



FOOD SAFETY TOOL FOR HOME PRODUCERS

A Guide to Food Safety Practices for
Reducing Risk and Liability



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National Institute of Food and Agriculture
U.S. DEPARTMENT OF AGRICULTURE

Acknowledgements

This Food Safety Tool for Home Producers was created by AERO (Alternative Energy Resources Organization), a 501(c)(3) nonprofit committed to promoting and building a more sustainable Montana for all since 1974. With a producer-centric focus, we help Montana communities build place-based, values-driven food systems with climate-healthy solutions. We believe in partnerships and networks, because community is the future of sustainability. This Tool was created in partnership with Montana State University Extension, with funding from Western Extension Risk Management Education.

This material is based upon work supported by USDA/NIFA under Award Number 2021-70027-34713.



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AERO wishes to acknowledge the following organizations for their assistance in developing this guide.



Published May 2023

Suggested citation:

Blomquist, S. & Routh, B. (2023). *Food Safety Tool for Home Producers: A Guide to Food Safety Practices to Reduce Risk and Liability*. AERO.

www.mtfoodsystemresources.org/toolkit_component/food-safety-tool-for-home-producers/

Content by Sam Blomquist and Brianna Routh, with assistance from Erin Austin. Design and layout by Gillian Thornton Andrews.



AERO

PO Box 1558

Helena, MT 59624

(406) 443-7272

getintouch@aeromt.org

www.aeromt.org

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Introduction

& Considerations for the Home Producer

The purpose of this Food Safety Tool is to help home kitchen producers implement well-established commercial food safety principles in their home setting.

Many states have adopted laws that allow people to make food in a home kitchen and sell these products directly to consumers. These laws often allow producers to make and sell food without undergoing any inspection, licensing, or permitting that is required of other food establishments, with the goal of minimizing burdens on producers. While regulations can be burdensome, they also help protect both the producers and consumers from selling or eating an unsafe food product. In the absence of these regulations, a producer can be left exposed to increased legal liability. It is therefore important that the home producer is aware of and practice food safety standards to minimize the food safety risk to customers and liability risk to their business. This is especially important if any of their customers may be at higher risk for severe complications from allergies or foodborne illness including infants, pregnant women, elderly, or immunocompromised individuals.



New laws have made it possible to prepare food in home kitchens and sell directly to consumers. *Photo by ShotPot on Pexels.*

Anyone can be impacted by foodborne illness. The Centers for Disease Control (CDC) estimates that 1 in 6 Americans become sick from foodborne diseases each year, with 128,000 people being hospitalized and 3,000 dying.¹ Most of these cases are caused by improper food safety practices in our home kitchens. Regulations and other food safety controls in conventional food manufacturing settings help protect against foodborne diseases. For that reason, when food is manufactured in a home kitchen setting, particular attention needs to be paid to food safety principals.

1. Scallan E, Hoekstra RM, Angulo FJ, et al. Foodborne Illness Acquired in the United States—Major Pathogens. *Emerging Infectious Diseases*. 2011;17(1):7-15. doi:10.3201/eid1701.p11101.

Food safety refers to the conditions and practices that preserve the quality of food to prevent contamination and the spread of foodborne illnesses. This Food Safety Tool has adapted industry food safety standards for the home kitchen producer, including food safety prerequisite programs, Good Manufacturing Practices (GMP) and Hazard Analysis Critical Control Point (HACCP). We combine these tools along with the latest research-based food safety recommendations to build this Food Safety Tool with checklist sections covering **Sanitary Facilities, Suppliers and Ingredients, Personnel Hygiene, Avoiding Bacterial Growth, Avoiding Cross-Contamination, and Documentation**. We then guide home producers through the process of conducting a thorough hazard analysis, identifying critical control points and critical limits, and establishing monitoring procedures.

We hope this tool will help make your home kitchen production safer and more successful.

SANITARY FACILITIES

One of the primary components of ensuring food safety is a sanitary facility. Good Manufacturing Practices (GMPs) are standard regulations used by inspection agencies to ensure safe and sanitary physical environments in commercial food production. Every licensed food establishment must meet certain requirements to provide a physical environment that is sanitary for food production.

The main elements of a sanitary facility include:

- A clean physical environment, including facility design, construction, and maintenance;
- Safe potable water supply, appropriate hand washing and toilet facilities, and adequate garbage and sewage disposal;
- Routine cleaning and sanitation of walls, floors, ceilings, and equipment;
- Stainless steel counters and wall finishes that can be easily cleaned;
- A certified animal-free production area to control for contamination; and
- Proper food storage, including safe temperature and humidity control and keeping food separate from non-food chemicals (including cleaning chemicals, pesticides, or other household chemicals).

Given these requirements, the following checklist will help the home kitchen producer evaluate their kitchen for a sanitary physical environment.

Utilize the checklist on the following page to evaluate your facility conditions.

“Yes” or “N/A” indicates that you are meeting the standard for the question, or the question does not apply to your facility or production model.

“No” or “Needs Action” means that this is an area where you could consider incorporating more food safety risk management.



