

Commercially Canning Low-Acid Foods: Vegetables, Meats, and Seafood

DEFINITION OF A COMMERCIAL FOOD PROCESSOR

An individual who processes or preserves a food item to sell (excluding food service preparation) is considered a Commercial Food Processor. Under the U.S. *Code of Federal Regulations* (CFR), low-acid canned vegetables and seafood are under the jurisdiction of the Food and Drug Administration (21CFR113) while food products containing 3 percent or more raw (2 percent cooked) meat or poultry is regulated by USDA's Meat and Poultry Inspection Service (MPIS; 9CFR318.300 and 381.300). Other sections of the regulations virtually exclude a home kitchen environment as a suitable commercial canning facility. Instrumented equipment, specialized schooling, registration, and technical expertise are required to start the business. Once begun, the operation will be closely monitored by state and federal agencies. These agencies should be contacted before beginning the business.

FEDERAL REGULATIONS GOVERNING COMMERCIAL CANNING OF LOW-ACID FOODS

The *Code of Federal Regulations* containing the FDA and USDA regulations governing the commercial processing of foods is published by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Parts 1 through 199 of Title 21 of the CFR contain the FDA regulations for food and food-related items. USDA/FSIS regulations are published in Title 9. Part 318.300 contains the regulations for canned meat products, and Part 381.300 contains the regulations for canned poultry products. In addition, certain processed fruits and vegetables must also meet the US Standard for

grades. These requirements are published in Part 52 of Title 7 of the CFR (7CFR52) and are administered by the Agricultural Marketing Service/U.S. Department of Agriculture. CFR volumes are annually updated to incorporate changes in the regulation, and subscribing public libraries usually have the most recent issues.

Individuals wishing to start a commercial food-processing business should become familiar with all applicable CFR sections. However, the sections of greatest interest to a commercial canned low-acid food operation are:

- Food Labeling (21CFR101-FDA; 7CFR317-Meat and 7CFR381.1-Poultry)
- Emergency Permit Control (21CFR108)
- Current Good Manufacturing Practice in Manufacturing, Processing, Packing, or Holding Human Food (21CFR110)
- Thermally Processed Low-Acid Foods Packaged in Hermetically Sealed Containers (21CFR113)
- Canned Vegetables (standards; 21CFR155)
- Processed Fruits and Vegetables, Processed Products Thereof, and Certain Other Processed Food Products (USDA/Agriculture Marketing Service; U.S. Standards for Grades; 7CFR52)
- Mandatory Meat Inspection (9CFR301-335) and/or Mandatory Poultry Products Inspection (9CFR381)

STATE REGULATIONS GOVERNING COMMERCIAL CANNING OF LOW-ACID FOODS

Federal food regulations are often adopted by individual states. The regulations for compliance with the South Carolina Food and Cosmetic Act (1972)

are essentially the same as the FDA requirements published in 21CFR1-199. The SC Department of Agriculture (SCDA), Laboratory Division, Box 11280, Columbia, SC 29211, telephone (803) 737-9690, has primary responsibility for administering and enforcing the South Carolina Food and Cosmetic Act. Similarly, the meat and poultry product regulations of USDA/FSIS published in 9CFR301-390 have been adopted by the South Carolina Meat-Poultry Inspection Service (SCM&PIS), Clemson University, P.O. Box 102406, Columbia, SC 29224-2406, telephone (803) 788-8114.

SELECTED FEDERAL/STATE REQUIREMENTS GOVERNING COMMERCIAL CANNING OF LOW-ACID FOODS

Many sections of the CFR food regulations contain “should” and “shall” statements. “Should” is used to state recommended or advisory procedures or to identify recommended equipment [21CFR113.3(t)]. “Shall” is used to state mandatory requirements [21CFR113.3(s)d]. A brief listing of selected (but not all) key “shall” items that apply to commercial canning of vegetables, seafood, meat, and poultry include:

- **CODING:** All canned low-acid food containers offered for sale **shall** be marked with a permanently visible code identifying the packing period, contents, date, and processing facility (and the Official Establishment Number for meat/poultry products manufactured under (USDA/FSIS or SCM&PIS).
- **EQUIPMENT:** Commercial pressure processing vessels (retorts) **shall** be properly installed (plumbing) and **shall** be equipped with approved thermometer(s), vent/bleeders, temperature-recording device, and automatic steam controller. A standard “home pressure canner” would *not* be acceptable commercial canning equipment.
- **FACILITIES:** A facility housing a commercial canning operation **shall** have easily cleanable and impermeable surfaces on the walls, floors, and ceiling; shatter-guarded lighting fixtures in all product areas; be void of insect/vermin accesses; and be

physically laid out to separate unit operations, raw ingredients, and intermediate/finished product(s). Other considerations address sanitation requirements, controls, operations, personnel, equipment, and grounds. A “home kitchen” would *not* be expected to comply with the requirements for a facility in which to operate a commercial canning operation.

