

Guidelines for Food Processing Safety

There are two categories of processed foods regulated by the Georgia Department of Agriculture.

Perishable: Refrigerated or frozen temperatures are required.

Nonperishable: Food items stored at ambient air temperatures above 40°F (shelf stable).

Perishable processed foods require refrigerated temperatures to insure food safety; less than 40°F for foods labeled “Keep Refrigerated” and less than 0°F for foods labeled as “Keep Frozen”. The low temperature slows or inhibits the growth of pathogenic bacteria making temperature controls and monitoring procedures very critical. During processing of perishable foods, exposure to temperatures above 40°F should be kept to a minimum.

The classification of nonperishable or shelf stable processed foods can be placed into three categories:

- 1. Jams, Jellies, Preserves and Fruit spreads or Fruit Butters:** The Code of Federal Regulations (21 CFR 150.140) require a Brix level of not less than 65 (65% soluble solids) to be considered Jams, Jellies or Preserves. If the Brix level is less than 65, the acidity (pH) becomes a critical safety issue. Normally, lemon juice, citric acid or other suitable acidifying agents are added and must be shown in the ingredients statement. Fruit Butters require a Brix of not less than 43 (21 CFR 150.110).
- 2. Acid Foods** are defined as foods that have a natural pH of 4.6 or less.
- 3. Acidified Foods (21 CFR 114.3)** are defined as a low acid food to which suitable acidifying agent including, but not limited to vinegar, citric acid, or natural acid foods, such as, tomato juice or lemon juice are added to adjust the pH to a safe level. An equilibrated pH of 4.6 or lower is considered a safe level. A few examples of acidified foods are: relishes, pickles, chow-chow and salsa. Carbonated beverages, jams jellies, preserves, acid foods (including such foods as standardized and non standardized food dressings and condiment sauces) that contain small amounts of low-acid food(s) and have a resultant finished equilibrium pH that **does not significantly differ** from that of the predominant acid or acid food, and foods that are stored, distributed and **retailed under** refrigeration are excluded from these requirements.
- 4. Low-acid Foods** are defined as a low-acid food to which high temperature processing is required to insure food safety. The low-acid food is containerized and heat treated under pressure for a specified period of time. This is commonly known as pressure cooking and involves products such as green beans, corn spinach, turnip greens, some vegetable soups, meats and fish.

In all shelf stable products, the target pathogenic bacteria is Clostridium botulinum.

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organism's spores can withstand boiling temperatures for up to eight hours and reproduces by forming vegetative cells with spores. Spore destruction can only be accomplished by high heat (under pressure). An equilibrated pH of less than 4.6 will prevent the germination of spores to vegetative cells. Equilibrium pH is usually recorded after holding the product for at least 24 hours. The greater the density of the product, the longer it takes to achieve equilibrium. The lower the pH at equilibrium, the greater the margin of safety, but you must balance the safety factor with palatability.

Botulism can be prevented by: 1. Equilibrating the pH at 4.6 or lower. 2. Keeping the water activity at or below 0.85. 3. Process for thermal destruction of spores.

Low-acid canned foods are seldom commercially processed on a small scale because of the expense involved in equipment and professional assistance as required by the Code of Federal Regulations 21 CFR 113. All retorts must be approved through a processing authority that conducts the heat transfer test specific for a single retort for each product, container size and type.

Processing of Jams, Jellies, Preserves and Fruit Spreads or Fruit Butters require the following:

1. pH Meter
2. Certified thermometer
3. Refractometer
4. Record log (each lot)

Acid Processing requires the following:

1. pH Meter
2. Certified Thermometer
3. Record log (each lot)
4. Have process for all products reviewed and approved by Processing Authority

All Acidified Processing requires the following:

1. pH Meter
2. Certified Thermometer
3. Record log (each lot)
4. Processed under the authority of an individual who has successfully completed the "Better Process Control School".
5. Have schedule process for all products reviewed and approved by Processing Authority.
6. All schedule processes must be filed with FDA for interstate commerce or Georgia Department of Agriculture for intrastate commerce.

All low-acid Processing requires the following:

1. Retorts properly equipped as required by the Code of Federal Regulations.
2. Record Logs
3. Processed under the authority of an individual who has successfully completed the "Better Process Control School".
4. Thermometers (mercury in Glass) calibrated
5. Have a schedule process for all products submitted to FDA and have a process authority to conduct heat transfer test for specific products, containers, retorts and sizes.

