Setting up a food-processing business in your home or a separate home-style kitchen facility has advantages and disadvantages. This article describes considerations for how to set up your food-processing business.

The term "limited food establishment," or "LFE," will be used throughout this document to refer to a home-style kitchen, residential-style kitchen, or a personal-use kitchen, regardless whether the location is on or off the actual residential property.

Pennsylvania Regulations for Starting a Limited Food Establishment

Setting up a food-processing business in your home has advantages and disadvantages. You can make your own schedule and cut commuting expenses. On the other hand, there may be added costs involved in getting your kitchen up to Pennsylvania Department of Agriculture (PDA) sanitary standards, and working at home will definitely impact your family—just ask any successful entrepreneur.

Local Zoning

Before taking too many steps toward setting up a home food business, contact your local municipal planning office to verify that you will be able to operate a food business at your location. Ask for written zoning approval so that you can submit it with your application.

Non-TCS Foods

Generally, the types of foods that can be manufactured in an LFE are limited to those that are shelf-stable and do not require "time and temperature control for safety" (TCS). Examples of non-TCS foods include most baked goods, candies, jams and jellies, and acidic/acidified and/or fermented beverages and foods. For questionable food products, the PDA food inspector may require you to have them tested for pH and/or water activity (aw) to determine their safety and shelf-stability.

Only non-TCS foods can be processed in an LFE. Pennsylvania regulations forbid the manufacture of TCS foods in an LFE. Formerly known as potentially hazardous foods (PHF), TCS foods are those foods that can support the growth of pathogenic microorganisms because of their high moisture (aw > 0.85) and/or low acid content (pH > 4.6). TCS foods become unsafe to eat if they are not kept refrigerated.

Examples of TCS foods are milk, dairy products, meat and poultry products, fish and fishery products, eggs and egg products, cream pastries, cut fruits/vegetables, tofu, garlic-in-oil, sprouts, and cooked pasta or vegetables.

Processing TCS foods may be permitted if they are prepared in a separate approved kitchen used only for this purpose. In this
case, you will have to construct a completely separate kitchen that meets the full regulatory standards for a food establishment.

No TCS products may pass through or be stored in the home at any time; therefore, you will need to construct separate entrances and exits to the food processing and storage areas. Ask a PDA food inspector for more information if you decide to commercially process TCS products in your home.

Approved Water

If your home’s source of water is a private well, you will need to have it tested for coliform bacteria and nitrate/nitrite before you can register as an LFE and start your manufactured food operation.

GMP Requirements

Good Manufacturing Practices (GMP) are the basic operational and environmental conditions required to produce safe foods. Home processors must ensure that ingredients, products, and packaging materials are handled safely, and that food is processed, stored, and distributed in a suitable environment under sanitary conditions. Included in GMP standards is a requirement for food handlers to follow good personal hygiene procedures and other food safety practices.

Food Labeling

With some exemptions for bakery products, all prepackaged foods must be properly labeled to include the common name of the product, the net weight or volume, the ingredients list (including subingredients and allergen declaration), and the name and address of manufacturer/processor.

Additional Requirements

In addition to the above core requirements, PDA has specific regulations that apply to people who plan to work out of their homes. Here are some requirements that home food processors need to know:

- During commercial processing, no part of the home kitchen may be used for personal food preparation. This means that home food preparation and commercial food processing operations cannot be conducted at the same time. This kind of "dual-use" kitchen requires you to carefully schedule your time so that private activities and business activities do not conflict.
- Ingredients used for your food business must be kept separate from ingredients for personal use and must be properly identified, stored, and protected from sources of contamination. Proper storage includes using food-grade containers that keep pests out, and maintaining temperatures that do not promote spoilage.
- No animals are permitted in the home at any time. If you have family pets, you’ll need to either keep them outside at all times, physically separate the kitchen from the rest of the home (e.g., with a wall or solid door) and add a private exit/entrance, or find an alternate place to do your food processing (church, fire hall, remodeled garage area, outbuilding, etc.).
- Children are not permitted in the kitchen area during commercial processing. This might be tough for families with young children but ideal for those with kids who attend school outside the home. People with young children and homeschoolers might be able to work this out with careful scheduling, child care help, and a lot of patience and commitment.

Along with the guidelines listed above, specific categories of home-processed foods must meet other requirements.

Baked Goods

Shelf-stable bakery items such as breads, cookies, and muffins can be produced in an LFE. However, high-moisture/low-acid items such as cheesecakes, pumpkin pies, tortes, creams and custards, and meringue pastries may be potentially hazardous (TCS foods) and, as described above, may only be made in a completely separate approved kitchen.

Beverages

Some beverages can be produced in an LFE. These include root beer, lemonade, lemon iced tea, kombucha, and other acidic or fermented drinks. The pH of all beverages must initially be tested to ensure it is 4.6 or below (4.2 is recommended for increased safety). Note: Fermented drinks that are bottled will require some type of processing step that impedes or stops the fermentation (e.g., pasteurization prior to bottling).

Juice

From a regulatory perspective, the term “juice” means the liquid expressed from one or more fruits or vegetables and includes purees of the edible portions of one or more fruits or vegetables, or any concentrates of such liquid or puree (see 21 CFR 120.1). The regulations differ depending on whether the producer of the juice sells it directly to end consumers or offers it for wholesale distribution.

