Chapter 14

DEVELOPING AND IMPLEMENTING A HACCP PLAN

HACCP stands for *Hazard Analysis Critical Control Points*. It was first developed in 1959 and is based on the Codex Alimentarius. The Codex Alimentarius Commission is a committee of the United Nations Food and Agriculture Organization and the World Health Organization. This commission develops standards, guidelines and related texts on food safety.

The Codex Alimentarius Commission has worked to set up a standard method for HACCP program development including seven principles. These principles are now used worldwide to develop HACCP plans. They're also used by governments for standardized HACCP programs.

1.0 HACCP PRINCIPLES

HACCP plans are developed using the seven principles standardized by the Codex Alimentarius Commission. These seven principles are reflected in the HACCP plan steps. They cover repetition of food safety analysis and recording tasks to ensure product safety.

The HACCP plan must include:

- Preventative measures;
- Control limits;
- Monitoring procedures;
- Corrective actions;
- Record keeping; and
- Ways to verify that control procedures are followed and are adequate.

Principle 1: Conduct a Hazard Analysis

A hazard analysis is the process of identifying and evaluating hazards. This means looking at agents that might affect a particular food product, or raw ingredient. It looks at how this happens in specific processing operations.

A hazard analysis also includes collecting and evaluating information on each hazard. It examines the conditions that lead to hazards being present in food products and looks at how hazards increase.

A food safety risk assessment is then used to decide which hazards could affect food safety. It points out what should be dealt with in the HACCP plan.

For more information regarding food safety risk analysis, see Appendix D.

Principle 2: Determine the Critical Control Points

A critical control point (CCP) is a point, step or procedure outside of the prerequisite programs. It is a control measure used to prevent, eliminate, or reduce a hazard to an acceptable level. A CCP should be used at any point in a food safety system where loss of control could result in a health risk.

Correct determination of CCPs is very important for product safety. Decisions about CCPs involve (look at) places in the processing operation to prevent, reduce or eliminate the hazards noted.

A HACCP plan should determine CCPs based on each unique food product. This ensures that resources are focused in food safety risk areas.

Principle 3: Establish Critical Limits

Critical limits are hazard levels or standards that must be set for each CCP. Critical limits must be clearly defined and measurable whenever possible. For example a critical limit for a cooler might be that the temperature is 4ºC or lower. Above or below these points, a product or process is unsafe.

Principle 4: Establish Monitoring Procedures

Monitoring means checking to ensure a CCP is under control. It is done by testing, observing, or other means. Methods to monitor each CCP should be put in place. Show that the critical limit(s) are being met. Monitoring procedures should be conducted on-line and should provide immediate results. This enables the facility to take corrective actions immediately if necessary.

Principle 5: Establish Corrective Actions

Corrective actions are taken when CCP monitoring shows that a deviation or loss of control has occurred at a CCP or when results are outside of critical limits. They should be planned out in advance to ensure that problems can be taken care of immediately.

Corrective action must not only be taken when monitoring shows that loss of control has already occurred, but also when production could cause unsafe food in the future. For each CCP, there must be planned, written corrective actions.

The purpose of corrective actions is to:

- Regain control of the hazard;
- Decide how to deal with the affected product; and
- Prevent the problem from occurring again.

Principle 6: Establish Verification Procedures

Verification means to check on whether the HACCP system is set up correctly and is being followed. It involves tests, procedures and other means.

Principle 7: Establish Record Keeping and Documentation Procedures

Document all HACCP plans, including the prerequisite programs. Make sure monitoring and verification records are complete. Check them for accuracy.

Activities related to food processing should be documented to prove they are under control. Ensuring adequate and correct documentation will lead to efficient and economical operations. It means that food safety information is on file where staff can find it.

It's important to encourage good record keeping by all employees. Records should be legible and completed at the times of checks.

2.0 HOW MANY HACCP PLANS ARE NEEDED?

Each food safety system is designed specifically for the facility where it is used. The same is true for HACCP plans. The number of HACCP plans a facility needs depends on:

- Number of products produced;
- Variations between products (e.g. different ingredients or equipment); and
- Differences between production processes.

Sometimes it's necessary to group the facility's products into categories. Identify the differences between the categories.

It may be necessary to have a different HACCP plan for each category. Similar products, with similar production processes and hazards, can use the same HACCP plan. However, if the facility produces similar products, with differing hazards (e.g. allergens), these products must be separated out. The facility will need to develop a distinct HACCP plan to deal with each different product.

3.0 STEPS IN THE DEVELOPMENT OF HACCP PLANS

The development of a HACCP plan takes a lot of work and is more than just filling in forms. The development process should be based on the seven principles outlined earlier in this chapter.

HACCP plans should also follow the twelve steps listed below. These steps are recommended by the HACCP Working Group of Codex Alimentarius.

3.1 Assembling the HACCP Team (Step 1)

Look to the people who know the operation of the facility's business when picking the facility's HACCP team. At least one member of the HACCP team should be someone who is very familiar with the facility and its products.

See Chapter 2 for a detailed explanation of how to select the HACCP team.

3.2 Describing the Product (Step 2)

Describe each product and point out possible hazards in raw materials or in packaging materials.

Refer to the end of this chapter for information on How to Fill in HACCP Forms. There are a number of forms that will be noted throughout the remainder of this chapter that can be found in Appendix E.

To complete steps 2 and 3, fill in Form 1 and Form 2. Be sure to attach any necessary records.

A product description is entered on Form 1 and should include:

- The name(s) of products associated with this HACCP plan;
- The formulation (recipe) for the product(s) – generally attached to the primary form; and
- Important product characteristics (e.g. amount of free water in the food, acidity, preservatives used).

Form 2 further breaks down the formulation of the product(s) into basic parts. It starts with ingredients and continues through to packaging.

In certain products, hazards are prevented by:

- Acid levels in the final product;
- Available free water in the final product; or
- Microbial growth inhibitors (e.g. nitrite, sulphites).

The product composition or make-up can be important to product safety. Also consider whether the composition needs to meet regulatory requirements. If so, formulation may once again be a CCP, since the facility's food safety system must meet regulations.

3.3 Identifying the Intended Use (Step 3)

The intended use of a product should be based on how end users or consumers normally use it. Steps to identify the intended use include:

- Description of how the product is intended to be used (e.g. ready-to-eat, refrigerated, to be cooked or further processed, heated prior to consumption, frozen, etc.);
- Description of the intended customer, including those with special needs or requirements (e.g. infants, food sensitive people, seniors, etc.);
- Shelf life of the product;
- Type of packaging used, including material and packaging conditions (e.g. modified atmosphere); and
- Labeling and special distribution instructions.

3.4 Constructing a Process Flow Diagram and Plant Schematic (Step 4)

To complete steps 4 and 5 fill in HACCP Forms 3 and 4.

A process flow diagram and plant schematic give the HACCP team an overall view of the manufacturing process.

The process flow diagram (Form 3) will identify the important process steps in the production of the product(s). The plant schematic (Form 4) will show product flow, employee traffic, equipment layout and hand-wash facilities. It will help to show possible cross-contamination points.

3.5 On-site Verification of Process Flow Diagram and Plant Schematic (Step 5)

Compare the draft versions of the process flow diagram and plant schematic to actual on-site activities and facility layout. Remember, the process flow diagram and plant schematic must show the *actual* conditions in the facility and not the ideal conditions.

3.6 Listing Hazards Associated with Each Step and Incoming Materials (Step 6 and HACCP Principle #1)

This step is associated with Codex Principle 1. The information is entered directly on Form 2, Form 3, and Form 4. All hazards need to be identified so that controls can be put in place. Be sure to enter a B, C, P, or A beside all incoming materials that have biological, chemical, physical, or allergenic hazards associated with them.

Background Research

Before starting the hazard listing, it may be necessary to do some background research. The team will need an up-to-date understanding of all hazards related to the facility's production process and products. They will need current information on all raw materials and the ingredients that go into them.

There are several sources that can be used in background research including:

- **Canadian Food Inspection Agency's (CFIA) Hazard Identification Database** – The CFIA has developed a hazard identification database that is available to industry and inspection staff. To access this database, visit the CFIA website at www.inspection.gc.ca.
- **Appendix B of This Publication** – Appendix B has a list of questions about hazard identification that a facility's team should ask. Although it doesn't cover all areas, it points out controls that may be necessary.
- **Reference Texts** – Depending on the experience and knowledge of the facility's HACCP team members, a simple review of current texts on HACCP, food microbiology, processing and plant sanitation might be useful.
- **Food Safety Consultants** – Food safety consultants can help a facility. Alberta Agriculture and Rural Development (ARD) has a list of Alberta-based food safety consultants listed on their website at: www.agric. gov.ab.ca/app68/agriprocessors?cat1=Food +Consultants#15391

Alberta Agriculture and Rural Development (ARD) has developed a fact sheet: How to Select a Food Safety Consultant. Find it online at www.agriculture.alberta.ca/foodsafety

- **Food Processor Organizations** – There are many food processor associations or organizations that can help in the development of HACCP plans. Contact an ARD Food Safety Specialist to find out what resources are available.
- **Complaint Files** – A facility's complaint file may provide a great deal of information on issues the facility is facing.

Reviewing Incoming Materials

Use HACCP Form 1 and 2 to complete this task. Review Form 1 and get a complete understanding of the facility's product(s), and how these may affect findings.