The Food Label

Food labels are subject to review by the Georgia Department of Agriculture as administrative procedures enjoin. A label must contain the following information:

1. Name of the product (common or usual) name
2. The components of an ingredients statement must be listed in descending order of predominance by weight. If any component of the ingredients statement contains multiple ingredients, they must be sub listed in parentheses. Example: Mayonnaise (list ingredients), next ingredient. The statement of ingredients should be preceded by the word "Ingredients" followed immediately by a colon.
3. A food to which a chemical preservative(s) is added shall, except when exempt pursuant to 101.100 bear a label declaration stating both the common or usual name of the ingredient(s) and a separate description of its function, e.g., "preservative", "to retard spoilage", "a mold inhibitor", "to help protect flavor" or "to promote color retention".
4. The declaration of responsibility must include the name and address of the company, including the zip code. If the declaration of responsibility is other than the manufacturer, the distributor's name and address, including the zip code, must be preceded by the phrase "Distributed by:" or "Manufactured for:". The street address may be omitted only if the firm is listed in the local phone book or city directory.
5. The declaration of quantity must be located in the lower 30% of the label and generally parallel to the name of the product. Both English and metric declarations must be used to express the net quantity of consumer packages. Fluid and solid measure expressions may not be mixed in the statement of quantity. The phrase "Net Weight" or "Net Wt." must precede the statement of quantity when it is expressed in ounces and grams. When expressed in fluid measure, the phrase "Net Wt." may not be used. To convert ounces to grams, multiply the number of ounces by 28.3495. Example: 28.3495 times 16 oz. = 453.5 grams. This would be expressed as: Net Wt. 16 oz. (454 g). When fluid measure is used, multiply 29.5735 by the number of ounces. Example 29.5735 times 16 fluid ounces = 473.1 g. This would be expressed as: 16 fl. oz. (473 ml).

Free space above and below the statement of quantity must be at least equal to the size of the letters in the statement and twice the width of the letter "N" on either side.

Products that are fluid when filled and solid when sold are usually sold by net weight.

6. All processed food products must be coded for traceability. The manufacturer can use any coding method provided the records indicate the corresponding date of manufacture, amount processed, and other required information. The manufacture code can be placed on the label, container, or closure.

PLEASE CONTACT THE DISTRICT OFFICE IN YOUR AREA FOR FURTHER ASSISTANCE AND DIRECTION. FOOD SAFETY IS A RESPONSIBILITY OF EVERYONE!

PROCESS APPROVAL IS REQUIRED FOR ALL SHELF STABLE PRODUCTS (EVEN IF THE PRODUCT WILL BE CO-PACKED)

**Information and Documentation Required for Process Approval by UGA EFS
(All information provided is kept strictly confidential)**

1. Facility/plant sanitation procedures followed, both before and after processing.
2. Employee personal hygiene requirements.
3. List of product ingredients stating quantity used.
4. Step-by-step process outline to include the following:
 - a. ingredient prep
 - b. precooking/soaking/marinating
 - c. mixing
 - d. heating/cooking (if applicable)
 - (1) heating/cooking time
 - (2) end point temperature (measured with calibrated thermometer)
 - (3) cook loss
 - e. filling procedures
 - f. temperature at fill in container
5. Full description of container
 - a. Closure/sealing method (Note: For any container other than glass, include a letter of USDA/FDA approval for container or packaging material.)
6. Cooling procedure
7. Product coding procedure
 - a. How is lot/batch determination made?
8. Recall procedure
9. Product testing
 - a. procedure used for pH determination (if applicable)
 - (1) sample of form showing documentation of lot/batch pH results
 - b. procedure used to determine % solids (if applicable, i.e. jams, jellies, preserves)
 - c. procedure used to calibrate pH meter and thermometer
 - d. frequency of calibration
10. Provide sample of product for evaluation/classification purposes
11. Provide the following:
 - a. name
 - b. company name
 - c. mailing address
 - d. contact person
 - e. phone number
 - f. fax number (if available)
12. Cost:
 - a. \$20 charge for each product for pH/Brix testing
 - b. \$50 charge for each product for process approval/classification
- 13 Payment – Check or money order payable to University of Georgia

14. Mail to: Process Approval
University of Georgia
Extension Food Science
240A Food Science Building
Athens, GA 30602-7610

For credit card payments only:
FAX to (706) 583-0992

(This document is intended to be a “Guideline” which describes in simple terms a number of basic requirements which must be met before licensing food firms. For further assistance contact the District Office in your area. Out of State inquires may contact the Administrative Office in Atlanta.)

BASIC REGULATORY REQUIREMENTS FOR LICENSING FOOD FIRMS

Licensing:

Georgia Food Act (Section 26-2-25) “It shall be unlawful for any person to operate a food sales establishment without having first obtained a license from the Commissioner”

“Food Sales Establishment” means retail and wholesale grocery stores; retail seafood stores and places of business; food processing plants, except those food processing plants which are currently required to obtain a license from the Commissioner under any other provision of law; bakeries; confectioneries; fruit, nuts, and vegetable stores or roadside stands; wholesale sandwich and salad manufacturers, including vending machines and operations connected therewith; and places of business and similar establishments, mobile or permanent, engaged in the sale of food primarily for consumption off the premises.

A license may not be transferred from one person to another person, from one food establishment to another, or from one type of operation to another.

The Department does not issue temporary permits

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Facilities:

Contact with the appropriate District Office is strongly recommended prior to the beginning of any construction.