Keeping a clean work space is critical to ensure food safety. *Photo by cottonbro studio on Pexels.*

SANITARY FACILITY & PROCEDURE CHECKLIST: Home and Kitchen Assessment

*"Yes" or "N/A" indicates you are meeting the standard for the question or the question does not apply.
 "No" or "Needs Action" means that this is an area you could consider more food safety risk management.*

HOME	Yes or N/A	No or Needs Action
Water supply – Does your home provide water from a municipal water supply or non-community public water supply that meets all state codes and rules to be considered potable? Or, if you are using water from a private well, has the water been tested within the last 6 months and confirmed to have a total coliform and nitrate levels below the threshold to be considered potable?		
Plumbing – Are all water and wastewater plumbing systems installed in accordance with city/county plumbing codes and rules?		
Sewage – Does your home have a municipal sewer system or an on-site sewage treatment/septic system which meets Montana Department of Environmental Quality requirements?		
Toilets – Are toilet facilities available for use, separate from the food preparation area that includes a handwashing sink?		
Handwashing – Does your food preparation area have a separate handwashing sink that provides hot and cold water? (Separate means a sink that is used only for handwashing and not cleaning equipment, utensils, or ingredients.) If no, do you have a procedure by which you ensure that you do not contaminate equipment, utensils, or ingredients during hand washing?		
Storage – Are all food ingredients and food packaging materials stored separately from potentially hazardous chemicals, including cleaning chemicals, pesticides, or other chemicals used in the home or garage? If food items/packaging are stored elsewhere in the home (other than the kitchen), are they stored in containers that eliminate the risk of contamination, such as hard plastic bins stored off the floor?		
Pests – Is your kitchen/ingredient storage protected against the entry of insects, rodents, and other pests by eliminating holes such as under cabinets or shelving in the kitchen area? Are trash containers insect/rodent resistant with tight-fitting lids?		

<p>Animals – Do you exclude all animals from the kitchen? <i>(When producing food for sale, all animals, including domestic cats and dogs, need to be excluded from the production area.)</i></p>		
<p>KITCHEN</p>	<p>Yes or N/A</p>	<p>No or Needs Action</p>
<p>Countertops – Are countertops routinely cleaned and sanitized? <i>(Commercial facilities are required to have surfaces such as stainless steel counters and wall finishes that can be easily cleaned. Because this is likely not the case in home kitchens, a home producer needs to pay particular attention to ensure cleaning and sanitation practices are adequate.)</i></p>		
<p>Food-service grade equipment – Is all kitchen equipment food-service grade and being used as intended, according to manufacturer’s directions?</p>		
<p>Functioning equipment – Are equipment, utensils, and appliances inspected, cleaned, and maintained regularly to ensure equipment is functioning according to manufacturer directions? <i>(This includes sharpening knives, testing pressure canner readings, monitoring flexibility of plastic seals, noticing rust or damage to equipment, including small pieces such as cutting blades in blenders, food processors, etc.)</i></p>		
<p>Cleaning – Do you wash and rinse containers, bowls, utensils, and cutting boards that come in contact with raw protein before re-use?</p>		
<p>Cleaning – Do you regularly wash towels, apron, dish cloths used in the cooking and cleaning process? <i>(Cloth is preferred over sponges.)</i></p>		
<p>Safe storage – Are all cleaning products stored securely and well labeled?</p>		
<p>Cross-contamination – Are you avoiding food preparation in locations near hazardous and cleaning products?</p>		
<p>Cross-contamination – Is equipment stored and used in spaces that maintain temperature and avoid cross contamination?</p>		
<p>Cross-contamination – Have you identified your touch points that might risk cross-contamination like utensils, equipment, and surfaces (handles, drawers, nozzles)? Are these cleaned and disinfected regularly? <i>(For example, cleaned and disinfected using a diluted bleach mixture of 1 capful of household bleach/1 gal water.)</i></p>		

SANITARY FACILITY & PROCEDURE CHECKLIST: Home and Kitchen Assessment

Review the questions that you answered “No” or “Needs Action” on the Sanitary Facility and Procedure Checklist. What corrective actions could be taken for each area? Record your notes in the space below.

SUPPLIERS AND INGREDIENTS

Another key food safety step includes evaluating the supplier that provides your ingredients. Your product is only as safe as the ingredients you make it from. Consider if all ingredients are safe and come from suppliers who are incorporating adequate food safety programs. This would include purchasing products from licensed food manufacturers, wholesalers, or retailers. When purchasing from farmers markets or direct from agricultural producers, seek out those who have a Good Agricultural Practices (GAP) certification or inquire about their food safety standards and protocols.

Product specification refers to standards that all ingredients must meet, such as quality, quantity, and other important characteristics. Product specifications generally include conditions for quality such as a 'Grade A' or 'free from blemishes.' It is likely not necessary for a home producer to create formal written specifications for each ingredient, but it is important to seek high quality ingredients and be able to clarify these standards when purchasing directly from an agricultural producer.



Your product is only as safe as the ingredients you make it from. *Photo by Shameel Mukkath on Pexels.*

Utilize the checklist on the following page to evaluate your food safety risk.

SUPPLIERS & INGREDIENTS CHECKLIST

"Yes" or "N/A" indicates you are meeting the standard for the question or the question does not apply.
 "No" or "Needs Action" means that this is an area you could consider more food safety risk management.

SUPPLIERS & INGREDIENTS	Yes or N/A	No or Needs Action
Sources – Are all ingredients purchased from reputable sources?		
Food safety protocols – If you are purchasing directly from an agricultural producer, are you aware of their food safety protocols?		
Ingredient tracing – If a customer asked about quality standards for your ingredients, would you be able to answer this question?		
Packaging materials – Are all packaging materials considered food grade?		

