diversion of these sweetners into domestic markets undermined the sugar industry, however. By 1999, consumption of artificial sweetners accounted for the equivalent of over 4 MMT of sugar, well over one third of total sugar consumption. 1999 also marked the fourth year in a row that the sugar refining industry ran at a loss, with the industry's debt to capital ratio rising to 87.7%. Chinese officials were quick to identify artificial sweetners as a key contributor to the sugar industry's woes.

As one part of its effort to control the problem, the Chinese government specifically addressed sweetners in its new food labeling law. Beginning January 1, 2000, food manufacturers are required to list any and all sweetners used, and to use the legal names approved by the government. Enforcement of such regulations is problematic, however. National regulatory agencies are thinly staffed, relying primarily on provincial and local government agencies to carry out enforcement. Enforcement is further complicated by the immense number of small-scale food and beverage manufacturers that exist throughout China. These manufacturers typically cater to local markets, and often produce counterfeit versions of famous brand-names. Many are unregistered, making them extremely difficult to track down. Many are also important employers, particularly in rural areas where non-farm employment is both rare and sorely needed. As a result, local regulators are loathe to take action against these companies, and frequently act to protect their interests.

The main part of the government's effort has been to control the production of the most widely used artificial sweetner, saccharine. In 1999 the government ordered the closure of 9 out of 14 saccharine factories, and limited the domestic use of saccharine to 3,000 MT. At the same time, in order to encourage exports (and thereby discourage diversion into domestic use), they increased the VAT rebate for saccharine exports. Industry sources believe that the campaign was initially successful, reducing domestic use and increasing exports. Most recently, however, the campaign has been undermined by rising sugar prices. Saccharine production for 2000 is believed to have gone well beyond the limit of 16,000 MT set by the government. Domestic consumption is also believed to have far exceeded the 3,000 MT limit set for 2000. For 2001, the State Economic and Trade Comission (SETC) has set a production limit of 17,000 MT. Domestic consumption is supposed to remain stable at 3,000 MT, with the remaining 14,000 MT targeted for exports. If sugar prices remain high it is unlikely that these targets will be met.

Control of saccharine production is limited by a similar set of forces that make it difficult to regulate food manufacturers. Prior to these campaigns, the saccharine industry was largely unregulated. As a result, there are a number of unregistered factories. Local officials are also

hesitant to act against these factories, as they represent a significant source of jobs and income.

## Lesser Evils

Although Saccharine remains the focus of the government's reform efforts, there are a number of other artificial sweetners being produced in China. While many are produced in very small quantities or used primarily in pharmaceuticals, others are used heavily in foods and beverages. Following is a brief list of these products. Apart from cyclamate, most of these have failed to attract regulators' attention, and continue to grow in both production and consumption.

Cyclamate. Public enemy number two, cyclamate production amounted to 25,000 MT in 1999. Although legal limits exist on cyclamate usage, official statistics indicate that over 15,000 MT was used in foods in 1998, the equivalent of 750,000 MT of sugar. Actual use is probably much higher.

Aspartame. This is one of the newest sweetners to arrive on the scene, and is heavily favored by joint-ventures. Like saccharine and cyclamate, this sweetner is used primarily in beverages. Previously available only as an import, production reached 1,000 MT in 1999. Additional factories are being established, and production and consumption are both likely to grow quickly in the future. Government sources expect consumption to reach 2,400 MT per year (sugar equivalent of 480,000 MT).

Steviosides. Production of this sweetner, refined from the plant sweet stevia, is also growing rapidly. Total production capacity is estimated at 3,200 MT (sugar equivalent of 640,000 MT), although actual production is probably less than that. A large proportion of the production is exported, primarily to other countries in East Asia, although markets in North America have also recently been opened.

Liquiritoside. Newly introduced, this sweetner has gained the backing of the Chinese government. The government considers this to be a natural sweetner and a preferrable alternative to those artificial sweetners which may be harmful to human health. The primary production base is in Xinjiang. Exports are substantial, amounting to nearly half of international demand, according to Chinese officials.

Sorbitol. Used primarily in pharmaceuticals, cosmetics and toothpaste, the Chinese government does not view this as a threat to sugar consumption. Production capacity is about 200,000 MT, although 1999 production was only 150,000 MT.