

NATIONAL YOUNG FARMERS COALITION

A Small Farmer's Practical Guide to Writing a Farm Food Safety Plan



Who is this guide for?

- Farmers who are curious about improving their food safety practices to lower risks and increase on-farm effectiveness and enjoyment.
- Farmers who may not have anyone, like a buyer, inspector, or auditor, asking for a food safety plan, but still want to document their food safety practices.
- Farmers who want to focus their attention on the practices and paperwork that will make a difference on their farm and create a food safety plan that is useful to their operations and makes sense to them and their farming community.

This guide was created with those farmers in mind to help educate themselves and their farm community and set realistic, clear policies so that everyone knows what is expected and ways they can contribute to improve the farm's food safety practices.

WARNING: If you are a farmer who needs to pass an audit or want paperwork in place to make a Produce Safety Rule inspection or On Farm Readiness Review easier, please contact your local Extension Agent or service provider. They'll know what works best for your area. Those are great goals but this guide is not the best way to meet them.

If you're more of a go it alone type, or just want to get a feel for what a template designed to help pass an Audit looks like, please check out the resources at [this link](#).

How To Use This Guide



This guide is a tool to help you begin thinking about what you're possibly already doing on your farm through a lens of food safety, and to help you categorize, document, and communicate those activities to yourself, your employees, and even your customers.



If you have farmer friends and neighbors, this guide could be a group process where you all talk through your food safety practices and even write your plans together. A suggestion—meet once a week for a potluck and talk through a different section each time!

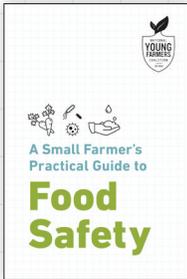


We encourage you to take your time and go through the guide section by section. You might want to take notes, talk it out with your farm partners and crew, or record audio of your processes.



As you read through this guide, there are companion audio recordings of farmers offering their own perspectives on different farm topics like chores, animals, farm mapping, worker training and preventive maintenance. Listen along to hear how they incorporate food safety practices onto their farms.

ADDITIONAL RESOURCES

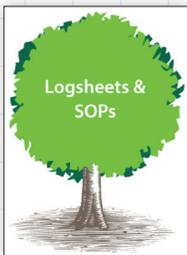


The Young Farmers “[A Small Farmer’s Practical Guide to Food Safety](#)” is full of good food safety information, perfect for beginners and old pros who want a refresher.



As you grow as a manager and leader, a few books we’d recommend are:

- [Emergent Strategy: Shaping Change, Changing Worlds](#) by Adrienne Maree Brown
- [The One Minute Manager](#) by Ken Blanchard
- [The Checklist Manifesto](#) by Atul Gawande
- [The Lean Farm](#) by Ben Hartman



Ready to improve your record keeping? We’d suggest visiting [this Cornell University website](#).



Sample food safety signs and a tool to help you make your own signs can be found here: [Food Safety Signs](#)—credit Sarah Lawrence Design.

THANK YOU: Sprinkled throughout this plan is the positive influence of Betsy Bihn, Travis Chapin, Michelle Danyluk, Connie Fisk, Emily Griep, Annalisa Hultberg, Cal Jamerson, Jennifer McEntire, Kristin Woods, and countless farmers and educators who have shown us so much kindness, guidance, and patience. Thank you to the farmers from our first food safety plan cohort who refocused us on the joys of growing and reminded us that positive engagement can reduce risks and increase benefits. And, of course, to Mariah Foley, who gently pointed out the obvious and grows the most beautiful produce in Basalt, Colorado.

Finally—this Guide, just like your food safety plan, is a work in progress! See a typo? Or a mistake? Want to pass along some kind words? Have a question? Let us know and good luck! Reach out at services@youngfarmers.org.

This project is made possible by a grant from USDA’s National Institute of Food and Agriculture in the Food Safety Outreach Program. Grant No. 2019-70020-30352

Getting Started

“Who am I writing this for and what is the actual goal behind having a food safety plan?”

Is it for me to get my brain organized and just have that written down so my farm partner and I have an easier language to share with one another?

Is this a document that I actually want to be able to print pages out and have it in a binder for my employees to look at?

Are those two documents the same?

Are they different?

Do I change how I’m writing it if the goal of why I’m actually putting energy and attention into this shifts?”