On HACCP Form 2, for each incoming material, write a letter A, B, C, or P directly beside the related material. These indicate if there is an allergen, biological, chemical or physical hazard. Every time a hazard is identified on HACCP Form 2, transfer it into HACCP Form 5 (Hazard Identification and CCP Determination) by filling in the first two columns.

Evaluate the Facility's Operations

This identifies all the hazards associated with each processing step.

Use HACCP Form 3 (Process Flow Diagram) and HACCP Form 4 (Plant Schematic) as references. Give a number to each processing step on the process flow diagram. Then for each process step, write a letter A, B, C, or P directly beside each step number on Form 3. This shows if a hazard exists from an allergenic (A), biological (B), chemical (C), or physical (P) source. Each time a hazard is identified on HACCP Form 3, transfer it into HACCP Form 5 (Hazard Identification and CCP Determination) by filling in the first two columns.

Observe Actual Operating Practices and/or Take Measurements

It's important that a HACCP plan shows what is actually going on in the facility. That's why it's important for the HACCP team to take a first-hand look at the operation, the employees and the steps involved. This helps the team understand how everything relates and what will affect the possibility of product hazards and contamination.

During this process, it may be necessary to take measurements to confirm actual operating conditions. Remember to enter FACT, NOT OPINION. It may be necessary to measure:

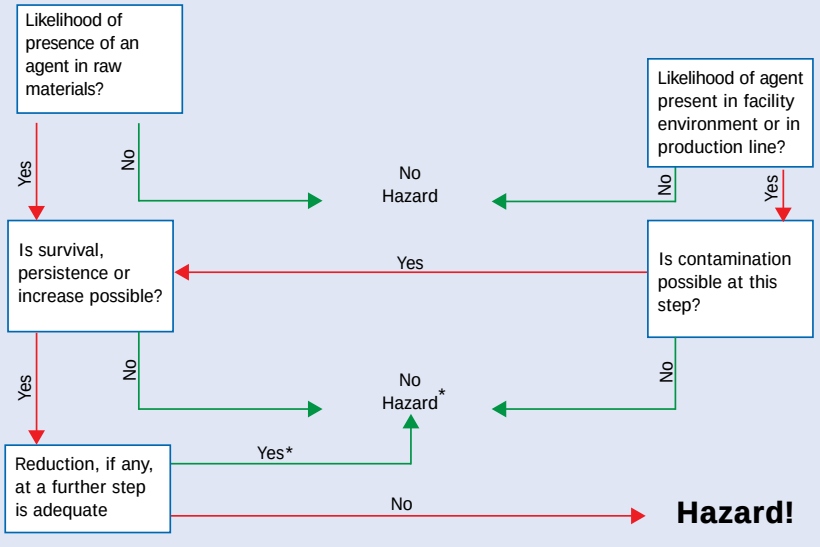
- Product temperatures;
- Product cooking times;
- pH at beginning, during, or end of process steps;
- Water activity (amount of free water in the food); and/or
- Sample collections.

Once these measurements are collected, have a qualified person analyze the numbers to interpret the data accurately.

Hazard Determination

Potential hazards can exist in raw materials. Hazards may also enter through the environment, from employees or the production process. Evaluate each hazard that the HACCP team identifies. Also check for hazards by using the following decision tree.

The Decision Tree Questions to be asked for each potential hazard:



*Not a hazard to be controlled at this step
**Reduction step may become a CCP

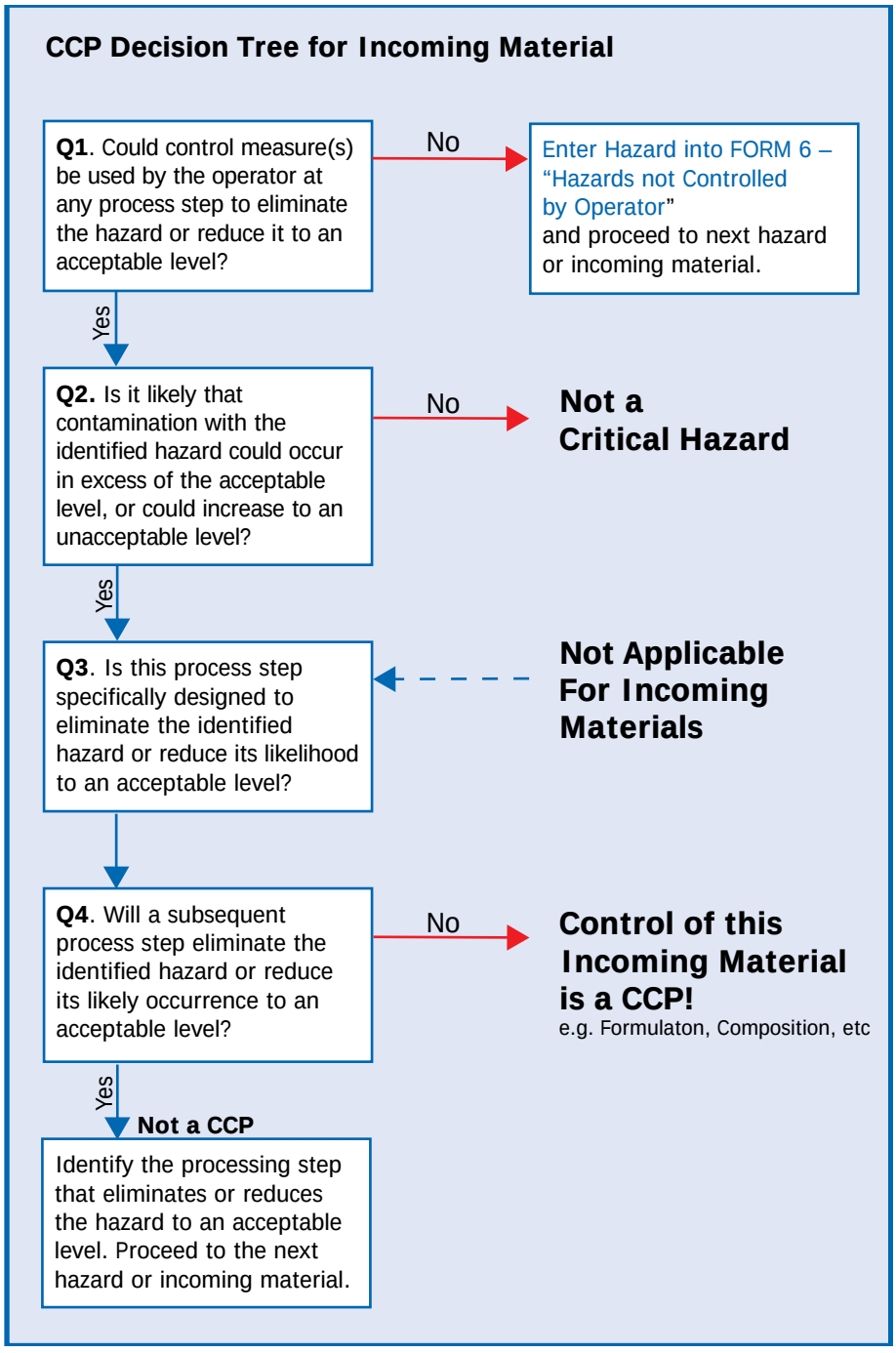
The assessment of hazards is not based only on the presence of an agent, or cause. It's also based on the severity and likelihood of that agent reaching unacceptable levels. For example:

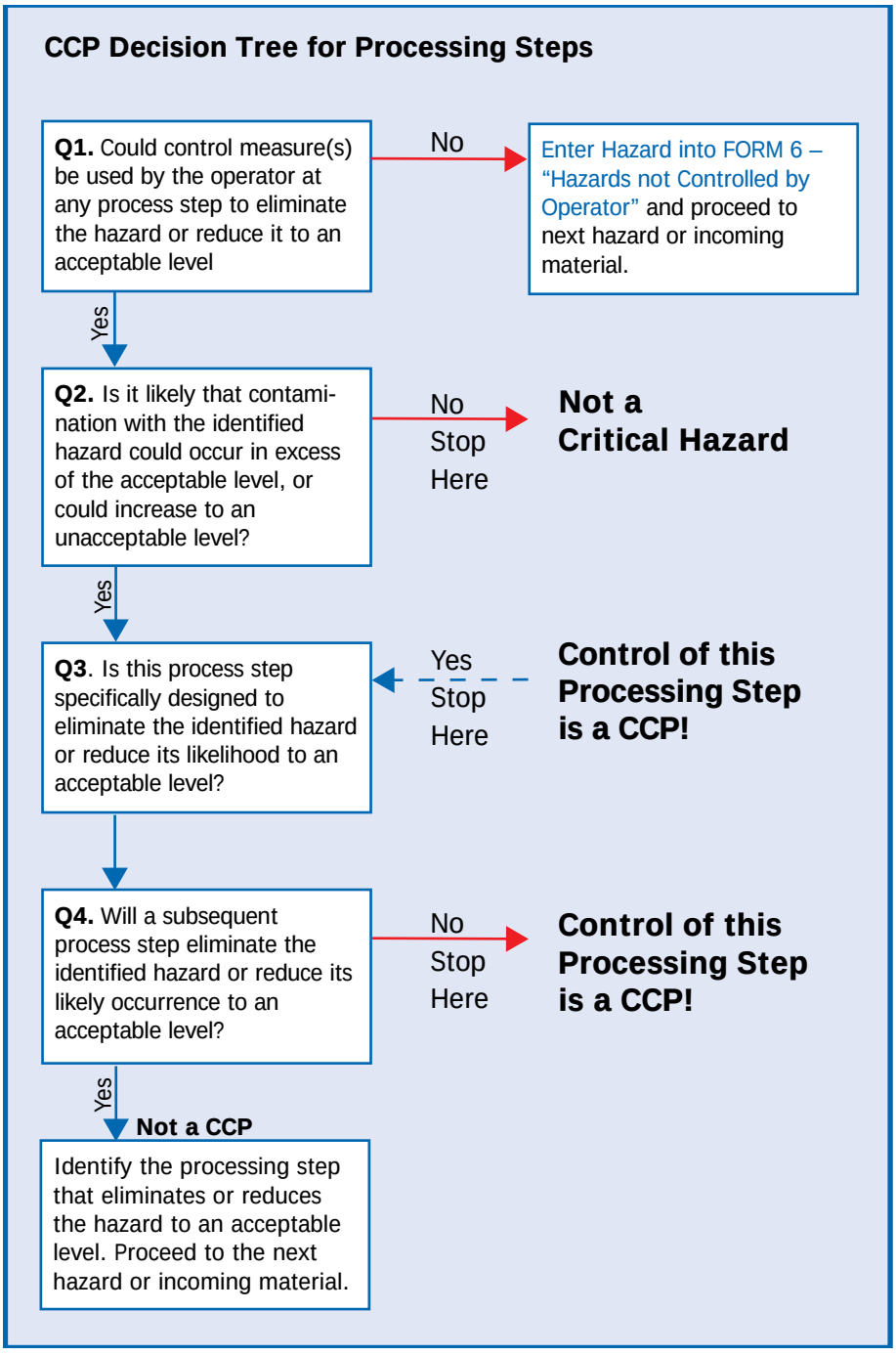
- If an agent is not present in the raw materials, production lines or environment, it may be safe to assume it is not a hazard.
- If an agent is present in the facility environment, but there's no way it can contaminate the product, it may be safe to assume it's not a hazard.
- If the agent can contaminate the product, survive, persist or increase, it may become a hazard.

3.7 Determining Critical Control Points (Step 7 and HACCP Principle #2)

Once all the stages are completed, a list of hazards has been identified and the team has an understanding of conditions leading to the hazards, the team is ready to decide on Critical Control Points (CCPs). Use the HACCP decision tree to do this.

HACCP Form 5 (Hazard Idenification and CCP Determination)
For incoming materials, walk through the decision tree steps.
For every hazard found, answer each question in order.
For each question, fill in 'yes' or 'no', and include a brief explanation where necessary. If it is decided that the hazard is controlled at a particular point during the process, this point is a CCP. Identify, order and number the CCPs.


CCP Decision Tree for Incoming Material
Q1. Could control measure(s) be used by the operator at any process step to eliminate the hazard or reduce it to an acceptable level?
No
Enter Hazard into FORM 6 – "Hazards not Controlled by Operator" and proceed to next hazard or incoming material.
Yes
Q2. Is it likely that contamination with the identified hazard could occur in excess of the acceptable level, or could increase to an unacceptable level?
No
Not a Critical Hazard
Yes
Q3. Is this process step specifically designed to eliminate the identified hazard or reduce its likelihood to an acceptable level?
Not Applicable For Incoming Materials
Q4. Will a subsequent process step eliminate the identified hazard or reduce its likely occurrence to an acceptable level?
No
Control of this Incoming Material is a CCP!
e.g. Formulaton, Composition, etc
Yes
Not a CCP
Identify the processing step that eliminates or reduces the hazard to an acceptable level. Proceed to the next hazard or incoming material.


CCP Decision Tree for Processing Steps
Q1. Could control measure(s) be used by the operator at any process step to eliminate the hazard or reduce it to an acceptable level
No
Enter Hazard into FORM 6 – "Hazards not Controlled by Operator" and proceed to next hazard or incoming material.
Yes
Q2. Is it likely that contamination with the identified hazard could occur in excess of the acceptable level, or could increase to an unacceptable level?
No
Stop Here
Not a Critical Hazard
Yes
Q3. Is this process step specifically designed to eliminate the identified hazard or reduce its likelihood to an acceptable level?
Yes
Stop Here
Control of this Processing Step is a CCP!
Q4. Will a subsequent process step eliminate the identified hazard or reduce its likely occurrence to an acceptable level?
No
Stop Here
Control of this Processing Step is a CCP!
Yes
Not a CCP
Identify the processing step that eliminates or reduces the hazard to an acceptable level. Proceed to the next hazard or incoming material.

If there are no control measures, the hazard is entered into HACCP Form 6 (Hazards not Controlled by Operator). As each hazard is listed, show how the hazard will be managed either before or after the production process. If the hazard is managed by consumers, enter in consumer instructions that will be included on the packaging label. If no control measure exists for the hazard identified, it may be necessary to reconsider the production process. Include a step that will reduce, prevent or eliminate this hazard.

Once the critical control points related with the production process are identified, copy the information into HACCP Form 7 (The HACCP Plan). At this point, use HACCP principles 3 to 7 to develop the complete HACCP plan. Use HACCP Form 7 to record critical limits, deviation procedures, verification procedures and record keeping requirements.

3.8 Establishing Critical Limits (Step 8 and HACCP Principle #3)

By using Good Manufacturing Practices (GMPs), existing production lines will normally produce safe products. However, watch for deviations or changes. Be ready to prevent and control them.

Ask the question: "How much of a deviation from normal can be allowed before products are considered unsafe?"

A critical limit separates those risks that are acceptable for consumers from those that are not acceptable.

To answer this, first define or decide on the normal procedure in the facility. Then define what could happen if circumstances move beyond what is normal. If a hazard is found, the point where it becomes unacceptable becomes the deviation point.

The CFIA provides excellent examples of critical limits in their Food Safety Enhancement Program manual. Here are some of their examples:

- An acidified beverage that is hot-filled may have acid addition, or temperature of fill, as potential CCPs. If insufficient acid is added, or if the temperature of the hot-fill is insufficient, the product will be under-processed. There is potential for microbial growth to unacceptable levels. The critical limits in this case are pH and fill temperature.

- Beef patties are cooked in a continuous oven. There are many critical limits necessary to control the hazard of heat resistant pathogens. These include minimum internal temperature of each patty, oven temperature, time in the oven and patty thickness.
- In a ready-to-eat production facility, the manufacturer has identified final packaging as a CCP. The hazard to control is contamination of the product because of employee handling (cross-contamination from workers). The critical limit in this case is that workers must follow documented procedures (e.g. utensils, gloves, hand washing and sanitizing at required times). This ensures that workers don't contaminate the packaging or the ready-to-eat food product(s).

These three examples show that a critical control point may have several critical limits needed to control hazards.

3.9 Establishing Monitoring Procedures (Step 9 and HACCP Principle #4)

Monitoring means regular measuring and recording of values at specific times.

The next question to ask is: "How can the deviation be identified or monitored?" One example is to check the internal temperature of a meat product by measuring with a thermometer. Another is to check whether employees follow the correct practices and procedures. Be sure to make records of monitoring activities. Monitoring is a key part of controlling hazards.

Ideally, measuring and monitoring should be done constantly. This may not be practical under most conditions, so it must be decided what monitoring intervals will ensure the safest products. To make these decisions, it's necessary to have an in-depth understanding of the technologies and methods used to control hazards.

Questions for each CCP and hazard:

- How can this CCP or hazard be monitored or identified?
- How often should it be checked?
- How should the results be recorded?

For each CCP, state the monitoring requirements. Also, state the means to ensure the facility will stay in these critical limits.

Monitoring procedures are generally quick tests or checks done during processing. Examples include:

- Visual observations
- Monitoring of documentation
- pH measurements
- Temperature
- Water activity

The monitoring system must state clearly how often testing is done. It must state the person (or job title of the person) responsible, and the procedures to be used. Failing to describe in writing the control of any CCP generally means the HACCP plan is not being followed.

3.10 Establishing Deviation Procedures or Corrective Actions (Step 10 and HACCP Principle #5)

A deviation is a failure to meet critical limits. When a deviation occurs, corrective actions must be taken. When considering deviation procedures, ask: “What is the appropriate reaction to this failure?”

Corrective actions should be taken immediately. They should happen before deviations cause the hazards to reach unacceptable results. The main goals of corrective actions are:

- Preventing unacceptable product from reaching consumers; and
- Preventing a repetition of the deviation.

Corrective actions need to be set out in a formal way. By doing this, the employees responsible for each CCP can understand and deal with each deviation quickly and effectively.

Set up and record procedures for all corrective actions. These activities can be recorded easily. See example table below.

WHAT	HOW	WHO	RECORD
Action to be taken	Step-by-step instructions	Person responsible	Generally this is recorded directly on Monitoring Records.
Increase temp	raise to 75ºC	TF	

Once this information is recorded, the associated corrective action matrix document can be noted in the deviation procedures column on Form 7.

3.11 Establishing Verification Procedures (Step 11 and HACCP Principle #6)

Often the terms 'Validation' and 'Verification' are used incorrectly.

