

Overview

Maple cotton candy is a delicately flavored treat often produced and sold at fairs, festivals, and farmers markets. It was introduced at the New York State Fair in 1998 and has become the second most profitable maple food product after maple ice cream, according to the NYS Maple Producers Association (personal communication, 2023).

Cotton candy that is prepared for immediate consumption can be placed in a food grade balloon bag or served on a paper cone. It can also be prepared and packaged for wholesale or retail sale. This bulletin outlines guidelines for producing and packaging maple cotton candy prior to sale online, in-stores, or at onsite locations. Recipe, equipment, and marketing information can be found in the [Maple Cotton Candy subsection in the New York State Maple Confections Notebook](#).

The Science of Cotton Candy

Cotton candy is prepared by heating granulated sugar to above 374 °F in the spinning head of a cotton candy machine. The liquid sugar is then spun and pushed from the spinning head to the surrounding environment as a fine stream that rapidly cools into a floss like candy (Fig. 1). Sugar in this form is called **amorphous** or **glass**. It is uncrystallized, unstable, and easily dissolves. Further, the rapid cooling allows even distribution of any flavors or colors added to the granulated sugar mixture prior to heating.



Figure 1. Microscopic image of cotton candy (with permission Kim, 2018).

Preserving Product Quality

Regulation Requirements

Pre-packaged cotton candy can be produced without a scheduled process from a Process Authority. It is a low-risk food product due to its low water activity (<0.65; measurement of free water in the product); as such, the product is not at risk of bacteria, yeast, or mold growth. Contact the state department for the state in which the cotton candy is produced to determine whether the product may be produced in a home-based business (also known as a cottage food operation, home-based food establishment, or home processor

exemption) or a food facility (also known as a food processing establishment or commercial kitchen).

Home-based businesses are not required to register with the FDA (FDA, 2023), but are required to register with the state department in which the business resides. In New York State (NYS), packaged cotton candy production requires specialized equipment and thus cannot be produced with a home-based business license, according to the NYS Department of Agriculture and Markets (NYSDAM; personal communication, 2023). However, some states may permit home-based businesses to prepare and package cotton candy for wholesale and retail sale. For more information, please visit the appropriate state department webpage.

Food facilities or commercial kitchens are required to register with the FDA (FDA, 2023) and with the state department. In NYS, the commercial kitchen license provided by the NYSDAM is a 20-C Food Processing Establishment License. Sales outside of NYS are permitted under this license. For more information, please visit the NYSDAM Food Business Licensing webpage or the appropriate state department webpage.

Cotton candy is subject to sales tax in NYS. For more information, see the Sales Tax and Maple Products subsection of the [New York State Maple Confections Notebook](#).

Labeling

Label requirements differ by business or facility type and size. Requirements for home-based businesses are provided by each state department and commonly include a common name of the product, ingredient list ordered by weight, net quantity, processor name, processor address, and allergens (Fig. 2).

Cotton candy produced in food facilities must adhere to state department label requirements and may require a nutrition label. Multiple exemptions for nutrition labels exist. More information on labels and exemptions are available in the Food Labeling Guide (FDA, 2013).

Storage and Packaging

For long-term storage, place cotton candy in high moisture barrier packaging, such as polyethylene (PP) containers or aluminum foil bags (Fig. 3). Alternatively, use a polyethylene terephthalate (PET or PETE) container with a heat sealant coating. PET



Figure 2. Sample label for packaged maple cotton candy.

packaging is more prone to moisture exchange between the candy and the environment. If using PET packaging, add a heat sealant coating to extend the shelf-life.



Figure 3. High (PP, aluminum) and moderate (PET) moisture barrier packaging for maple cotton candy.

Limited storage recommendations are available for packaged cotton candy. When it is exposed to 71 – 75 °F and 0 to 11% relative humidity (RH), a 12-month shelf-life is expected (Labuza, 2004). As RH increases, the shelf-life shortens significantly. For instance, cotton candy exposed to 33% RH is expected to have a 3-day shelf-life, while at 45 – 75% RH, less than 1 day is expected (Labuza, 2004). Proper packaging can extend the shelf-life of cotton candy by reducing moisture from the environment from interacting with the product. It is recommended to store packaged cotton candy at 60 – 75 °F. Be aware that storage at higher temperatures, low temperatures (<40 °F), or frequent fluctuations in temperature can reduce cotton candy shelf-life.

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Citations

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