**KELLY SKILLINGSTEAD,
LONG HEARING FARM**

“All things are in relationship with each other.”

**JASMINE WALLACE,
A TSALGI (CHEROKEE) MEDICINE WOMAN**

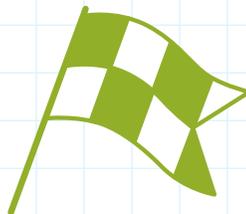
Let’s start off by earning some easy points, shall we?

The first page of your plan should include information about your farm and who is doing the writing and planning around food safety.

Give yourself some credit, here!

This information includes:

- Farm logo and farm name
- Farm address
- Contact person (who is responsible for the plan)
- Contact information
- Date the plan was written
- Date the plan was reviewed



Getting Started, Continued.

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Goal Setting

"We have high standards, for sure, and we want to make sure that we don't take lightly the very intimate act of feeding people. People are taking the things that we touch with our hands into their bodies. I never want to think of that, even if I'm in a hurried state and even if there are a million things that need to get done in the day, from a place that is not of utmost care and attention. I think that food safety for me isn't about necessarily what we are writing down in the plan, but how are we holding ourselves accountable to ourselves? What is the culture that we are creating and how are we communicating that so we can actually move that from words into practice."

**KELLY SKILLINGSTEAD,
LONG HEARING FARM**

"I think about what is good for the land a lot and really want to, as much as possible, make sure my practices are contributing to the sustainability that needs to happen and be a core part of existence."

**JULIA ASHERMAN,
RAG AND FRASS FARM**

"There are a fair share of customers that are struggling with auto-immune diseases and paying super close attention to their diets because of it, so I want systems that protect those people because they are putting their trust in me to grow them their food. Taking care of the people who need it the most is personally why I care about food safety. I also think another big benefit is writing out these SOPs really helps us analyze our systems to make them better and stronger so there are benefits that ripple out beyond food safety from paying attention to these SOPs and considerations that we are doing everyday."

**MARIAH FOLEY,
ROCK BOTTOM RANCH**



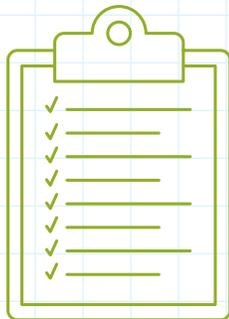
Tune in to the companion podcast episode with farmers talking on this topic.

Goal Setting, Continued.

It's easy to get caught in a spiral of writing unnecessary SOPs or worried that you need to have a written policy for everything, from paying attention to wildlife to how to change your shoes in a low risk way. Taking the time and care to identify and write out your goals for your food safety plan will help you focus and respond to the needs of your farm.

Some big questions to ask and answer about your farm and food safety plan might be:

- Why do you farm?
- How and why do you follow good agricultural practices?
- Who do you want to share this food safety plan with?
- When do you want to share your food safety plan? (Start of the season? Once a month? As needed?)
- How do you plan to share your food safety plan? (Have people read on their own? You lead a PowerPoint presentation? Group discussion in the barn? Hands on learning in the field? All of the above?)



GOAL SETTING

EXAMPLE LANGUAGE

We farm as a means of providing healthy food to our community, repair our damaged ecosystem, and provide a livelihood for ourselves and our employees. We farm because we find the work grounding and fulfilling. We farm to share food, bring people together, and share knowledge.

We follow Good Agricultural Practices (GAPs) because the bottom line is that those practices allow us, by lowering risk and improving our farm, to grow to a place that supports us, our employees, and our community in a healthy way far into the future.

We share our food safety plan with our employees, work share members, buyers, and community members who may be interested in it. We make sure that volunteers and visitors are aware of certain parts, like our visitor policy.

We share the plan with our employees on their first day and at the start of every season. Everyone is encouraged to offer up changes and suggestions.

We ask that people read it on their own, participate in any group discussions we have about it, and share ways we can improve when working out on the farm.

Community Contact Information

"I have to say, Google has really great resources for backend organization. Whether it's recordkeeping, organizing documents or links, or organizing contact information. Your Gmail also has a contact portion to it and it's really great because there is already a template for you where you can input that person's number, their name, what their job title is, and any notes you feel can easily reflect why you saved that person's contact information in the first place. It all aggregates into this beautiful page that outlines each person's name, their job title and the company they are from, so it's very easy to find what you're looking for."