- Juice producers who sell only retail. Juice processors who sell their own processed product directly to consumers (no wholesale activity and no custom processing) are not required to process the juice under a HACCP system as required by 21 CFR 120 juice regulation. However, packaged fruit and vegetable juice produced in an LFE is subject to certain food labeling regulations that require a warning statement to be applied on the juice packages stating that the juice has not been pasteurized or otherwise treated to prevent, reduce, or eliminate pathogenic microorganisms. Juice producers who produce from an LFE must have their products tested for pH to determine if the product is non-TCS (pH < 4.6 or lower). Note that the product may only be sold directly to the consumer from the production site or a satellite of the production site,
such as a farmers market or roadside stand owned by the producer. In most cases, if the product is sold from the production site in packaged form, only a food registration is needed. However, any retail location would need to be evaluated to determine if a retail food license would also be needed.

- Juice producers who sell any or all of their product wholesale. Wholesale juice sales, as defined by the federal government in 21 CFR 120.1(a), are subject to the requirements of the juice HACCP regulation. Any juice of this type must be pasteurized or otherwise processed using an approved and verified process that can achieve a 5-log reduction of pertinent micro-organisms and is operating under a HACCP plan. Juice of this nature typically cannot be produced in a limited food establishment. Residential-style kitchens would not typically have the required equipment to obtain a 5-log pathogen reduction.

**Canned Foods**

Pennsylvania regulations allow certain commercial canning in an LFE under the conditions listed above. The following foods may be approved for canning by PDA:

- Naturally acidic foods (many fruits, including apples, peaches, and lemons)
- Acidified foods (pickled vegetables, including salsa, chow-chow, and barbecue sauces)
- Fermented foods (for instance, kimchi and sauerkraut)

However, under no circumstance is commercial production of low-acid canned foods (LACF), such as corn, beans, mushrooms, soups, and gravies, allowed in home kitchens.

If you decide to make acid or acidified canned-food products in your home for sale to the public, you must have written recipes or formulas that include procedures for each step in the process. You will need to provide a process flow diagram for each of your products and have it approved by your food inspector prior to registration and sale of your product. You will also be required to initially test it at an approved commercial laboratory to prove that the product has reached an equilibrium pH of 4.6 or lower within 24 hours (a pH of 4.2 of lower is strongly recommended for an extra layer of precaution).

Once your operation is up and running, you must test your product using a calibrated pH meter on an ongoing basis and keep records of pH values for every batch you make.

All recipes of acidified foods must incorporate a thermal process (cook step), and records of cooking time and temperature must be kept for every batch made. New canning lids are required each time. If jars are reused, they must be thoroughly washed and sanitized before filling.

**Note:** Processors of acidified foods who wish to sell their products through interstate commerce may be required to register and file their processes with the Food and Drug Administration (FDA). FDA may require acidified food recipes to be reviewed and approved by a process authority.

You will also be required to take an FDA-approved course on acidified canning; these courses are offered annually by many universities, including Penn State. Check with a PDA food inspector to make sure you are following all state and federal regulations before you start canning.

**Jams/Jellies and Similar Products**

Home processing of jams and jellies is permitted in dual-use kitchens as long as you document and adhere to all written procedures and formulas.

Although pH testing is not required, these products must be tested at a commercial laboratory to ensure they meet quality standards for soluble solids content (Brix level). Fruit butters, preserves, and artificially sweetened fruit jelly also have their own specific standards of identity and therefore required soluble solid testing. Conserves, marmalades, and "spreads" do not have standards of identity and do not require soluble solids testing.

Requirements for new lids and sanitization of used jars are the same as described above.

**Note:** Producers of jams and jellies who are using and following the standard recipes from approved resources and guides are not required to complete product testing. Standard recipes can be found in the *USDA Complete Guide to Home Canning, the Ball Blue Book,* or from Penn State Extension at the *Food Safety and Quality website.*

**Candy Making**

Because of their very low water content, hard candies such as lollipops, candy canes, fudge, caramels, cotton candy, chocolates, truffles, and rock candy are not considered TCS foods and therefore can be commercially processed in a limited food establishment. However, chocolate-covered fruits may not be made in an LFE unless the fruit utilized has a pH of 4.6 or below, such as most apples and strawberries. These fruits must be in their whole, intact state, with no cutting or chopping occurring.

Any fruit in question may be required to have a pH test performed to determine acidity levels. However, for some products, such as cream-filled chocolates, fudge, or candied fruits, the amount of moisture available for microbial growth can vary widely depending on the recipe. For these types of products, FDA may require you to have your product tested for water activity and/or pH at a commercial laboratory to determine whether the product is a TCS food.
Other Foods

Other types of foods may potentially be approved for processing, handling, repacking, or storage in a limited food establishment; however, only those foods that do not require refrigeration are permitted to be produced and held in this type of setting (non-TCS foods). PDA may require product testing on a case-by-case basis. If you have an unusual food product, discuss this product with your food inspector.

For more information

Contact information for the PDA Bureau of Food Safety main office in Harrisburg and the nine regional offices located throughout the state can be found at the PDA Food Safety website. You can also visit the Penn State Extension Food Safety and Quality website for additional resources on establishing and maintaining a food business.

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