- **Verification** means to use methods, tests, procedures, monitoring, and other evaluations to determine CONFORMITY with the HACCP plan. In other words, to see if the HACCP plan is being followed.
- **Validation** is defined as obtaining EVIDENCE to show that each element of the HACCP plan is EFFECTIVE.

The following may be helpful in understanding verification and validation:

- Verification - Activities are being performed according to standard procedures (e.g. a supervisor observes an employee washing their hands correctly, as documented in the hand washing procedure).
- Validation - The right results are being obtained (e.g. the facility's in-house microbial swabbing is sent to an outside lab to validate the facility's own in-house test results).
- Validation - The monitoring procedures are updated if there is process change (e.g. a formulation change might require increased cooking times. Validation is required to determine this).

Verification

Verification refers to activities done to check conformity – whether the HACCP plan is being followed. These verification activities need to be planned ahead, and are generally done by supervisors or quality assurance staff.

Verification is an ongoing activity. As a result of trends discovered through monitoring results, changes may be needed. These changes need to be verified.

Verification activities differ from monitoring activities. Although the activities may be similar, results from verification activities aren't intended for making decisions on product safety. Instead, the verification results are used to check the adequacy of food safety controls or how well controls are working. Verification activities may involve:

- Product sampling
- Audits of monitoring records
- Observations of employee practises
- In-house inspection audits
- Environmental sampling
- Any other appropriate activities

Create and keep records of all verification activities. Verification activities can be recorded easily by using the following table.

WHAT	WHY	WHEN	HOW	WHO	RECORD
Product test for coliforms	Assess product cook-kill step	End of each batch	Lab – Instructions	Lab tech	Finished product testing
Monitoring trends	Institute improve-ments and catch devations	End of each month	Review of documents – Graphs	QA manager	Document trend review

The table lists two verification procedures on how to record this information.

Verification activities can vary greatly and have different purposes. Remember, the goal of verification procedures is to get evidence showing that the system works well..

Validation

The manufacturer (food processor) is responsible for validation. Validation helps ensure that the operator can maintain control and that the measures in place can control hazards. Validation may require highly professional skills or specialized training (e.g. a food safety consultant). It may take time and be costly.

Validation is performed for the following HACCP plan development steps:

- Hazard determination
- CCPs
- Critical limits
- Monitoring activities
- Corrective actions

With each change to the system, perform a new hazard analysis. It is necessary to check the results of this analysis and to validate how well the control measures (existing and new) work. For this reason, validation becomes a part of the HACCP maintenance system.

For more information on how to maintain the HACCP system, see Chapter 15: HACCP System Management and Maintenance.

3.12 Establishing Record Keeping and Documentation Procedures (Step 12 and HACCP Principle #7)

HACCP records are the documents required at each critical control point (CCP). These ensure that the HACCP plan is followed. These records differ slightly from those kept to check that prerequisite program standards are met.

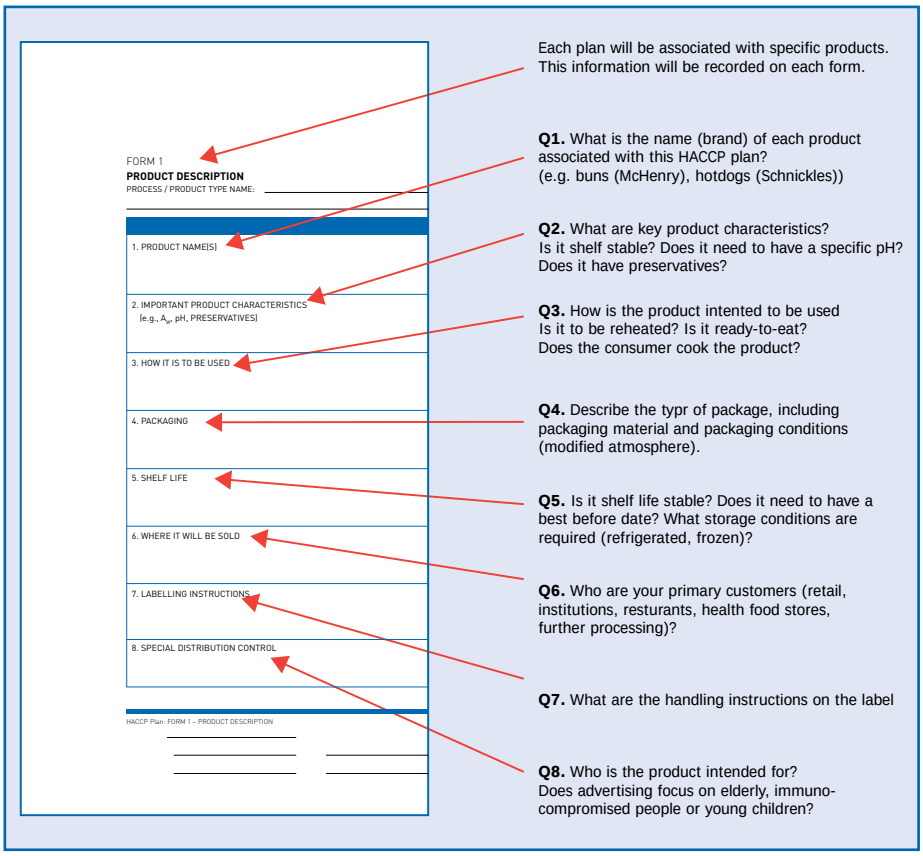
There are various types of HACCP records (e.g. processing charts, checklists, written records, computerized records). They give a historical record of the process, monitoring procedures, deviations and any necessary corrective actions undertaken. Accurate HACCP records help in tracing product and with troubleshooting if there's a problem. The facility must keep up-to-date and accurate records.

All HACCP documentation should include a record of who documented, reviewed and signed off on the information.

Most of the record keeping will be done on Form 7. This form has space for recording monitoring procedures. Monitoring results are most often recorded with deviations, as well as with corrective actions that may have been taken.

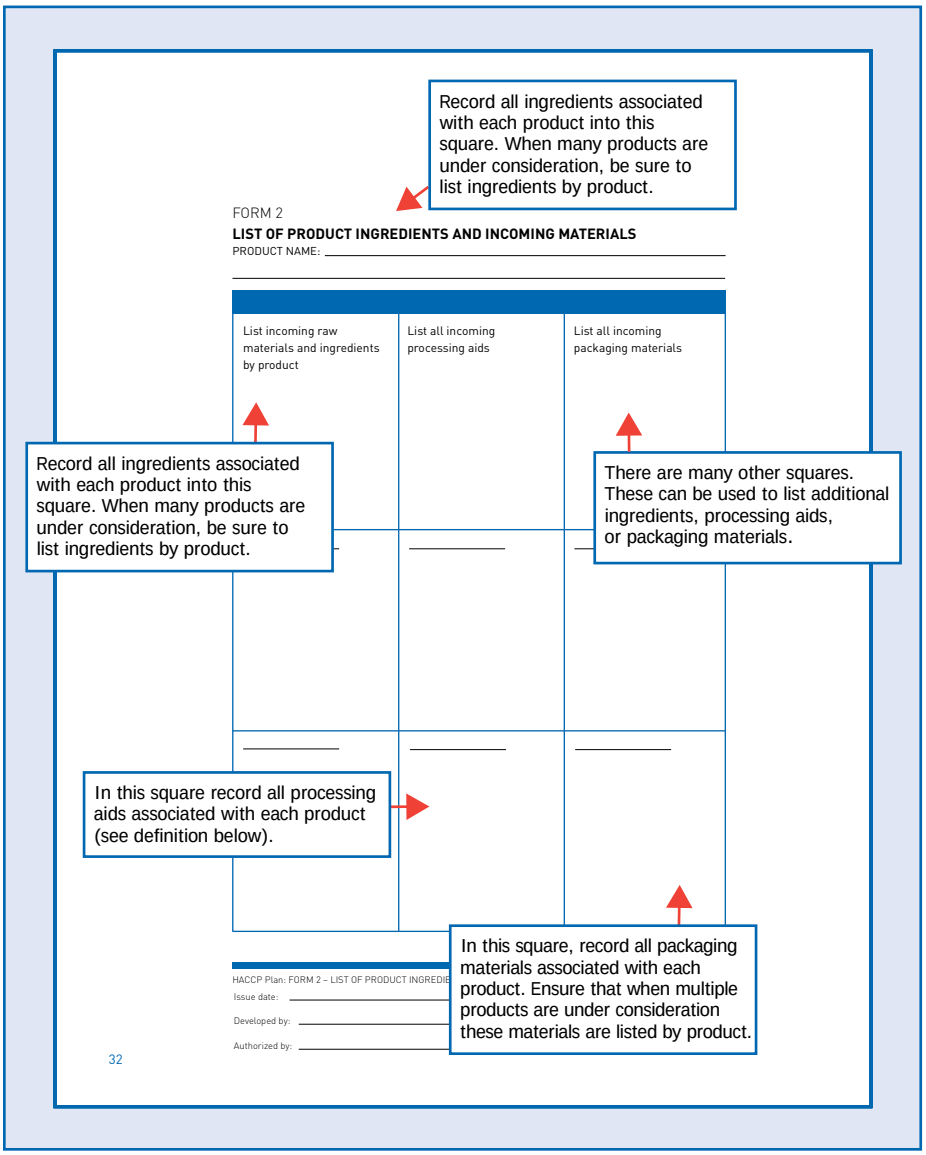
4.0 HOW TO FILL IN HACCP FORMS

Form 1: Product Description



This form is used for steps two and three of HACCP plan development. It is useful to attach the formulation (recipe) for each product listed to this form when completed. The more detail provided for each question, the more information the HACCP team will get from the form.