Review the questions that you answered “No” or “Needs Action” above. What corrective actions could be taken for each area? Record your notes in the space below.

PERSONNEL HYGIENE

Personnel hygiene is an important factor of food safety. The same general principles of personnel hygiene apply in a commercial kitchen as in a home kitchen food production setting. All persons, while working in direct contact with food preparation, food ingredients, or surfaces should:

- Wear clean outer garments;
- Wash their hands thoroughly before starting work, after leaving the workstation, and at any other time when the hands may have become soiled or contaminated;
- Remove all jewelry;
- Cover fake nails, nail polish, and cuts or sores with gloves; and
- Wear hair nets, headbands, caps, or other effective hair restraints.

In a commercial setting, it is easy to exclude personal items, such as personal food or beverages, from the food preparation and cleaning areas. However, this is virtually impossible in a home kitchen. At the very least, attempts should be made to limit these items in the home kitchen when preparing food items for sale.

It is incredibly important that you take all reasonable measures and precautions to ensure that any person who is ill or showing signs of a communicable illness is excluded from the kitchen when food is being produced for sale. It is standard practice to exclude someone who is ill from working in a restaurant or a food manufacturing setting in a commercial setting. However, it is more complicated in a home kitchen production setting if the sick individual is also a resident of the home. Therefore, being aware of the health status of all members of the home is vitally important. This includes members of the household who are particularly vulnerable to contracting and transmitting illness, like young children.

Utilize the checklist on the following page to evaluate your food safety risk.



When preparing food, be sure to wash your hands, remove any jewelry, and wear clean clothing.
Photo by Gustavo Fring on Pexels.

PERSONNEL HYGIENE CHECKLIST

"Yes" or "N/A" indicates you are meeting the standard for the question or the question does not apply.
 "No" or "Needs Action" means that this is an area you could consider more food safety risk management.

PERSONNEL HYGIENE	Yes or N/A	No or Needs Action
Culinary hygiene – Do those involved in food preparation practice personal culinary hygiene (i.e. remove jewelry, pull back their hair, avoid wearing soiled clothes that may come in contact with food, cover fake nails/polish, cuts and sores with gloves)?		
Personal items – Do you minimize personal items in the kitchen during food preparation? Are surfaces cleared of personal food items, clothing, and any other personal items?		
Personnel in kitchen – Are other household members not involved in food production kept out of the kitchen during food preparation? If not, do they minimize their time in the kitchen?		
Health and illness – Is anyone who is feeling ill excluded from the kitchen and food preparation?		

Review the questions that you answered “No” or “Needs Action” above. What corrective actions could be taken for each area? Record your notes in the space below.

CONDITIONS NEEDED FOR BACTERIAL GROWTH

It is the responsibility of the food producer to know where and how their products might promote the spread or growth of bacteria that could cause a consumer to get sick. Bacteria, parasites, viruses, and toxins can cause a range of symptoms, and potentially death. The challenge is that these microorganisms may not be seen, smelled, or tasted and can still cause serious illness. The purpose of a well-designed food safety plan is to prevent the growth or spread of microorganisms that may cause consumers to get sick from food products. All food businesses, regardless of scale, must practice these steps to ensure safe products and happy and healthy customers.

FAT TOM is an acronym used to describe the conditions necessary for bacterial growth: food, acidity, time, temperature, oxygen, and moisture. Recognize and avoid these FAT TOM conditions to reduce potential for germs to thrive in your products.

- **Food**—Use foods that are fresh and blemish free. Microorganisms need a food source to grow. There are microorganisms on the surface of all foods, but they thrive in areas where the protective coverings of foods have been damaged, such as bruises or blemishes.
- **Acidity**—Most microorganisms like to grow in neutral (6-8 pH) environments. Consider acidic foods or recipes that have added acid to reduce the spread of bacteria.
- **Temperature**—Microorganisms grow best between about 40-140° F. This is known as the “danger zone.” Use added heat or cooling and proper storage to keep food out of the danger zone.
- **Time**—Microorganisms take time to grow and reproduce. Track and reduce the time your ingredients or food products are in the temperature “danger zone” for growth.
- **Oxygen**—Many microorganisms need oxygen to grow. Consider how to reduce the amount of oxygen accessible to your food product when choosing storage containers and packaging.
- **Moisture**—Many microorganisms need moisture to grow. Consider how to reduce the amount of moisture accessible to your food product when choosing storage containers and packaging.

Utilize the checklist on the following page to evaluate your food safety risk.

