

## FOOD PROCESSING QUESTIONS AND ANSWERS

### What is a Process Review?

A process review is a complete evaluation of how a food product is made, including all the steps of preparation, ingredients and packaging. The process review is conducted by a food processing authority.

A food processing authority is a person who has expert knowledge of thermal processing requirements for low-acid foods packaged in hermetically sealed containers or has expert knowledge in the acidification and processing of acidified foods. A list of processing authorities is included below.

### When is a Process Review Required?

Foods made with a special process including acidified and low acid foods are required to submit results of the process review along with the application.

Homestead food operations producing jams and jellies that do not use the standardized recipes available on the website for the National Center for Home Food Preservation ([www.uga.edu/nchfp](http://www.uga.edu/nchfp)) are required to have process reviews on each of their products to ensure the final product is safe and shelf stable.

Process reviews are also required to determine whether a processed food is an acid food or acidified food. Acid foods can be made in a homestead food operation whereby acidified foods require a commercial facility.

### Why is a Process Review Required?

Dressings, sauces, marinades, and similar food products depend on their acidity to prevent spoilage. They may consist of naturally acid foods, such as fruit juice or tomatoes, or they may be formulated by combining acid foods with other foods to achieve the desired acidity. Some foods, such as vinegar and certain pickled vegetables, may develop acidity from microbial fermentation. Because foods without adequate acidity may allow the growth of microorganisms that cause foodborne illness, it is important to make sure the process is safe and renders the product shelf stable. Included in this group of food products requiring a process review are fermented foods such as sauerkraut, acidified foods such as pickles, salsa or relishes, low acid foods such as canned vegetables, dehydrated fruits and vegetables, hot sauces, jams and jellies.

The process review also aids in identifying critical control points in a HACCP plan such as final fill temperature and finished equilibrium pH.

## FOOD PROCESSING AUTHORITIES

### **UNIVERSITY OF MAINE**

Dept of Food Science & Human Nutrition  
5735 Hitchner Hall  
Orono, ME 04469-5735

Contact: Beth Calder, PhD  
Telephone: 207-581-1629  
E-mail: [beth.calder@maine.edu](mailto:beth.calder@maine.edu)  
website: [www.umaine.edu/foodinfo](http://www.umaine.edu/foodinfo)

Process reviews: <https://umaine.edu/foodandagriculture/process-product-review-testing/>

Services: process reviews for acidified foods, jams and jellies, Better Process Control School

### **CORNELL UNIVERSITY**

NYSAES, Food Research Lab  
630 West North Street  
Geneva, NY 14456

Contact: Olga Padilla-Zakour, PhD  
Telephone: 315-787-2259  
E-mail: [oipl@nysaes.cornell.edu](mailto:oipl@nysaes.cornell.edu)

Website: [www.necfe.foodscience.cals.cornell.edu](http://www.necfe.foodscience.cals.cornell.edu)

Services: process reviews for acidified foods, tomato-based products and processed fish  
Better Process Control School, shelf-life testing and nutritional analysis

### **RUTGERS UNIVERSITY**

Center for Advanced Technology  
Food Development & Manufacturing Center  
120 New England Avenue  
Piscataway, NJ 08901

Contact: William Franke, PhD  
Telephone: 732-445-6130  
E-mail: [franke@aesop.rutgers.edu](mailto:franke@aesop.rutgers.edu)  
website: <http://caft.rutgers.edu>

Services: process reviews, Better Process Control School

### **UNIVERSITY OF WISCONSIN – MADISON**

1605 Linden Drive  
Room 203A  
Madison, WI 53706

Contact: Barbara Ingham, PhD  
Telephone: 608-263-7383  
E-mail: [bingham@wisc.edu](mailto:bingham@wisc.edu)  
website: [www.foodsafety.wisc.edu](http://www.foodsafety.wisc.edu)

Service: process reviews for acidified foods, non-standard jams and jellies  
Better Process Control School, additional training for acidified food processors

### **UNIVERSITY OF TENNESSEE**

2510 River Drive  
Knoxville, TN 37996

Contact: Nathan Miller  
Telephone: 865-974-7287  
Email: [nathan.miller@tennessee.edu](mailto:nathan.miller@tennessee.edu)