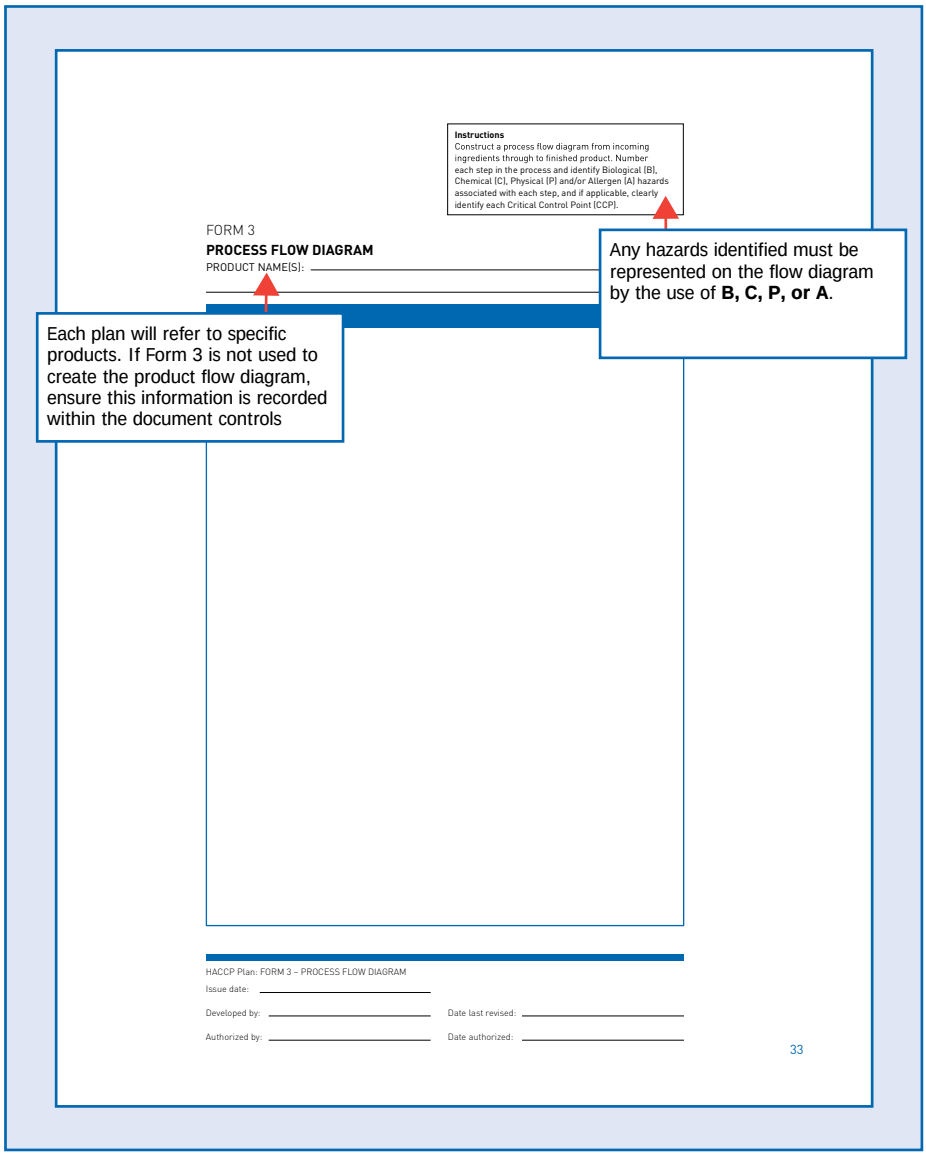
Form 2: List of Incoming Materials



Using the formulations attached to Form 1, copy the ingredients and incoming materials onto this form. As the hazard assessment progresses, use this form to identify the hazards connected with each item listed.

Processing aid – (a) substance that is added to a food during the processing but is removed in some way from the food before it is packaged in its finished form; (b) a substance that is added to a food during processing, is converted into constituents normally present in the food, and does not significantly increase the amount of the constituents naturally found in the food; and (c) a substance that is added to a food for its technical or functional effect in the processing but is present in the finished food at insignificant levels and does not have any technical or functional effect in that food.[9]

Form 3: Process Flow Diagram



Form 3 is a blank form to construct a flow diagram. For most facilities, there is not enough space on this form to draw a flow diagram. If that is the case, use a separate page. If a separate sheet of paper is used, make sure to record the necessary information to associate the document with the rest of the HACCP plan.

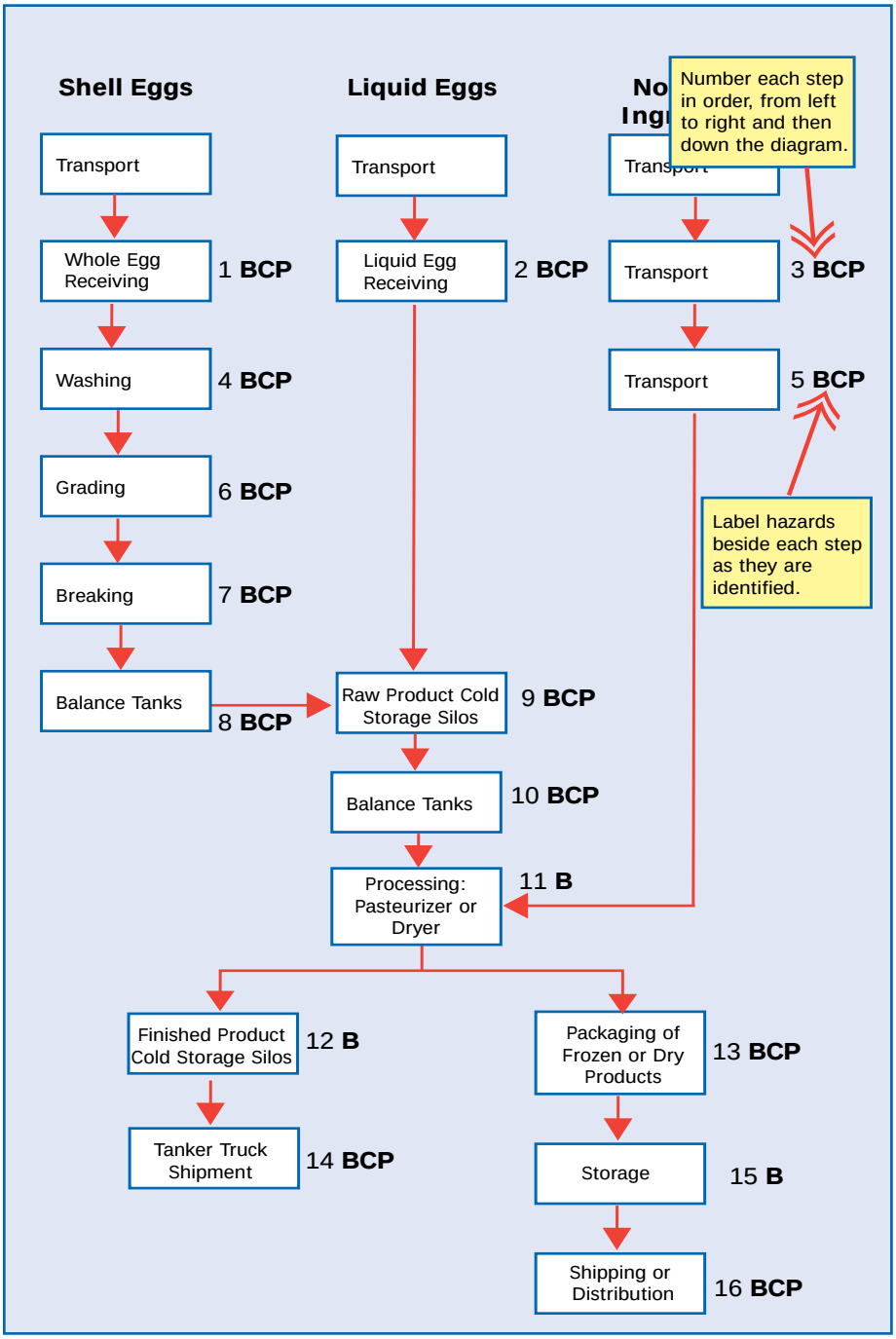
When drafting a flow diagram, use arrows to show the process flow between steps. Once the diagram is drawn for each step, ask:

1. Is there a potential biological hazard (e.g. bacterial contamination, opportunity for bacterial growth) associated with this step?
2. Is there a potential chemical hazard (e.g. too much preservative use, pesticide contamination and sanitation residues) related with this step?
3. Is there a possible physical hazard (e.g. wood chips, metal shavings, plastic) connected with this step?
4. Is there a potential allergen hazard (e.g. cross contamination between allergen and non-allergen products, allergen residues) associated with this step?

The following are examples of possible flow diagrams.