AVOIDING BACTERIAL GROWTH CHECKLIST

*"Yes" or "N/A" indicates you are meeting the standard for the question or the question does not apply.
"No" or "Needs Action" means that this is an area you could consider more food safety risk management.*

BUYING INGREDIENTS	Yes or N/A	No or Needs Action
<p>Shopping – When shopping, do you purchase non-perishable items first? <i>(This can minimize the time perishable food items are in the temperature “danger zone.”)</i></p>		
<p>Shopping at farmers markets – When shopping at outdoor farmers markets, do you shop early in the day? <i>(The time a food spends in the danger zone would include any time spent unrefrigerated at the market.)</i></p>		
TRANSPORTING AND STORING INGREDIENTS	Yes or N/A	No or Needs Action
<p>Transport time – Do you return home quickly after shopping and promptly return perishable foods to the refrigerator or freezer? <i>(The time a food spends in the danger zone would also include any time spent unrefrigerated during transportation.)</i></p>		
<p>Car storage – Do you avoid storing food in the uncooled interior or trunk of a car? <i>(Trunks are not temperature controlled and can get very hot even on moderately warm days. If your travel time is longer than 30 minutes, bring a cooler to keep perishable foods cold.)</i></p>		
<p>Expiration date – Do you examine the expiration date on ingredients and pick ingredients that will stay fresh longest? <i>(Bulk purchasing can be economical, but for perishable ingredients it is recommended to only buy the amount of ingredients you will use before spoiling.)</i></p>		
<p>First In, First Out – Do you follow the “First In, First Out” principle? <i>(This is a safe food storage system of rotating your food so that you use the oldest items first. The general steps include: organize your pantry; keep "like" things together [such as canned goods]; label items with the date purchased; check expiration dates; and bring the first to expire to the front to be used first.)</i></p>		
<p>Temperature verification – Do you periodically verify that your refrigerator maintains a temperature below 40° F?</p>		

PREPARING PRODUCT	Yes or N/A	No or Needs Action
<p>Thawing – When thawing do you use your refrigerator, cold water, or a microwave? <i>(Frozen ingredients should NEVER be thawed on the counter at room temperature. Uneven thawing can result in some or all of the food thawing to danger zone temps (40-140° F). This can be especially risky if the food item is in this temperature range for two hours or more.)</i></p>		
COOKING	Yes or N/A	No or Needs Action
<p>Cooking temperature – Do you ensure that food is heated to a temperature out of the danger zone (greater than 140° F) to stop the growth of microorganisms?</p>		
<p>Thermometer – Do you use a thermometer to check that a safe internal temperature is reached when cooking? <i>(Do NOT use only visual cues to determine doneness.)</i></p>		
<p>Thermometer – Do you use a functional and situationally-appropriate thermometer to track temperature throughout the food preparation process?</p>		
<p>Appliances – Do you regularly check large appliances for accurate and stable temperatures, including the refrigerator (40° F or below), freezer (0° F), and oven? <i>(Remember, temperatures can fluctuate based on where foods are stored, fullness of a container, and temperature of other foods sharing the space.)</i></p>		
COOLING	Yes or N/A	No or Needs Action
<p>Cooling procedures – Do you follow safe cooling procedures? <i>(After a product has been cooked to a safe internal temperature, it needs to be cooled properly. The product should be less than 70° F within two hours, and less than 40° F within four hours. Sometimes refrigeration alone will not cool the product fast enough. When necessary, food can be divided into shallow containers to cool faster or use ice baths to expedite cooling.)</i></p>		
<p>Storing timeline – Do you refrigerate or freeze perishable food within two hours of coming out of the oven or refrigerator? Consider this with storage AND delivery.</p>		

STORING, TRANSPORTING & REHEATING PRODUCT	Yes or N/A	No or Needs Action
<p>Transporting – When transporting your product, is it out of cold storage for less than two hours, including transportation? This is especially important for ready-to eat foods, or those that will not be cooked by the end consumer.</p>		
<p>Stable environment – Do you use a stable environment for storing food and avoid locations where temperatures may change frequently, such as the refrigerator doors, cupboards by the stove, or dishwasher? <i>(Changes in equipment temperature can affect the foods stored in or nearby, risking that the food may enter the danger zone (40-140° F) for unknown lengths of time.)</i></p>		
<p>Product labeling – Do you include the production date and/or use-by date on a food label?</p>		
<p>Product labeling – Do you include directions on consumer storage of your product on its label? If the product is intended to be reheated before consumption, do you include instructions on how to reheat it for the consumer? <i>(Foods that have been cooked and cooled should be reheated to at least 165° F.)</i></p>		
<p>Review the questions that you answered “No” or “Needs Action” above. What corrective actions could be taken for each area? Record your notes in the space below.</p>		
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AVOIDING CROSS-CONTAMINATION

In food safety terms, cross-contamination is when germs, bacteria, or other foreign materials are unintentionally spread from one surface to another. This may cause someone to get sick.

The highest levels of microbial growth in a home kitchen are typically found in/on:

- Sink (faucet, basin, splash radius);
- Cloths and sponges (dish washing cloth, hand drying towel, apron);
- Dishwasher (rubber seal); and
- Small appliance parts (can opener, cutting boards, mixer, blender).

Contamination may occur from other foods, people, animals, surfaces, and non-food objects during:

- Transit (at the store, in the kitchen, or to the customer);
- Storage (refrigerator, freezer, cupboard, container); and/or
- Preparation (ingredients, high touch surfaces, equipment and utensils, chef, or others).

High-risk products: Raw foods of animal origin are the most likely to be contaminated, specifically raw or undercooked meat and poultry, raw or lightly cooked eggs, unpasteurized (raw) milk, and raw shellfish. There are a few other items that have high occurrences of food safety incidents including pre-cut melon or tomatoes, and sprouts.



Take precautions to reduce the risk of cross-contamination in the kitchen. *Photo by Liliana Drew on Pexels.*

Utilize the checklist on the following page to evaluate your food safety risk.

