



Department of Agriculture and Markets (/)

COVID-19 UPDATES

[What you need to know \(https://agriculture.ny.gov/coronavirus\)](https://agriculture.ny.gov/coronavirus)



[Food Safety \(/food-safety\)](#)

Kombucha Processing

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Overview

Kombucha is a fermented beverage made from brewed tea and sugar that is gaining popularity throughout New York and the US. It can be found in health food stores and retail food stores, and at farmers' markets.

Kombucha teas are considered food and therefore subject to regulation by the Department. Most kombucha is intended to be sold in unpasteurized form, with refrigeration as the control to prevent further fermentation, and maintain a level of less than 0.5% alcohol by volume.

Kombucha produced with a level greater than 0.5% alcohol by volume may also be subject

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to state regulation by the New York State Liquor Authority (SLA) ([/new-york-state-liquor-authority](https://new-york-state-liquor-authority)).

Hazards of kombucha include:

- Biological (pathogen, mold, or wild culture growth)
- Chemical (potential for acidosis, or alcohol development)
- Physical (unstable food, possible container integrity)

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Manufacture and Sale Requirements

Manufacture and Sale Requirements

Department requirements for producing kombucha for **wholesale distribution** are as follows:

- Adherence to a process review conducted by a recognized process authority, or a peer reviewed scientific journal article.
- A current Article 20-C Food processing establishment license.
- Compliance with 1NYCRR Parts 260 or 261 - Current good manufacturing practices (cGMPs).
- Compliance with 1NYCRR Part 259.1 - Packaging and labeling of food (including “Keep Refrigerated” statement for unpasteurized kombucha).

Department requirements for producing kombucha at **retail** are as follows:

- Adherence to a variance as required under 1NYCRR Part 271.9 - Retail food store sanitation regulations, compliance, and enforcement.
- A current Article 20-C Food Processing Establishment license.
- Compliance with 1NYCRR Part 271 - Retail food store sanitation regulations.
- Compliance with 1NYCRR Part 259.1 - Packaging and labeling of food (including “Keep Refrigerated” statement for unpasteurized kombucha).

In addition, there are further **transportation, storage, and display** requirements for producers of kombucha:

- Unpasteurized Kombucha contains live cultures and can continue to ferment and raise alcohol content over time, especially if transported, stored, or displayed without refrigeration. Unpasteurized kombucha must be refrigerated at or below 41°F at all times. Improperly refrigerated unpasteurized kombucha may be subject to Department food seizure.
- The Department may collect samples of kombucha routinely, or at any time there is information indicating unpasteurized kombucha may have been transported, stored, or sold in a manner in which continued fermentation may have occurred. Kombucha found by laboratory analysis to contain greater than 0.5% alcohol by volume, and not produced under SLA licensure, may be subject to Department food seizure authority.

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Processing Steps

Processing Steps

Naturally, kombucha recipes will vary. When processing, use only clean, sanitary equipment and utensils, and follow written standard sanitation operating procedures (SOPs).

SOPs are written, step-by-step instructions to accomplish a food safety objective. SOPs should include:

1. a detailed plan for cleaning and sanitizing equipment;
2. a detailed process instruction sheet to tell employees how to make kombucha using the food safety measures outlined in this report. The SOP must describe how employees will measure and record on a pH log; and
3. detailed instructions on how to calibrate the pH meter.

The general process includes infusing tea leaves (4-5 g/L) into freshly boiled water. Sugar (sucrose) is added at 50-150 g/L (5% to 15%). The tea is allowed to brew for approximately 10 minutes and the tea leaves are removed. The tea is cooled to room temperature and approximately 100 ml/L (10%) of fresh-fermented kombucha containing the microbial mat from a previous batch is added to the sweetened tea. The product is then covered with a clean porous cloth (i.e. cheese cloth) and incubated at room temperature for about 7 to 10 days. When the fermentation is allowed to continue beyond 10 days, acidity may rise to levels potentially harmful to consumers (equivalent to drinking undiluted vinegar).

Process Flow

1. Use hot (> 165°F) water to steep tea (this kills vegetative pathogens if present). Add Sugar. Steep for approximately 10 minutes and remove tea leaves.

2. Cool tea and add culture (SCOBY). Use a commercially purchased culture on first use. Subsequent inoculation can be made from previous batches. Reuse only culture from kombucha that shows no signs of mold or unusual contamination.
3. Cover and ferment product at room temperature for 7-10 days.
4. Test to ensure the pH of the product is below 4.2 but greater than or equal to 2.5. Kombucha with a pH of below 2.5 or that tastes especially acidic should not be offered to consumers. A corrective action would be to dilute the high acidity with fresh brewed tea until pH > 2.5, but never higher than pH 4.2.
5. Discard all kombucha that is showing signs of mold contamination. Do not reuse for inoculum.
6. Bottle product and label "Keep Refrigerated" and a consumer warning stating: "Consumption of no more than 4 oz. per day is recommended" and "Product should not be consumed by immunocompromised individuals". Furthermore, the label should include a statement that minor amounts of alcohol may be present. 7
7. Statements concerning health claims may not be included in product labeling or marketing.

Alternate Processes

Option 1

Product may be pasteurized at 180°F for 30 seconds upright and an additional 30 seconds inverted. Pasteurized kombucha with a pH of ≤ 4.2 is considered shelf stable.

Option 2

Product may include the addition of 0.1% sodium benzoate and 0.1% potassium sorbate to kombucha with a pH of ≤ 4.2 . Product must still be held under refrigeration.

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Related Resources

Related Resources

[Kombucha Brewing Under the Food and Drug Administration Model \(/kombucha-brewing-under-food-and-drug-administration-model-food-code-risk-analysis-and-processing\)](#)

[Food Labeling \(/food-safety/food-labeling\)](#)

[Recognized Food Processing Authorities \(/food-safety/recognized-food-processing-authorities\)](#)

[Current Good Manufacturing Practice, Hazard Analysis, and Risk-Based Preventive... \(/1-nycrr-part-260-current-good-manufacturing-practice-hazard-analysis-and-risk-based-preventive\)](#)

[Retail Food Store Sanitation Regulations \(/1-nycrr-part-271-retail-food-store-sanitation-regulations\)](#)

[Acidified Foods Regulations \(/1-nycrr-part-261-shell-eggs-acidified-foods\)](#)

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