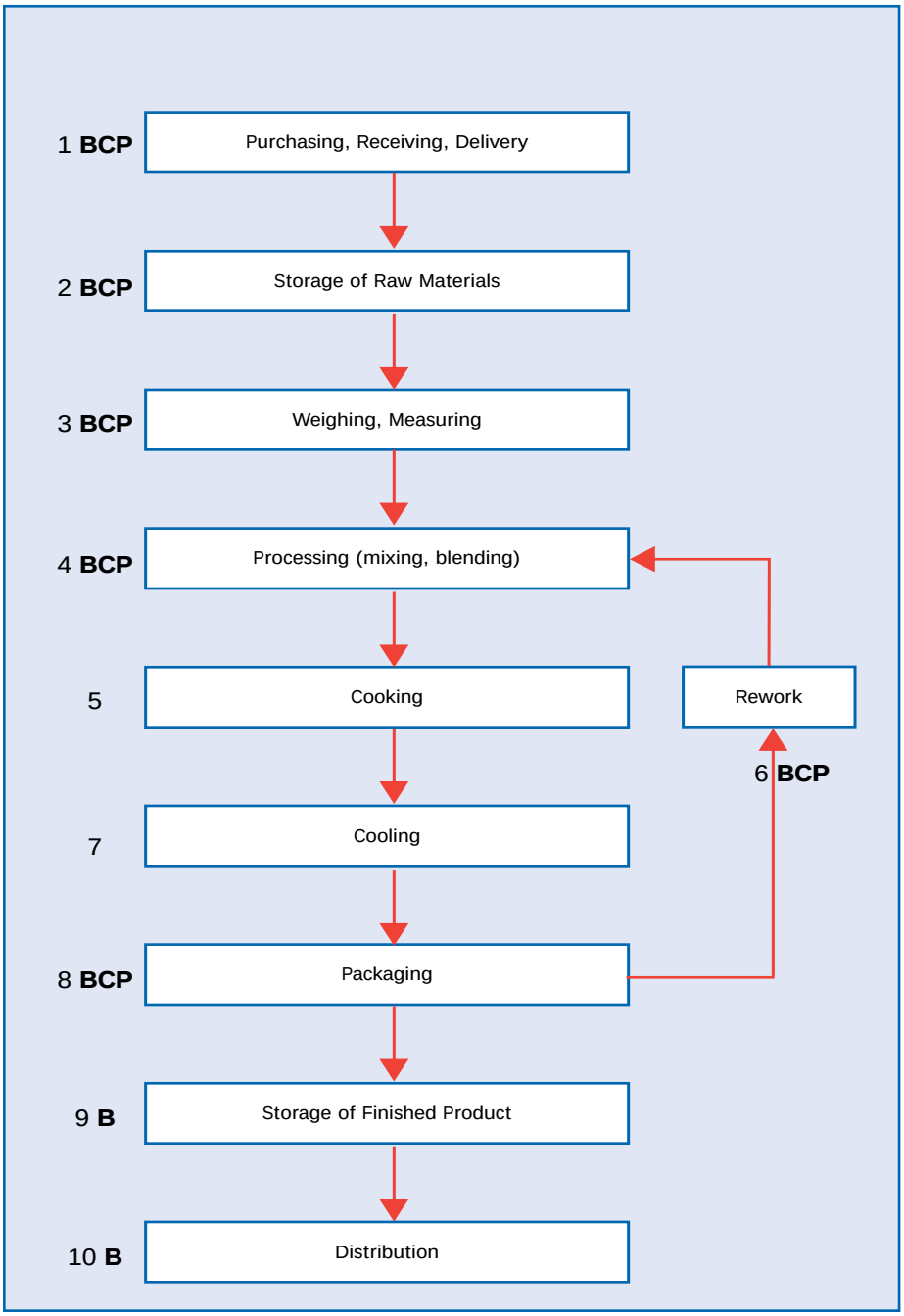
Flow Diagram – Example #1

Process Flow Diagram Form #3
Product Name(s): Example #1 – Generic Egg Processing

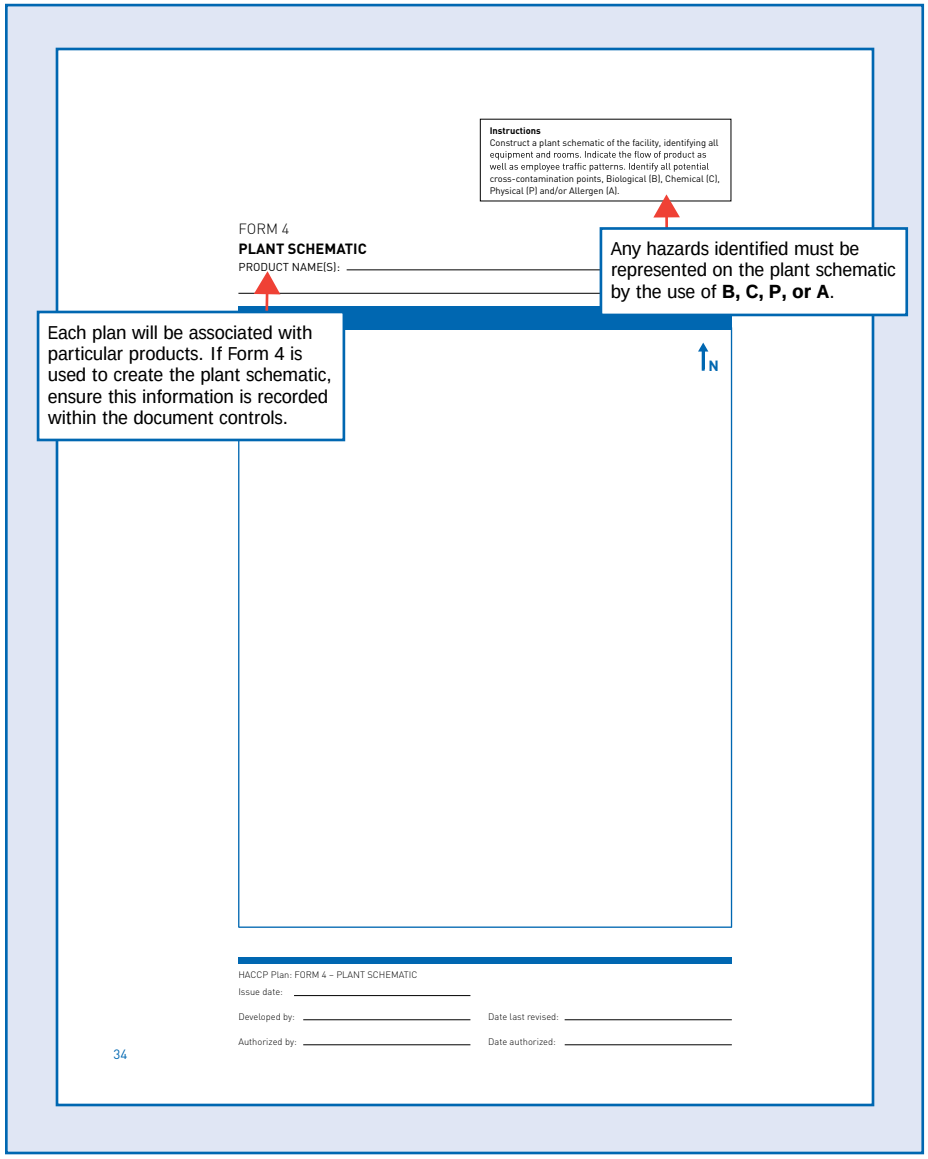


Flow Diagram – Example #2

Process Flow Diagram Form #3
Product Name(s): Example #2 – Generic Flow Diagram for Cooked Product