**GIANNA COSTA,
SQUARE ROOTS GROW**

Keeping a list of contacts can empower your team to solve problems!

Include what you'd need to know for each person, like name, contact phone number, or website.

- Staff
- Neighbors
- 911—Our address/GPS location is _____
- Poison Control
- Vet
- Extension
- Port-o-potties
- Transportation
- Compost Supplier
- Soil Amendments Supplier
- Packaging/packaging materials supplier
- Seeds
- Sanitizer
- Etc...



Tune in to the companion podcast episode with farmers talking on this topic.

Health and Self Care

"It's not entirely fair to have expectations of a crew and not have taken the time to really understand what they are for yourself and express that. [By writing a manual] it felt a lot more like I was setting people up for success by being really clear and, up to that point, I hadn't always maybe set people up for success because I wasn't clear or I really didn't know how I felt about certain things. Creating policy made it easier for me to rely on a policy as well and have standards and expectations that I can go back to and reread. I definitely think there is a personal accountability woven into that."

**JULIA ASHERMAN,
RAG AND FRASS FARM**

"There is always the pressure to be faster and more efficient, but I do like to remind our workers that if you are being really fast, you're not necessarily being efficient, and when it comes to foods safety, if we have to dump something later or redo something because we missed it, that's really not efficient at all."

**STACEY CARLBERG,
FIRESIDE FARM**

Teaching food safety best practices on your farm will help you to take better care of the health of your employees, customers, and community.

Teaching your employees on the why, when, and how you do what you do on your farm is an opportunity to build trust and create an environment that encourages continuous improvement.

Farmers who farm for life, season after season, make positive changes to their farm every year—their opportunities for growth and potential for risk constantly change and those farmers evolve to meet each new opportunity and address each risk.

We know making the time for teaching is hard, but the reason you do it is the same reason you spend time building the soil - the time you spend now ensures a sustainable future for your farm.

It's important to create a learning environment where people feel comfortable communicating



Tune in to the companion podcast episode with farmers talking on this topic.

Health and Self Care, Continued.

with you about any unusual situations, pests, or other issues. It's hard to learn when your teacher is yelling at you!

If you're finding yourself wondering what to teach about food safety and GAPs, we strongly suggest asking your fellow farmers, local Extension Agents or service providers. The Young Farmers guide "A Small Farmer's Practical Guide to Food Safety" is also a great resource to refresh or introduce yourself to these topics.

Once you know the **how, when, what, who, and why** of your food safety teaching, put it in writing. Keep in mind that this will always be evolving and that you'll be learning just as much from those you teach as they'll be learning from you.

How: These practices should be taught in a way that ensures that everyone who handles produce or food contact surfaces has the information, skills, and tools to do their jobs well. You might want to mention signs, interactive teachings, languages, videos, anything you're doing to make these teachings accessible to your team.

When: These practices should be taught upon hiring and at least once a year after that. If you are likely to do other on-the-fly teachings, let people know that.

You may need to re-engage and re-teach workers and re-design the way you teach if people are not meeting your food safety standards.

What: Name the topics covered. This could include a sample teaching agenda.

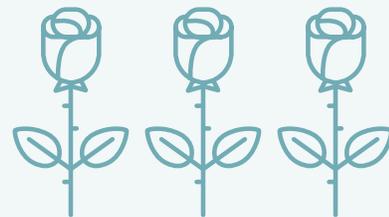
Who: Who does the teaching and who needs to be taught?

Why: What's your motivation for teaching food safety?

Roses, Buds, and Thorns

Your final step should always be to evaluate how it went. Grab your phone, pen and paper, or whatever you use to take notes and document who you taught, what you taught, how you taught, and any questions or feedback you received. At the start and end of each season, review what worked (roses) and what didn't (thorns). What new strategies or information do you need to help everyone, you included, succeed (buds)? Are your employees understanding what you are teaching?

Documenting who was there really helps if there are any areas that stayed a thorn all year. You can go back to see who attended the training and follow up with them about what could be improved. This way, you are always improving the way you communicate and train to benefit the farm and reduce your risks.



Health and Self Care, Continued.

HEALTH AND SELF CARE

EXAMPLE LANGUAGE

All employees, interns, and apprentices receive education about our farm, our goals, and our food safety and good agricultural practices on their first day and a refresher at least once a year after that.