- **LABELING:** All low-acid canned food offered for sale **shall** be properly labeled as to the identity of contents, ingredients (as applicable), fill of contents, and manufacturer/distributor information. Size of print font, label location of mandatory information, and voluntary information may vary according to shape and size of the container. Nutritional labeling is mandatory for most canned products under FDA’s jurisdiction unless the processor has filed for, and obtained, a low-volume exemption. Low-volume exemptions are available to companies that have not provided nutritional information nor made a nutrient content or health claim; average less than 100 full-time equivalent employees; *and* have fewer than 100,000 consumer units of the specific product sold annually in the United States. (Note: Persons that are not importers with fewer than 10 full-time equivalent employees *and* fewer than 10,000 total units of the product sold annually are exempt without having to file for the low-volume exemption.) USDA/FSIS’s small business exemption for meat/poultry products is a firm having 500 or fewer employees *and* producing less than 100,000 pounds of that particular product per year.
- **RECORDS:** Before shipment or release for distribution, all canned low-acid food product processing logs/charts and container closure records **shall** be reviewed for deviations and then signed and dated within 1 working day by a representative of plant management who is qualified by suitable training or experience. Records **shall** be retained for 3 years.
- **REGISTRATION:** All commercial canned low-acid food processors under the FDA **shall** register and file a form FD-2541 available from HFF-326, 200 C St. SW., Washington, DC 20204. Before packing a product, each canner under FDA jurisdiction **shall** file a “scheduled process” stating the processing methods, type of thermal processing equipment, minimum initial temperature, time and temperature

of processing, sterilizing value (Fo), critical control factors affecting heat penetration, and source and date of the establishment of the process. This must be done for each product in each container size. Similarly, a meat/poultry product processor **shall** meet the requirements to become an “official establishment” and **shall** provide documentation of its processes to USDA/FSIS personnel upon request.

- **SUPERVISION:** Before a low-acid canned food product is distributed, it **shall** have been processed under the operating supervision of “a person who has attended a school approved by the FDA and USDA . . . and who has been identified by that school as having satisfactorily completed the prescribed course of instruction.” An FDA/USDA-approved course of instruction includes appropriate thermal (heat) processing procedure(s) and container closure examination/evaluation(s). Courses of instruction are offered at sponsoring universities. A course usually lasts 3 to 4 days, and registration fees normally range from \$400 to \$600 per person.

- **MISCELLANEOUS:** [1] All ingredients, containers, and food contact surfaces **shall** be approved for food use and are normally purchased under written “guaranty” from the supplier. [2] All canning operations **shall** maintain an updated written “product recall” procedure plan. [3] All products receiving an “abnormal” process (or processed when a critical factor is out of control) **shall** (1) be evaluated by a competent processing authority and deter-

mined to be free of microorganisms of potential public health significance before it is shipped, (b) be fully reprocessed keeping full records of the reprocessing conditions, **or** (c) be destroyed. Documentation of the action(s) taken **shall** be kept in a separate file.

REMINDER

A commercial food processing operation is a business venture. Before beginning operation, a business should have adequate insurance coverage (especially liability insurance) and the appropriate business license(s). City, county, and state business-licensing information is available by calling the South Carolina Program Assistance Line (PAL) at (803) 734-2050. Another helpful guide is *Attention All Employers*, available from the Office of Public Information, SC Department of Labor, Licensing, and Regulation, P.O. Box 11329, Columbia, SC 29211, telephone (803) 734-9600. Information on incorporating a business is available from SC Sec. of State, Corporate Division, P.O. Box 11350, Columbia, SC 29211, telephone (803) 734-2158. South Carolina business incorporation forms may be ordered by calling 1 (800) 476-1844 or 1 (800) 351-1244.

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