AVOIDING CROSS-CONTAMINATION CHECKLIST

"Yes" or "N/A" indicates you are meeting the standard for the question or the question does not apply.
 "No" or "Needs Action" means that this is an area you could consider more food safety risk management.

BUYING INGREDIENTS	Yes or N/A	No or Needs Action
Bruises or blemishes – Is produce free from mold, major bruises, or cuts?		
Pasteurized ingredients – Are juice and dairy products pasteurized?		
Ingredient quality – Do you inspect packages for rips, bulges, signs of thawing, ice crystals in frozen foods, dripping, cracked, or opened safety seals?		
Ingredient quality – Do you check labels on packaged foods like condiments or packaged ingredients for storage directions? If they have not been followed, do you discard the item?		
TRANSPORTING AND STORING INGREDIENTS	Yes or N/A	No or Needs Action
Separate storage – Do you separate raw protein from other foods, especially fruits and vegetables, during transportation and storage?		
Fridge organization – Are ingredients in your refrigerator stored with ready-to-eat items and produce above raw meats so that raw items are not contaminating foods below?		
Transport – Do you transport your items in covered containers/bags that minimize the risk of contamination during transportation?		
PREPARING PRODUCT AND COOKING	Yes or N/A	No or Needs Action
Hand washing – Do you wash your hands before and after food prep, and during food prep if you attend to another task? <i>(Proper hand washing steps include: wet hands, lather with soap, scrub for 20 seconds, rinse, and dry with a clean towel.)</i>		
Hand washing – If a dedicated hand washing sink is not available, are all food items and utensils removed from the sink before washing hands?		

Ingredient preparation – Do you clean off containers before opening them?		
Ingredient preparation – Do you wash or rinse poultry or other meats? <i>(This is NOT recommended and can cause germs to splash and spread to other surfaces. Cooking to safe temperatures should be used to eliminate germs instead of washing.)</i>		
Ingredient preparation – Do you scrub fruit and vegetable surfaces/peels with water and brush or cloth to remove dirt before preparing? <i>(Soap should NOT be used on ready-to-eat produce as it may not all be removed and can be considered a harmful foreign material if eaten.)</i>		
Ingredient storage – Do you return unused ingredients to safe storage temperature and location as soon as possible?		
Clean space – Is your working space kept clean and clear of unnecessary items throughout the food production process?		
Meat – Do you put cooked meat on a separate surface than the surface that held raw meat?		
STORING, TRANSPORTING & REHEATING PRODUCT	Yes or N/A	No or Needs Action
Food safe containers – Do you use food safe containers like food grade plastic or glass that is free from chips and cracks?		
Ingredient labeling – Do you label all ingredients? <i>(Food industry standard is to label all ingredients and in particular, major allergens including: milk, egg, fish, crustacean shellfish and insects, tree nuts, wheat, peanuts, sesame, and soybeans.)</i>		
SAFETY FOR HIGH-RISK CUSTOMERS	Yes or N/A	No or Needs Action
High-risk customers – Do you sell your product to high-risk customers (infants, pregnant women, elderly, or immunocompromised individuals)? If so, are you practicing increased safety protocols?		

AVOIDING CROSS-CONTAMINATION CHECKLIST

Review the questions that you answered “No” or “Needs Action” on the Avoiding Cross-Contamination Checklist. What corrective actions could be taken for each area? Record your notes in the space below.

DOCUMENTATION

In commercial food settings, one of the best ways to ensure that food is produced in a safe manner is to have a well-established food safety program that incorporates routine training, documentation, and monitoring. This can be cumbersome for a home producer, but it is important to maximize food safety and minimize your risk as a producer. Ideally, all individuals who are involved in food production in any setting have at minimum a basic food safety training certification. It is helpful to have documentation for water testing, facility maintenance, routine cleaning, and a general written food safety production plan to avoid food safety issues. This is fundamental if a customer becomes ill and claims that your product or business is liable.

Labeling: Most food products, even those produced in home kitchens, require some form of labeling. Home producers are often required to include a liability statement that informs the customer that the item was produced in a home kitchen. Food produced for retail sale has more specific standards, including ingredient and allergen labeling. Even though a home producer might not be required to label allergens, it is important to recognize that consumers have become accustomed to these labeling standards. We recommend labeling all ingredients for your own liability protection, and in particular if your products contain common allergens.

Traceability and Recall: In a commercial setting, all raw materials and products must be lot-coded and a recall system must be in place so that rapid traces and recalls can be conducted. This is often not obtainable for a home producer. As a precaution, think through other options for how you will trace your products and notify your customers if you determine that one of your products has been contaminated or is not safe.



We recommend labeling your product ingredients, particularly if it contains allergens. *Photo by Anthony Pavcovich.*

Utilize the checklist on the following page to evaluate your food safety risk.

DOCUMENTATION CHECKLIST

"Yes" or "N/A" indicates you are meeting the standard for the question or the question does not apply.
 "No" or "Needs Action" means that this is an area you could consider more food safety risk management.