Website: <https://ag.tennessee.edu/foodscience/Pages/Better-Process-Control-School.aspx>

## **What is a HACCP plan and why is it important?**

A Hazard Analysis and Critical Control Point (HACCP) plan is a process control system that identifies where hazards (e.g. chemical, microbiological and physical contamination) might occur in the food production process and puts into place stringent actions to take to prevent the hazards from occurring. By strictly monitoring and controlling each step of the process, there is less chance for hazards to occur. The “food production process” includes procurement and handling of raw products, manufacturing, distribution and sale of the finished product.

## **Are HACCP plans required for food processors?**

Yes, He P 2304.13 in the New Hampshire Rules for the Sanitary Production and Distribution of Food requires all licensed food processing plants to have HACCP plans for the products they make since the hazard analysis identifies and documents critical control points within the manufacturing process.

There are also federal requirements for HACCP plans for certain foods. The US Food and Drug Administration (FDA) requires HACCP for the juice and seafood industries. See the FDA website for more information about these requirements.

<https://www.fda.gov/Food/GuidanceRegulation/HACCP/>

The US Department of Agriculture (USDA) requires HACCP plans for some meat products. See the USDA website for more information about these requirements

<http://haccpalliance.org/alliance/haccpmodels.html>

## **How Does HACCP Work in Food Processing?**

There are seven principles of HACCP that serve as the foundation for a HACCP plan. They are:

Principle 1: Conduct a hazard analysis to identify potential hazards that could occur in the food production process.

Principle 2: Determine the critical control points (CCPs). Those points in the process where the potential hazards could occur and can be prevented

Principle 3: Establish critical limits for preventive measures associated with each CCP. A critical limit is a criterion that must be met for each CCP.

Principle 4: Establish monitoring procedures to ensure each CCP stays within its limits.

Principle 5: Establish corrective actions if monitoring determines a CCP is not within the established limits. In case a problem occurs, corrective actions must be in place to ensure no public health hazard occurs.

Principle 6: Establish effective recordkeeping procedures that document the HACCP plan is working properly. Records should document CCP monitoring, verification activities and deviation records.

Principle 7: Establish procedures for verifying that the HACCP system is working properly with record-keeping and documentation procedures.

### **Where can I find help in developing a HACCP plan?**

There are many online guides as well as University Extension Programs that offer assistance in developing HACCP plans. The New England Food Entrepreneurs website contains local resources that can assist with HACCP plans at <http://www.umass.edu/nefe/index.html>

The website is an outreach program of the New England land-grant universities, Cooperative Extension that helps small food businesses access needed information, resources, and education to be successful.

### **What rules or regulations are used with food processing manufacturers?**

The NH Rules for the Sanitary Production and Distribution of Food, He-P 2300, are the administrative rules that cover the manufacturing of food products. Specifically, He-P 2309 addresses the requirements of food processing plants. These can be accessed at [http://gencourt.state.nh.us/rules/state\\_agencies/he-p2300.html](http://gencourt.state.nh.us/rules/state_agencies/he-p2300.html)

### **Are there any federal requirements for food processing plants?**

The FDA Food Safety Modernization Act (FSMA), which was enacted on January 4, 2011, amended section 415 of the Federal Food, Drug, and Cosmetic Act (FD&C Act). This amendment requires **that facilities engaged in manufacturing, processing, packing, or holding food for consumption** in the United States submit additional registration information to FDA, including an assurance that FDA will be permitted to inspect the facility at the times and in the manner permitted by this amendment. FSMA also requires food facilities to register with the FDA and to renew such registrations every other year. FDA has the authority to suspend the registration of a food facility in certain circumstances. Specifically, if FDA determines that food manufactured, processed, packed, received, or held by a registered food facility has a reasonable probability of causing serious adverse health consequences or death to humans or animals, FDA may suspend the registration of a facility that:

- Created, caused, or was otherwise responsible for such reasonable probability;  
or

- Knew of, or had reason to know of, such reasonable probability; and packed, received, or held such food.