A private home, a room used as living or sleeping quarters, or an area directly opening into a room used as living or sleeping quarters may not be used for conducting food establishment operations.

Living or sleeping quarters located on the premises of a food establishment shall be separated from rooms and areas used for food establishment operations by complete partitioning and solid self-closing doors.

Facility Requirements:

Exterior Walls, Doors, Floors and Roof of a food establishment shall effectively protect the establishment from the weather and the entry of insects, rodents, and other animals.

Materials for indoor floor, wall, and ceiling surfaces under conditions of normal use shall

be smooth, durable and easily cleanable for areas where food establishment operations are conducted.

Attachments to walls and ceilings such as light fixtures, mechanical room ventilation system components, vent covers, wall mounted fans, decorative items, and other attachments shall be easily cleanable.

Pest Control:

Adequate measures shall be in place to preclude contamination by insects, rodents, and other pests: within the physical facility and its contents; and on the contiguous land or property.

Sinks:

Sink requirement is determined by the type of food operation.

Ware Washing:

Except as specified below, a sink with at least 3 **compartments** shall be provided for manually washing, rinsing, and sanitizing equipment and utensils.

A **2-compartment** sink may be used only if:

1. Its use is approved by the Department; and
2. The nature of ware washing is limited to batch operations.

Sink compartments shall be large enough to accommodate immersion of the largest equipment and utensils.

Hand Washing:

At least one **hand wash sink** shall be located in or immediately adjacent to toilets rooms.

Additionally, hand washing facilities shall be installed to permit the convenient use by all employees in food preparation and ware washing areas.

Service (Mop Sink):

At least 1 service sink or 1 curbed cleaning facility equipped with a floor drain shall be provided and conveniently located.

Toilets and Urinals:

At least 1 toilet and not fewer than the number of toilets as may be required by other laws shall be provided.

Water:

Water shall be obtained from an approved public or private source.

The water source and system shall be sufficient capacity and pressure to meet the water demands of food establishment.

Hot Water:

Hot water generation and distribution systems shall be sufficient to meet the peak hot water demands throughout the food establishment.

Plumbing:

A plumbing system shall be designed, constructed and installed according to local code.

Floor drains may be required under some conditions and shall be installed as regulations and local codes require.

A plumbing system and hoses conveying water shall be constructed and repaired with approved materials.

Sewage:

Sewage shall be disposed through an approved public or individual disposal system.

Outside Premises:

The premises shall be free of excessive vegetative growth and debris.

The outdoor walking and driving areas shall be surfaced with materials that minimize dust, facilitate maintenance, and prevent muddy conditions.

Exterior surfaces of establishment buildings and associated structures shall be of weather resistant materials.

Exterior walking and driving surfaces shall be graded to drain.

Refrigeration:

Equipment for cooling and heating food and holding hot and cold food shall be sufficient in number and capacity to provide proper food temperatures. A maximum of 40° F for Cold Foods and a minimum of 140° F for Hot Foods.

Food:

Food shall be of sound condition and safe for human consumption and shall be obtained from sources that comply with applicable laws relating to food safety.

Food prepared in a private home may not be used or offered for human consumption in a food sales establishment, neither shall rooms used to store or offer food for sale, be used as living quarters.

Labels:

Prior to the manufacture of products, all packed product labels are subject to review by the Department as administrative procedures enjoin. Basic label requirement for food products include:

1. The name of manufacturer, packer or distributor.
2. The address of the manufacture, packer, or distributor, including the Zip Code.
3. The Net Contents in definite units (Refer to 40-15-3-.08)
 - a. If liquid, in liquid measure
 - b. If solid in terms of weight
 - c. If a mixture (solid and Liquid) in terms of weight
 - d. The declaration of contents of a package must be listed on the label and shall appear on the bottom 30 % of the principal display panel.
4. Metric declaration must be listed on label of food products.
For example: Net Wt. 16 oz (454 g.); Net. 16 Fl. Oz. (473 ml.)
5. The common name of the product.
6. A list of ingredients, the common name of each ingredient, and in order of

predominance by weight.

Under certain conditions, the following are necessary:

- a. Optional ingredients
- b. Dietary properties, if claimed
- c. If used, artificial ingredients must be so labeled
- d. Clearly indicated in event anything is **Imitation**
- e. NLEA Requirements

7. A product code (lot number) indicating the date of production shall be applied to all packaged foods by the food manufacturer or processor at the time of packaging.

Labels submitted for review by the Atlanta Office should first be critiqued by responsible sanitarian and or supervisor using label review policy (Memorandum No. 96-4) and deficiencies addressed with management and corrected prior to submission.

Inspection:

Inspections shall be conducted as often as the Department deems necessary to insure compliance with these regulations and at a minimum established by Departmental directives.

Additionally, specific regulations will apply as type of food operation may require. (Example: Mobile Vehicle, Salvage Foods, etc.)

Effective October 1, 1996
Revised July 15, 2002