DOCUMENTATION	Yes or N/A	No or Needs Action
Food safety training – Do all members of the food production team have food safety training? Is it documented/up to date?		
Maintenance and cleaning records – Do you keep records of facility maintenance and routine cleaning? <i>(This could be as simple as a section of your food safety plan stating that routine cleaning happens on a daily basis and inspections of equipment are conducted on a monthly basis.)</i>		
Food safety plan – Do you have a general food safety plan that identifies procedures to minimize risk in the production of your products?		
Ingredient sourcing documentation – Do you purchase ingredients from reputable sources? If purchasing from local vendors, do you know if they are compliant with food safety laws and regulations pertinent to their products?		
Labeling – Does your product labeling comply with the liability labeling requirements by your state or local food regulation entity? Do your products include a disclaimer statement that says “produced in a home kitchen”?		
Labeling – Do you label major allergens in your products? <i>(Major allergens include milk, egg, fish, crustacean shellfish and insects, tree nuts, wheat, peanuts, sesame, and soybeans.)</i>		
Labeling – Do you label each product with the product name, description, date of production, and storage and preparation recommendations for consumers?		

DOCUMENTATION CHECKLIST

Review the questions that you answered “No” or “Needs Action” on the Documentation Checklist. What corrective actions could be taken for each area? Record your notes in the space below.

Food Safety Production Risks

Hazard Analysis and Critical Control Points (HACCP)

The next step in ensuring a safe product is to examine the product in more detail, determine where food safety issues are likely to occur, and to identify how to create a process in your kitchen to control or minimize these risks.

Hazard Analysis and Critical Control Points, or HACCP, is a systematic preventive approach to ensuring food safety from biological, chemical, and physical hazards. Identifying and preventing problems from occurring is the primary goal underlying any HACCP system. A formal HACCP process involves multiple steps including identifying potential hazards in the specific product flow, identifying and establishing ways to correct for these hazards, and then establishing protocol for monitoring and record-keeping.

This home food safety assessment tool does not substitute for a traditional HACCP planning process, but adapts the HACCP concepts for a home kitchen setting. The HACCP process includes creating a product flow diagram, analyzing it for hazards, identifying critical control points or CCPs, and determining specific actions to limit these risks. We suggest completing these steps for each of your products to help identify and minimize potential risks.



The HACCP process walks you through identifying and correcting potential hazards in your food production and establishes protocol for monitoring and record-keeping. *Photo by Amanda Reed on Pexels.*

PRODUCT DESCRIPTION

A HACCP plan is most effective when it is tailored to a specific product and traces that product from start to finish. To begin, describe your product in the space below.

Describe the food and its distribution. (What is the product and how will it be sold to the consumer?)

Example: Egg/vegetable quiche sold direct to consumer, delivered to their home.

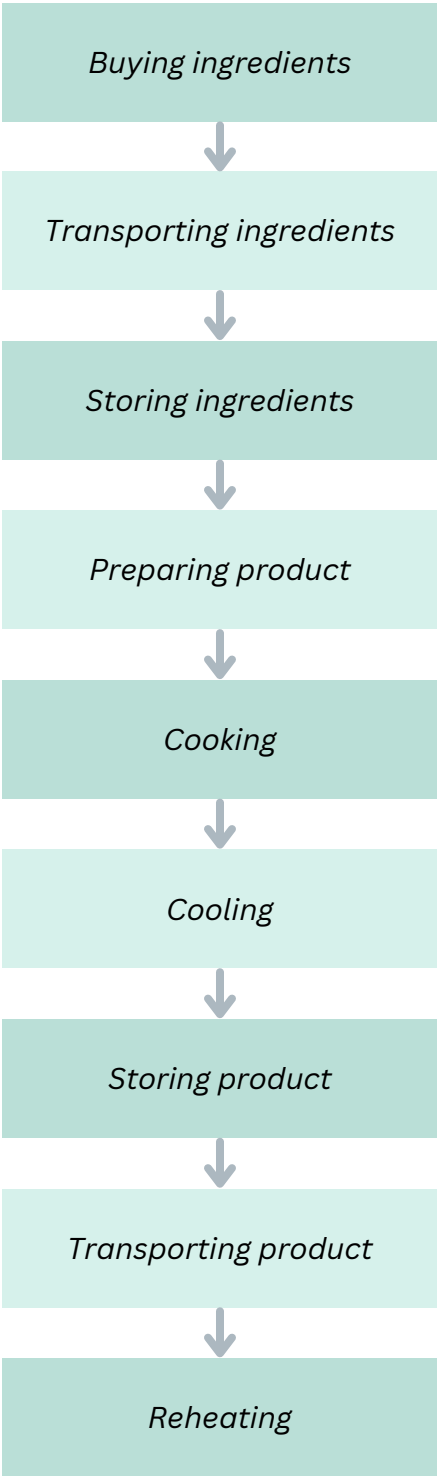
Describe the intended use and consumers of the food. (Is the product ready to eat, or will it be cooked by the consumer?)

Example: The consumer will reheat the quiche prior to consuming.

PRODUCT FLOW DIAGRAM

The next step is to map the process of making or preparing your product. Creating a product flow diagram will help you identify the steps included in your contact with the product from start to finish.

