
Hard Candy 101

In the mid-19th century the development of corn syrup made the mass production of hard candy possible. With some refinements of ingredients, equipment and technique, we use the same basics today.

John Kitt

Hard candies, also known as boiled sweets, boiled sugar and fruit drops, were first introduced in England in the early 17th century.

The basic raw material of hard candy, sugar refined from the juice of the sugarcane, had been known since ancient times but had been prohibitively expensive until production of sugarcane in the New World colonies made refined sugar available at an affordable price.

A process for extracting sugar from beets was developed by the French during the Napoleonic wars when their access to the West Indies was cut off.

The development of corn syrup in the mid-19th century made possible the mass production of hard candy by the methods we use today.

The earliest hard candies were made by dropping boiled candy onto a cold table through a depositing funnel. A later innovation was the cutting frame and then the drop roller.

Today, most hard candies are formed by either die stamping or depositing but the drop roller is still sometimes used.

THE U.S. MARKET

IRI data for the year 2006 shows sales of hard sugar candy totaling \$241 million, a

decrease of 10.3 percent over the prior year (Figure 1). During this period the total sales of nonchocolate candy remained static at \$1.97 billion, with the decline in hard candy more than offset by a 19.3 percent increase in sales of plain mints.

IRI data measures sales through food, drug and mass-merchandising channels and does not include Wal-Mart.

The top-selling hard candy brand in 2006 was *Jolly Rancher* with sales of \$38.8 million.

THE STRUCTURE OF HARD CANDY

The basic process of hard candy production is to boil an aqueous solution of the sugar sucrose to form a supercooled, supersaturated solution with a moisture content around 2.5 percent. This glass-like substance is the amorphous form of sugar and can be regarded as an extremely viscous liquid.

Sucrose crystallizes very readily. If we were to attempt to make hard candy by boiling a sugar solution with no other ingredients, the sugar would revert to the crystal form immediately when we started to manipulate the cooked batch. In hard candy terminology, recrystallization within the product is called *graining*.

The sucrose molecules in hard candy are randomly distributed throughout the mass; ➤



John Kitt retired as a research principal at Wrigley in 2006. He had worked for Kraft (Wrigley purchased the Life Savers line from Kraft), Nabisco, Standard Brands, Knechtel Laboratories and Geo Bassett & Co.