Form 4: Plant Schematic

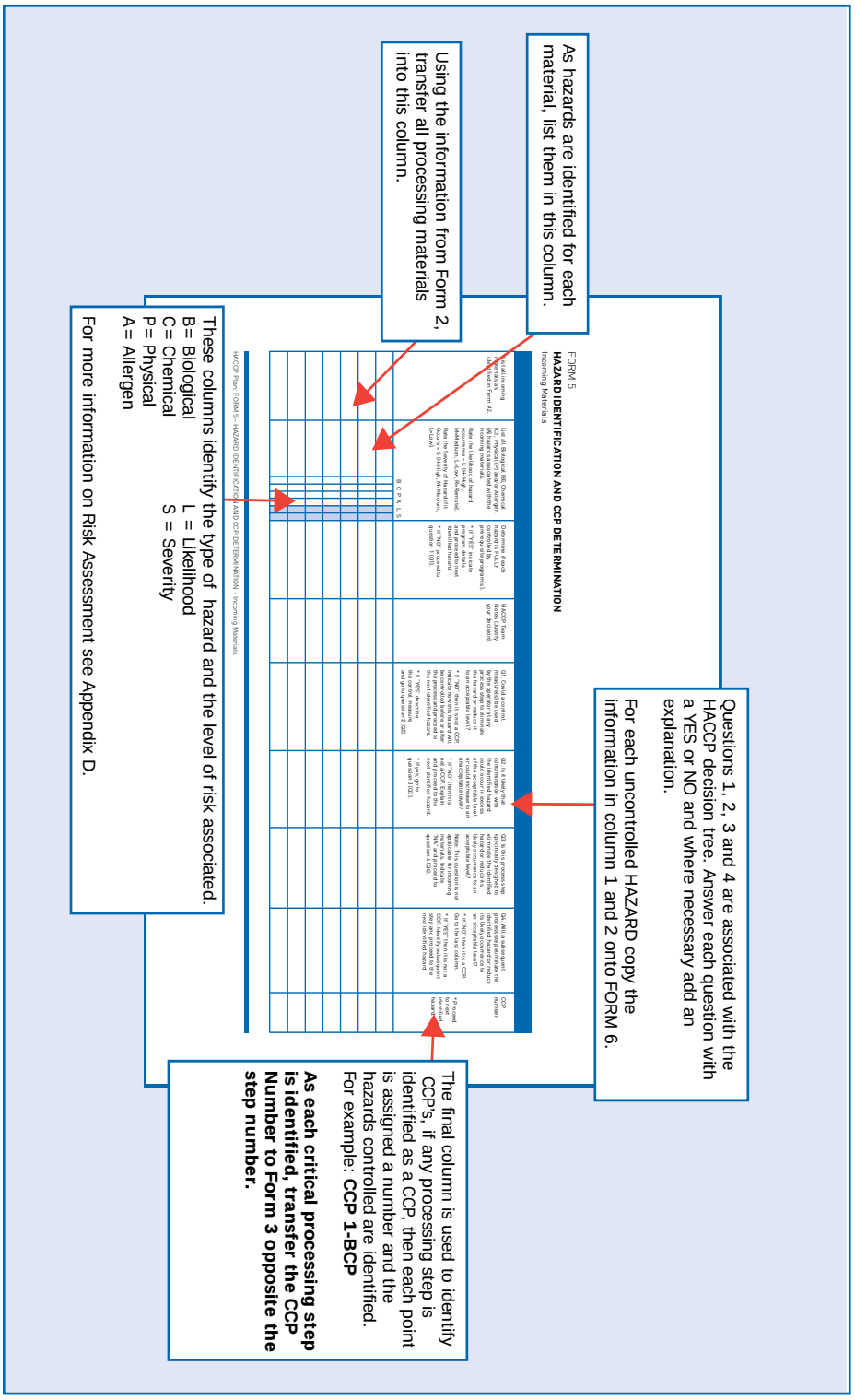


Form 4 is where the plant schematic is drawn. If more space is required, use a separate page or document (floor plan, architectural design). Record the necessary information to associate the document with the remainder of the HACCP plan.

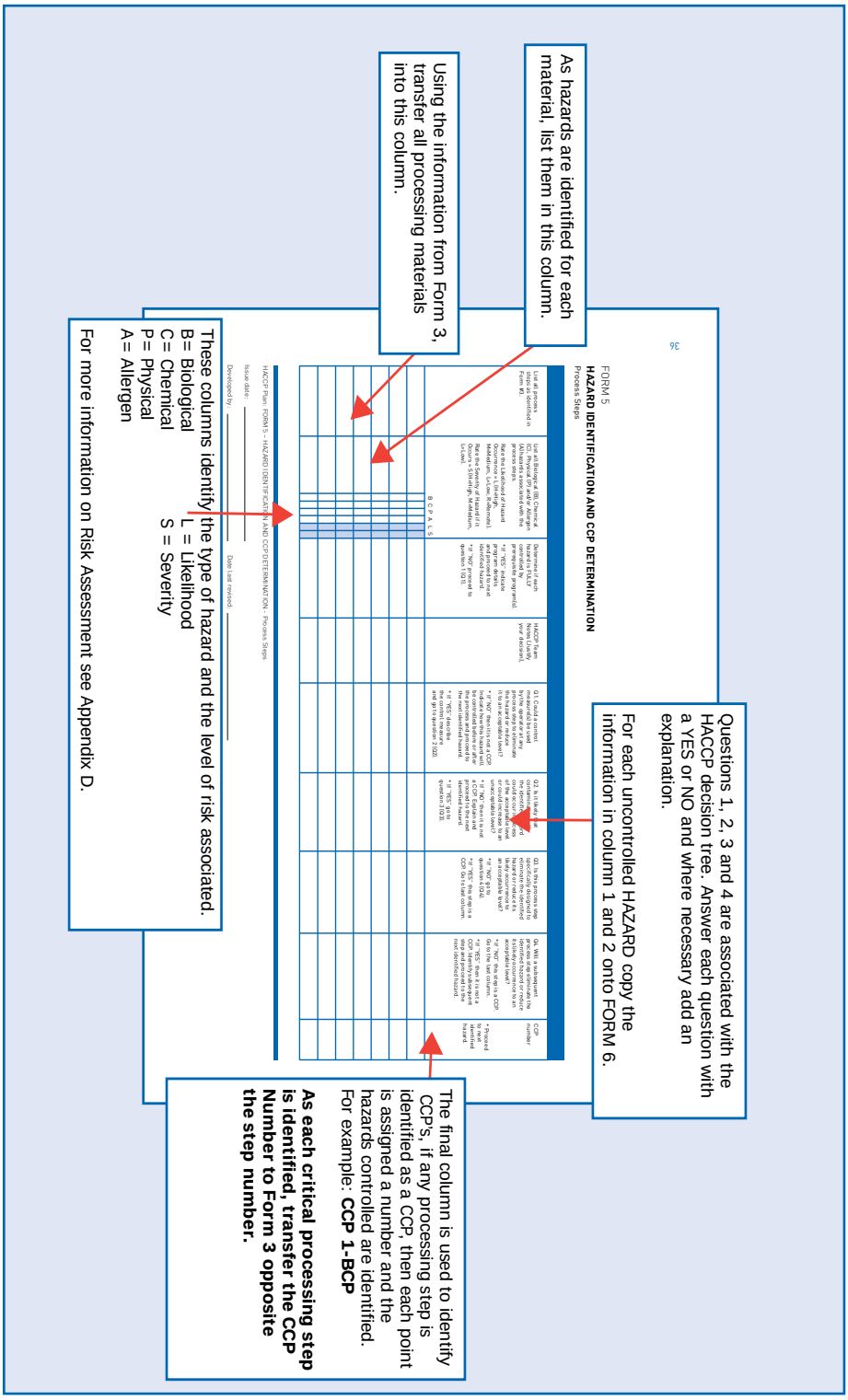
Plant schematics come in various forms. Some include graphics of equipment placement, and others just show the areas or rooms where they are placed. The amount of information the HACCP team needs will determine format and complexity of the plant schematic. The most useful plant schematic will include:

- All equipment and rooms within the facility;
- Flow of product, people and waste; and
- Potential cross-contamination or hazard points.

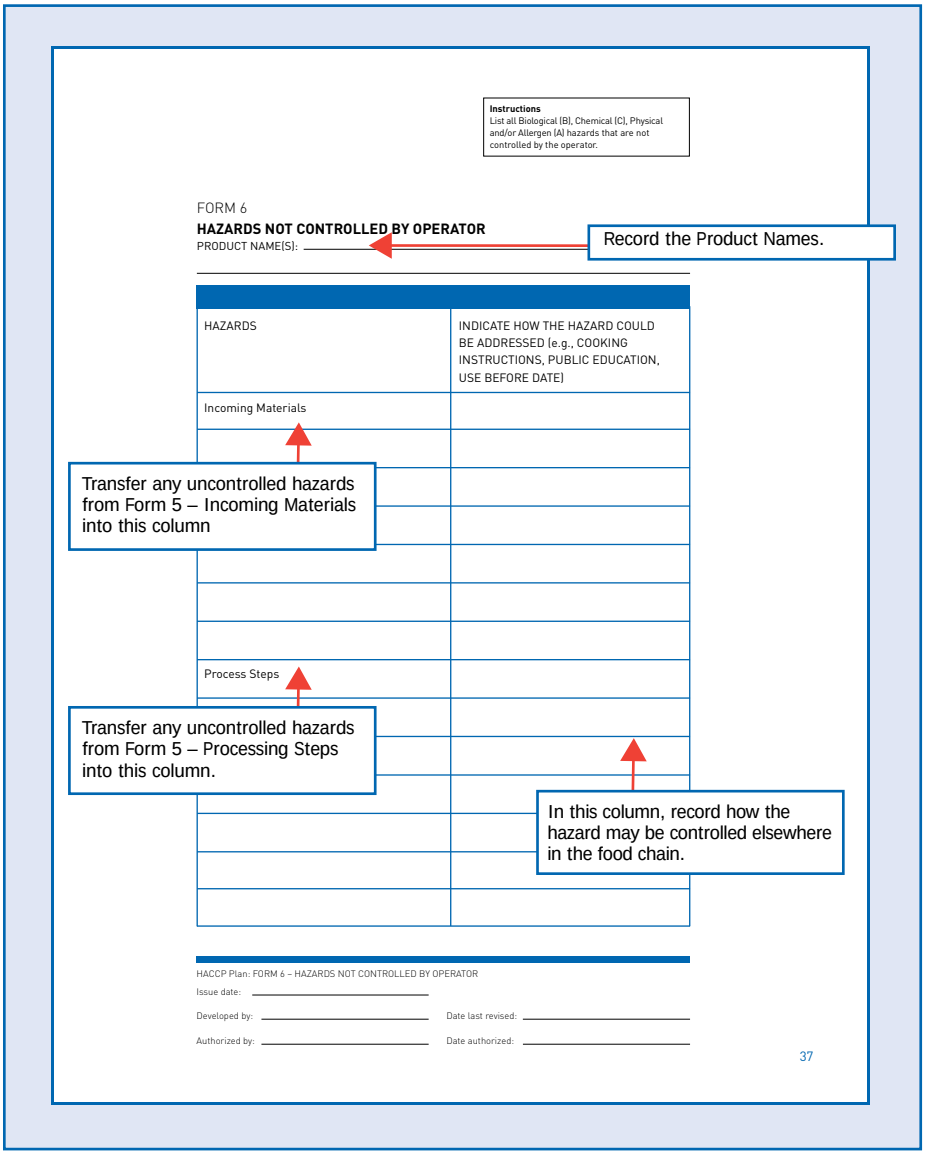
Form 5a: Hazard Analysis – Incoming Materials