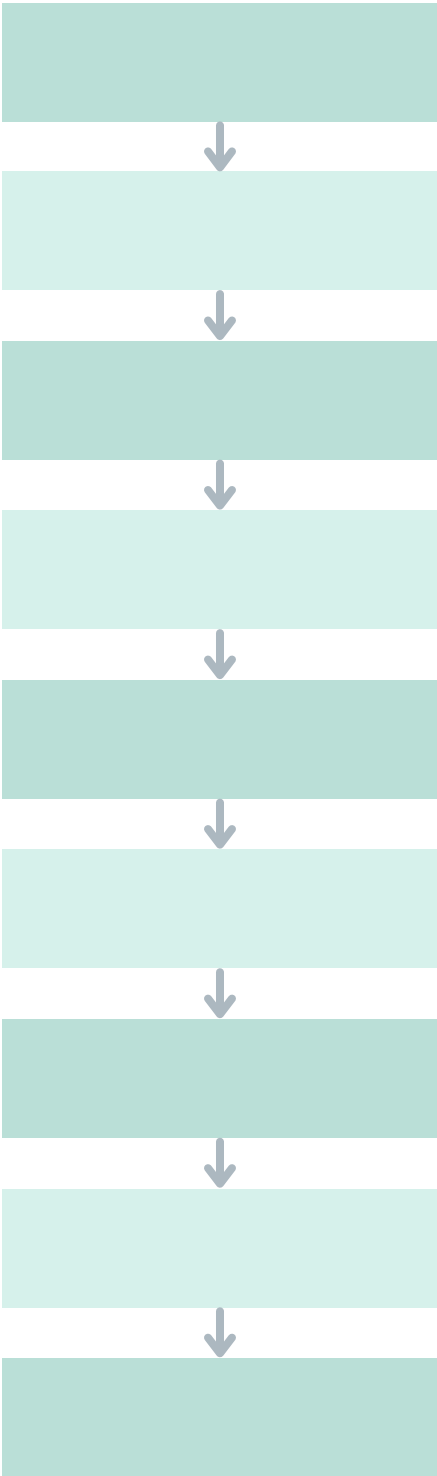
Example: This would be a flow diagram for an egg quiche.



PRODUCT FLOW DIAGRAM WORKSPACE

Now develop a flow diagram to describe the production process of your product. What steps are included in your contact with the product from start to finish?

(Note: Your diagram may include fewer or more steps than the example on the previous page. Use as much or as little of the space provided as you need.)



HAZARD ANALYSIS

After conceptualizing the product flow, a hazard analysis includes completing these four steps: 1) conduct a **hazard analysis** by identifying the steps in your production process that pose the highest risk; 2) determine **critical control points (CCPs)**; 3) establish **critical limits**; 4) establish **monitoring procedures**. We will walk through each of these steps in the following pages.

CONDUCT A HAZARD ANALYSIS

The purpose of a hazardous analysis is to develop a list of hazards which are likely to cause injury or illness if they are not controlled. Hazards will be different based upon the product. For example, ready to eat foods will have very different risks than foods that are cooked, cooled, and reheated. The first step in the hazard analysis is to identify the 'riskiest' aspects of your particular product. Important aspects to consider in this analysis can include: transport of food, thawing of potentially hazardous foods, volume cooling, the extent of food handling and contact, volume and adequacy of preparation and holding equipment available, storage, and method of preparation. Keep in mind that hazards can be bacterial, chemical, or physical.

Together with the product checklists and the flowchart for each of your food products, identify all the steps/processes that pose a food safety risk in your food products in the workspace below. There are risks in nearly every production step and the next steps in the HACCP process will help identify which risks are most important. Note: This hazard analysis will need to be completed for each product independently.

Identify the steps in your food production process that pose the highest risk.

Example: When preparing an egg quiche, the cooking and cooling steps present the highest risk for food safety issues to occur.

DETERMINING CRITICAL CONTROL POINTS (CCPs) AND ESTABLISHING CRITICAL LIMITS

A **critical control point (CCP)** is defined as a step at which you can prevent, eliminate, or reduce a food safety hazard. CCPs are usually practices/procedures which, when **not** done correctly, are the leading causes of foodborne illness outbreaks. Common examples of critical control points include: *cooking, cooling, re-heating, and holding*. To determine CCPs, ask the following questions:

- At this step in preparation can food become contaminated and/or can contamination increase?
- Can this hazard be prevented through corrective action(s)?
- Can this hazard be prevented, eliminated or reduced by steps taken later in the preparation process?
- Can you monitor the CCP?
- How will you measure the CCP?

A **critical limit** is a maximum and/or minimum value to which a biological, chemical, or physical parameter must be controlled to prevent, eliminate, or reduce to an acceptable level the occurrence of a food safety hazard. Each CCP should have at least one critical limit. Critical limits must be something that can be monitored by measurement or observation. They must be scientifically and/or regulatory based. Examples include: temperature, time, pH, water activity or available chlorine. In the quiche example below, cooking the quiche is a critical control point and the 165° F temperature is the critical limit.



Knowing the various CCPs and critical limits in the preparation and serving of your product will help you reduce your food safety risk. *Photo from Canva.*

The following pages provide examples of critical control points and critical limits in the quiche example. **Refer back to the checklists on avoiding bacterial growth and cross-contamination (pg. 15-21) as you work through the steps in your products.** There are additional examples and resources in the appendix.

IDENTIFYING CRITICAL CONTROL POINTS AND LIMITS

The next step is to identify the critical control points and critical limits in your product's production process. Here is an example of CCPs for an egg quiche.

