

HAZARD ANALYSIS & CRITICAL CONTROL POINTS (HACCP) Plan Basics

The HACCP plan looks at what could potentially go wrong at each stage in the seafood processing operation for each product, along with possible causes and the likely effect, before applying effective control actions.

It identifies seafood hazards that only refer to the conditions or contaminants in food that can cause illness or injury to people. Following are 10 tasks—3 preliminary steps and 7 actions based on HACCP principles—that form the basis of a HACCP plan.



TASK 1 Establish a HACCP team.

This team should be made up of people of different specialties, and may include personnel from maintenance, production, sanitation and quality control. If you do not have these resources within your business, seek help from consulting groups, Sea Grant, LSU AgCenter, trade associations, and Louisiana Department of Health. Your team will be responsible to write AND implement the HACCP plan.

TASK 2 Describe the product.

Though it may seem unnecessary, putting your product specifications down on paper may help you to spot a potential hazard you never considered. Make sure you identify:

- Type of seafood product to include species, product form, water activity (A_w), and the pH
- Where product is purchased
- How product is received, stored and shipped
- How product is processed and packaged
- Intended consumer and intended end use; e.g. raw, raw ready-to-eat, cooked ready-to-eat

TASK 3 Draw up the process flow chart.

Also known as a commodity flow diagram, this chart will track all process steps from receiving to storage. Include every handling, processing and holding step for the primary product as

well as ingredients and packaging. Confirm the accuracy of your chart by 'walking the line' in your plant to make sure every procedure is covered.

Have a written description of what happens during every stage; for example, what type of refrigeration is used to store your oysters, at what temperature and for how long.

TASK 4 Identify and analyze hazard(s). PRINCIPLE 1.

All real or potential hazards that may occur in each ingredient and at each stage of seafood processing should be considered:

- Biological: harmful bacteria, viruses, algae, fungi, etc.
- Chemical: allergens, natural toxins, cleaners, etc.
- Physical: broken glass, metal fragments, or stones

Once a food safety hazard has been identified, then an appropriate action or activity that can control it should be determined.

TASK 5 Determine the critical control points (CCP). PRINCIPLE 2.

A CCP is a step where a hazard can be prevented, eliminated or reduced to an acceptable level. At each step in your process flow chart, the team must determine whether the hazard can occur, and if so whether control measures exist. If the hazard can be controlled adequately, is not best controlled at another step,

and is essential for food safety, then this step is a CCP for the specified hazard. For example refrigerated storage is a point in the process that can control the hazard of bacterial growth.

TASK 6 Establish critical limits for each CCP. PRINCIPLE 3.

A critical limit is a maximum and/or minimum value that must be met to control a hazard; often measurements of temperature, time, moisture level, pH, water activity, and direct observation such as presence of ice. For example to eliminate pathogens from cooked crabs, the CCP is cooking, and the limits will be a minimum internal product temperature and amount of time cooked.

TASK 7 Establish a monitoring procedure. PRINCIPLE 4.

Monitoring is a planned series of observations or measurements to determine whether critical limits for each CCP are being met. It is crucial that monitoring is done based on a set schedule, and that results are readily available, so that corrective action can be taken immediately if needed.

TASK 8 Establish corrective action. PRINCIPLE 5.

If monitoring indicates that critical limits are not being met, thus demonstrating that the product may be unsafe, corrective action

must be taken immediately. The objectives of the corrective action are to keep potentially unsafe product from reaching the consumer and to restore control to the process prior to producing more product.

TASK 9 Verify the HACCP plan. PRINCIPLE 6.

The complete plan must be verified to show that the product is safe and meets customer specifications.

Ways in which the system can be verified include:

- Collecting samples for analysis by a method different from the monitoring procedure
- Asking questions of staff, especially CCP monitors
- Observing operations at CCPs
- Weekly review of all records
- Formal independent audit

TASK 10 Keep a record. PRINCIPLE 7.

Record keeping demonstrates that the correct procedures have been followed, offering product traceability. Documents should include the original HACCP plan, but the most important records will be the monitoring of CCPs and corrective actions taken.