Form 5b: Hazard Analysis – Processing Steps



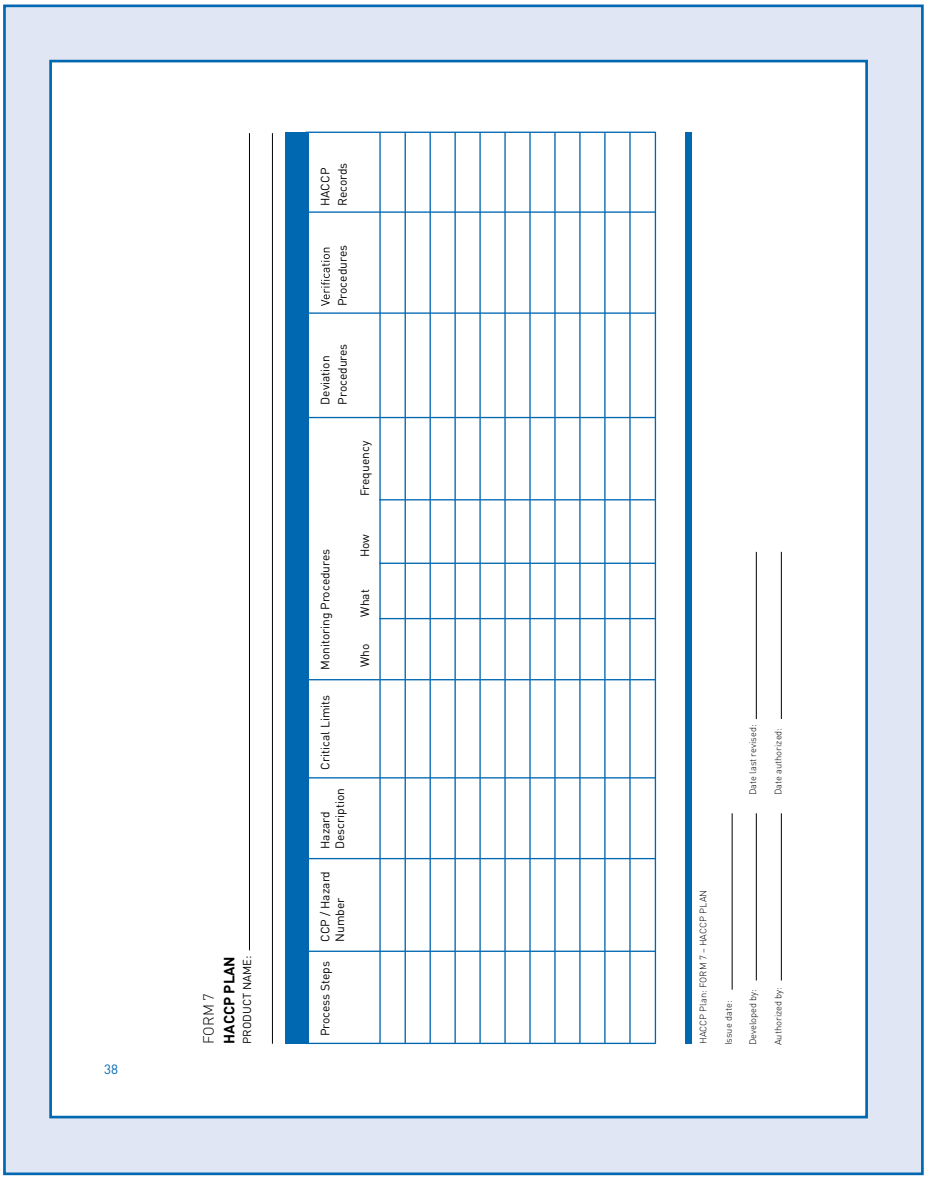
Form 6: Hazards not Controlled by Operator



The primary purpose of this form is to show due diligence of the food processor and helps the processor to find uncontrolled hazards. In the first column, copy the information from columns 1 and 2 of Form 5. In the second column, record how the hazard may be controlled elsewhere

in the food chain (e.g. supplier, consumer instructions, further processing). Any hazard that is listed on Form 6 and is not controlled at some point during the food chain should result in re-assessment of the production process and inclusion of appropriate controls.

Form 7: The HACCP Plan



FORM 7
HACCP PLAN
PRODUCT NAME: _____

Process Steps	CCP / Hazard Number	Hazard Description	Critical Limits	Monitoring Procedures				Deviation Procedures	Verification Procedures	HACCP Records
				Who	What	How	Frequency			

HACCP Plan: FORM 7 – HACCP PLAN

Issue date: _____ Date last revised: _____

Developed by: _____ Date authorized: _____

Authorized by: _____

38

Form 7 is used to document HACCP principles 4 to 7. Each column breaks down the monitoring, deviation, verification, and record keeping required at each CCP. The following page outlines how to fill in each column.

Column 1. Process Step – Enter in a description of each processing step for which a CCP has been identified on Form 5a or 5b.

Column 2. CCP Hazard Number – Copy the number assigned to each CCP into this column.

Column 3. Hazard Description – This column identifies the type of hazard that this CCP deals with.

Column 4. Critical Limits – Use this column to identify unacceptable limits, which if exceeded, would lead to production of unsafe product. These limits must be clearly defined, unbiased and measurable.

Column 5. Monitoring Procedures – This column is further broken down into four new columns. This creates a matrix to identify how your monitoring procedures are to be used on the production floor. Each monitoring procedure must indicate:

i. Who will perform the task (recorded in WHO column);

ii. What will be monitored (recorded in WHAT column);

iii. How it will be monitored (recorded in HOW column); and

iv. Frequency it will be monitored (recorded in FREQUENCY column).

Column 6. Deviation Procedures – This column may be used to record deviation procedures. It can also be used to describe what documents contain deviation procedure instructions. You must record deviation procedures showing:

i. Who will perform the task;

ii. What the task is;

iii. How the task is to be performed;

iv. Where this information will be recorded; and

v. The cause for the deviation (if known).

Column 7. Verification Procedures – This column may be used to record verification procedures, or to state what documents contain verification procedures.

Verification procedures should include:

i. What is being tested or examined;

ii. Why this is being tested or examined;

iii. Who is responsible for the activity;

iv. How the activity is being carried out;

v. When (how often) the activity is being done; and

vi. Where the results or information are being recorded.

Column 8. HACCP records – This is a list of all records related to this CCP. To help plant employees, include information on where each record can be found.

5.0 COMMUNICATION

Whether an outside consultant is hired to develop the HACCP plan, or whether it's done in-house, good communication is needed for the food safety system to work smoothly. Good communication ensures that facility workers understand the food safety system and their role in it.

5.1 Communication Guidelines for HACCP

The following communication guidelines will help in setting up and running a HACCP system.

Guideline 1: Ensure everyone is informed and educated.

All those involved in the process must understand:

- Why HACCP is important; and
- What their role in the HACCP system is.

Communication should include everyone connected with production of the food product. This includes in-house maintenance staff, contractors, raw material suppliers, production staff and others.

Guideline 2: Personal and direct communication develops better understanding.

At first communication may seem centred around the HACCP plan development team. However, in time it will be necessary to communicate information one-on-one with employees in production and other areas.

Guideline 3: All messages must be consistent.

Delivering a consistent message is very important in setting up and running a HACCP plan. Some may feel that to be successful, a food safety system should be flexible. However, it is important that key principles, methods, and requirements are communicated in a consistent manner. This will improve confidence and increase trust in the HACCP team.

Guideline 4: Ensure communication channels are two way.

Promoting two-way communication with all employees gets those people who are doing the actual food processing involved.

Guideline 5: Information must be up to date, accurate and understandable.

The technical words and language connected with HACCP may scare some people off. It's best to introduce people to the HACCP plan in stages. Once everyone understands their role and the process, keep them updated on changes to the system.

Guideline 6: Support words with actions.

Management actions must support the principles, or basic ideas and requirements of HACCP. People like to see a system working at all levels before they support it fully. A food safety system depends on everyone involved to make it work.

Guideline 7: All HACCP documents must be clear, concise and use language everyone understands.

When it comes to developing HACCP documents and records, follow the KISS rule: Keep It Short and Simple. Where possible, use bulleted points and flow diagrams that provide clear and direct information.

See Chapter 3 for further information on how to document HACCP effectively.

See Appendix E for the HACCP Forms 1-7.

HACCP Generic Models – the Canadian Food Inspection Agency has created comodity-specific HACCP models to asssit processors in adopting a HACCP system in their operations. Find them online at: *www.inspection.gc.ca/food/safe-food-production-systems/haccp-generic-models-and-guidance-documents/eng/1374992202076/1374992233926*

6.0 SOURCES OF INFORMATION

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