We encourage and create an environment where it's OK to ask questions, suggest alternatives, and embrace that not everyone can know everything or always remembers what to do when. This helps make sure the learning never stops.

If practices are not followed, we will look to understand why and determine if we need to make infrastructure changes, policy changes, or retrain. If we see repeated lapses, workers may need to be dismissed.

Topics Covered:

- *An overview of our farm and why we farm*
- *How we work together and create space for questions and ideas*
- *When to wash hands*
- *Where our handwashing and bathroom facilities are and how we keep them clean*
- *How to ensure comfort and safety (including clothing, jewelry, and footwear)*
- *Break areas (where to eat, snack, drink, smoke, etc.)*
- *What to do if sick or injured*
- *What, when, and how we clean and sanitize*

Handwashing

Handwashing is one of the best risk reduction steps we can take—looking out for the health of our fellow farmers and eaters.

Simply describe good hand washing protocol. The basics of farming are always worth repeating and how to wash hands is no exception. Encourage your employees to follow the steps below and use those 20 seconds of scrubbing as a chance to take a deep breath and think about their day. Workers may feel pressured to rush washing their hands—make sure they know you expect and want them to spend a full 20 seconds!

HANDWASHING

EXAMPLE LANGUAGE

On our farm, everyone washes their hands before work starts and after taking breaks, going to the restroom, eating, smoking, and any other time we may get germs onto our hands.

Thank you for following these steps and taking the time to wash your hands.

1. *Wet your hands.*
2. *Apply soap to your hands.*
3. *Scrub your hands for at least 20 seconds, that's the length of the ABCs or Happy Birthday sung twice.*
4. *Rinse your hands.*
5. *Dry your hands (could be a single-use paper towel, cloth towel or air dryer—not your pants!)*
6. *Throw the paper towel away or the cloth towel into a laundry basket.*

**Hand sanitizers are not a replacement for handwashing.*

Health and Self Care, Continued.

Handwashing Stations

There's a good chance you've been in a situation where handwashing didn't seem easy—like a gas station bathroom with a flickering light bulb, a questionable lock on the door, and a soap container covered in green mold—so you just skipped it! Accessible, comfortable, and well-stocked handwashing stations make it more likely that everyone will wash their hands.

Please click here for resources on [Portable Hand Washing Stations](#). They're so easy to make, you can put them all over the place!

It's helpful to describe where handwashing stations are located and how they are stocked. To ensure people can always wash their hands when they need to, keep hand washing stations stocked at all times with water, soap, single use hand drying methods (usually paper towels), and a trash can (with a secure lid). To make life easy, keep handwashing stations near where employees are working.

If your hand washing stations aren't plumbed to septic or sewers, make sure there is a way to dispose of wastewater. You could use buckets or other containers to capture the water and then empty them in an area that does not contaminate produce or food contact surfaces.

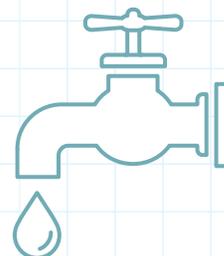
The way you dispose of waste water should follow local, regional, and state laws in your area. This water may contain germs, pathogens, contaminants, or residues of detergents that can be harmful to plants and/or the environment.

HANDWASHING STATIONS

EXAMPLE LANGUAGE

We encourage everyone to wash their hands in the bathroom (located just off of the mudroom in the house) after they've used the toilet, are starting work, are returning to work from a break, and anytime they think they've become contaminated with germs. The bathroom is stocked with soap, paper towels, and a trash can. The water is from our well and is tested annually for generic E. coli. We check the bathroom each day we are on the farm to make sure it's well stocked and clean.

We also have a homemade handwashing station on the south side of the growing area placed under our wash and pack tent. The water used is from our well and is tested annually for generic E. coli. The station is stocked with soap, paper towels, and a trash can. There is a bucket to collect the used hand washing water and we empty that in the grassy ditch to the east of the greenhouse where people won't walk through it and where it won't affect our growing area. We checked to ensure that method is in compliance with our local, regional, and state laws.



Health and Self Care, Continued.

Toilets

Everyone on the farm must have a clean, accessible place to go to the bathroom! This can look a lot of different ways, including a bathroom with a flush toilet located in a house/barn/office, a port-a-potty or port-a-lav, or an outhouse/compostable toilet.