PRODUCTION STEP	HAZARDS, CRITICAL CONTROL POINTS & LIMITS
Buying ingredients	<ul style="list-style-type: none"> • Purchase Grade A eggs from a certified source • Purchase vegetables from GAP certified farm
↓	
Transporting ingredients	<ul style="list-style-type: none"> • Transport ingredients from market to home in a cooler
↓	
Storing ingredients	<ul style="list-style-type: none"> • Store ingredients in dedicated home refrigerator
↓	
Preparing product	<ul style="list-style-type: none"> • Remove personal items and pets from kitchen • Schedule food production when other household members are not present • Eliminate cross contamination in preparation
↓	
Cooking	<ul style="list-style-type: none"> • Critical Control Point – Cook quiches • Critical Limit – Cook to 165° F • VERIFY with thermometer
↓	
Cooling	<ul style="list-style-type: none"> • Critical Control Point – Cool quiches • Critical Limit – Cool quiches within 2 hours to less than 70° F, within 4 hours to less than 40° F
↓	
Storing product	<ul style="list-style-type: none"> • Wrap quiche in airtight wrap • Store quiche above raw eggs/protein in refrigerator
↓	
Transporting product	<ul style="list-style-type: none"> • Transport quiche to customer home in cooler
↓	
Reheating	<ul style="list-style-type: none"> • Critical Control Point – Label quiche with storing and reheating instructions • Critical Limit – Label includes instructions to keep refrigerated and reheat to 165° F before eating

CRITICAL CONTROL POINTS AND LIMITS WORKSPACE

Return to your product flow diagram. What hazards, critical control points, and critical limits can you identify in your production process?

Note: Depending on your product, your diagram may include fewer or more steps than the example on the previous page. Use as much or as little of the space provided as you need.

PRODUCTION STEP	HAZARDS, CRITICAL CONTROL POINTS, & LIMITS
↓	
↓	
↓	
↓	
↓	
↓	
↓	

ESTABLISH MONITORING PROCEDURES

Verifying is ensuring that critical limits are being met. Monitoring is creating a plan that includes routinely verifying via observations or measurements to assess whether the CCPs are being met. In our example, if you are not routinely checking to make sure your quiche is cooked to 165° degrees, then you are not ensuring that the critical controls are being met. Often food safety incidents are caused not by the lack of knowledge but in assuming that the outcomes are being met, without verifying routinely.

A common issue occurs when home producers increase production that exceeds the adequacy of noncommercial equipment. In our quiche example, a critical limit is cooling the quiche to less than 70° degrees within two hours. A home refrigerator might be able to meet this critical limit when cooling one or two quiches, but with six or eight, the refrigerator might not have the capacity to reach the temperature within the required timeframe. Monitoring is the only way of ensuring that is being met.

The monitoring system should be easy to use and meet the needs of your operation. If you have multiple people helping in production, it is important that the job of monitoring be assigned to a specific individual and they be trained on the monitoring technique.

Use the space below to consider the following: *What monitoring steps can you take to ensure that your critical control points are being met routinely? What are the critical control limits that need to be verified and how will you ensure that this is completed routinely?*

CONCLUSION

The Value of a Food Safety Plan

Thank you for taking the time to complete this toolkit! We hope this tool will help make your home kitchen production safer and more successful.

The final step in the food safety assessment process is to incorporate the findings from your checklists and HACCP exercises to create a summary food safety plan. In a commercial setting, a food safety plan is a structured document often dictated and required by law. For a home food producer, there is no standardized format or requirement for a food safety plan. A food safety plan for a home producer serves three main purposes: 1) identifies areas of increased risk in your production operation, 2) establishes procedures to control for those risks, and 3) serves as documentation in the event that an incident occurs. The completed checklists and HACCP product flow charts from this document should get you started on crafting a customized food safety plan. However, a thorough food safety plan is only effective if it is updated, reviewed, and revised routinely.

We wish you the best with your home kitchen production!

Additional Resources

If you are interested in additional training or resources, consider becoming a licensed cottage food producer or investigate options for a wholesale or retail license. You can also seek input from food safety professionals who can review your operation via the Montana Manufacturing Extension Center or your local Food and Ag Development Center. For more resources, please visit AERO's **Value-Added Producer Success** webpage and **Food System Resource Library**.

The following URLs are provided as additional resources on relevant topics:

- **Example HACCP Plan—Chicken Cacciatore:**
www.yumpu.com/en/document/view/34213668/chicken-cacciatore-haccp-plan
- **USDA Food Temperature Danger Zone Factsheet:**
www.laborposters.org/restaurant/2958-usda-food-temperature-factsheet-poster.htm
- **Iowa State University Food Safety for Food Entrepreneurs:**
<http://store.extension.iastate.edu/product/16556>

Additional resources:

AERO: www.aeromt.org

Montana Manufacturing Extension Center: www.montana.edu/mmec/

Food & Ag Development Centers: <https://agr.mt.gov/Food-and-Ag-Development-Centers>

MSU Extension Food Safety: www.montana.edu/extension/nutrition/food-safety-preservation/food_safety.html



AERO
PO Box 1558
Helena, MT 59624
(406) 443-7272
getintouch@aeromt.org
www.aeromt.org



Leading the Way to a Sustainable Montana Since 1974

Alternative Energy Resources Organization
PO Box 1558, Helena MT 59624
www.aeromt.org
(406) 443-7272



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