This requirement is an amendment to the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (the Bioterrorism Act) and became effective on December 12, 2003. There are a few exemptions to this requirement. Refer to the link below to determine if your facility is required to register with the FDA.

<https://www.fda.gov/Food/GuidanceRegulation/FoodFacilityRegistration/default.htm>

### **What are the special requirements for processors of low acid canned foods?**

Processors of low acid canned foods are required to be in compliance with Part 113 (21CFR113) and Part 110 (21CFR110) as outlined above in addition to the regulations in He-P 2309.

Within 21CFR113, low acid canned food processors are required to attend and satisfactorily complete a Better Process Control School (BPCS) for the thermal processing of low acid foods.

In addition to the BPCS, manufacturers of acidified and low acid foods are required to file and register their scheduled processes with the FDA as stated in Part 108 (21CFR108) using Form FDA 2541 (food canning establishment registration).

For more information about processing low acid canned foods, see <https://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/AcidifiedLACF/default.htm>

### **What are the special requirements for processors of acidified foods?**

Processors of acidified foods are required to be in compliance with Part 114 (21CFR114) and Part 110 (21CFR110) as outlined above in addition to the regulations in He-P 2309.

Within 21CFR114, acidified processors are required to attend and satisfactorily complete a Better Process Control School (BPCS) for acidified foods.

In addition to the BPCS, manufacturers of acidified and low-acid foods are required to file and register their scheduled processes with the FDA as stated in Part 108 (21CFR108) using Form FDA 2541 (food canning establishment registration).

For more information about processing acidified foods, see <https://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/AcidifiedLACF/default.htm>

### **What is a Better Process Control School?**

The BPCS is for supervisors or the individual who is in the plant at the time a canned food product is packed and processed in commercial canning operations. The school is particularly intended for operating supervisors involved in production of thermally processed low acid and acidified foods. The school is made up of a series of lectures and exams on all aspects of production and packaging.

BPCS is a course that has been approved by the Food and Drug Administration as well as the United States Department of Agriculture for processors of acidified foods and low acid canned foods.

### **Is there an online Better Process Control School available or do you have to attend a class?**

Yes, the University of Tennessee in Knoxville is now providing an on-line Better Process Control School. The University of California, Davis no longer offers an on-line course. The course can be accessed at <https://ag.tennessee.edu/foodscience/Pages/Better-Process-Control-School.aspx>.

This course is offered by universities that specialize in food science and food processing disciplines. A current list of facilities offering this certification can be found at <https://www.gmaonline.org/resources/science-education-foundation/better-process-control-schools/>.

### **What is a recall procedure and why is it necessary?**

A recall procedure is a written procedure or plan for the removal of food products that have been identified as being able to adversely affect the health and safety of the public. It is important to remove products that have been contaminated, adulterated or products with undeclared allergens as these can all pose significant health consequences to the public. Prompt removal of the product is necessary to significantly minimize the threat to health and safety of the public.

The plan also contains procedures for the notification of the NH Division of Public Health Services Food Protection Section, FDA and consumers. It may be necessary for a press release to be sent out by the food processing plant through the media to assure a timely notification to the consumers.

Therefore, to be able to identify those products that may be adversely affected, it is important to provide lot codes or batch code information on the product labels. This will aid the food processing plant in removing only the affected products from distribution but also aid the consumer in identifying the affected product in their homes. Detailed production records as to the quantity of products produced and distribution of the specific lot codes to commerce will significantly aid in an effective product recall.

**NEW HAMPSHIRE DEPARTMENT OF HEALTH AND HUMAN SERVICES**  
**Division of Public Health Services**

More information on a recall procedure can be found in section He-P 2309.05 of the NH Rules for the Sanitary Production and Distribution of Food, He-P 2300. The link is provided below:

[http://www.gencourt.state.nh.us/rules/state\\_agencies/he-p2300.html](http://www.gencourt.state.nh.us/rules/state_agencies/he-p2300.html)

Also FDA has a guidance document entitled Guidance for Industry: Product Recalls, Including Removals and Corrections which can be found at the link below:

<http://www.fda.gov/Safety/Recalls/IndustryGuidance/ucm129259.htm>