Write down where all of the toilets are and keep them away from the edge of production fields to avoid contamination and within ¼ mile walking distance or short drive from fields for ease of use.

Unfortunately, a port a potty may tip or a toilet will overflow at some point. When that happens, follow these steps:

- Immediately dispose of any affected produce and solid waste (Not in the compost!)
- Mark off the area with something like caution tape or string—you don't want anyone accidentally walking through there!
- Give the entire toilet and handwashing facilities a good cleaning, sanitizing, and disinfecting

If an outside company is cleaning your toilets, list their contact information in your community contact information section and what their schedule is for cleaning and restocking.

If you are cleaning your toilets, write down your cleaning schedule and your cleaning practices. We all know bathroom areas can get messy! Create a schedule that allows for the bathroom to be easily cleaned as often as needed. This [Sample SOP for Cleaning a Bathroom](#) may help. And, we love [color-coded cleaning tools](#), like brooms or mops, that are only used to clean the bathroom. It helps to minimize cross-contamination and confusion. Nobody wants the toilet brush touching the harvest containers!

TOILETS

EXAMPLE LANGUAGE

On our farm, we keep clean and sanitized toilets and hand wash stations for everyone to use.

Toilets are supplied with toilet paper and the handwashing stations have single use towels, hand soap, potable water for washing hands, and a trash can with a lid for throwing away the paper towels (or laundry basket for single use cloth towels) Toilet area is inspected each day someone is on the farm and we clean and restock as needed.

Clothing/Jewelry/Cell Phones

Clear standards and expectations about personal health and hygiene, especially around clothing and cell phone use on the farm, can help minimize frustration and confusion later on.

Documenting a few things can go a long way to get everyone on the same page.

Personal Clothing. Even though it's a farm and even though you love wearing dirty jeans (especially if it feels like that caked on dirt is the only thing holding them together), it's important to shower and wear clean clothes every day to keep everyone—yourself included—healthy.

Specialized Gear. For on-farm items like gloves, aprons, rain gear, and masks, it may help to create a cleaning schedule to make sure they don't become a source of contamination and they are replaced when they start to fall apart.

Jewelry. Nothing is more heartbreaking—or time consuming—than searching fields for lost wedding rings, a favorite pair of earrings, or other jewelry. Also, your customers do not want to bite down on

Health and Self Care, Continued.

a ring when making a salad! Keep loose jewelry, rings with rocks, and anything else that could easily get lost, caught in a tractor, or become a physical hazard stored in a safe place and out of your fields, packhouse, and cold storage.

Cell Phones. Cell phones are incredibly useful and incredibly distracting! Choose a spot to leave cell phones/electronics while harvesting, washing, packing, or using the bathroom.

CLOTHING/JEWELRY/CELL PHONES

EXAMPLE LANGUAGE

On our farm, we ask that everyone

- *Wear clean clothes every day*
- *Keep our equipment, like gloves, aprons, rain gear, and rubber bibs, clean and in good condition. We will throw them away when they can't be cleaned anymore.*
- *Place aprons and gloves in a clean area before you use the bathroom*
- *Remove and place jewelry that can't be cleaned and sanitized, could be a hazard, or will cause extreme heartbreak if lost, in a safe place*
- *Leave cell phones in your pocket or a designated spot while harvesting, washing, packing, or using the bathroom.*

"Number one is to have first aid kits in all of your harvest vehicles. So we've had first aid kits near the drivers' seats of any pick-up truck and then also on the golf carts that we use regularly. That makes any injury seem a little bit less chaotic if you have the supplies nearby. I also do warn our employees when they are brand new that you will probably cut yourself. You need to know where your fingers are at all times. Everybody laughs, but I'm saying this because it happens every season!"

STACEY CARLBERG,
FIRESIDE FARM

What to Do When People Are Sick

Cutting yourself during harvest is inevitable and, unfortunately, major accidents can also happen on a farm. Blood can affect food safety and having access to a first aid kit and written instructions on what to do when injured can help everyone stay calm when an injury occurs.

If someone is injured, first decide if you need to call 911! Bandage minor wounds and, if their hands are injured, use a secondary barrier—like a finger bob or a glove—to help protect the worker and keep blood and bandages out of the produce.

Let your employees know that it's OK to take care of themselves first and then come talk with you about what happened, including telling you which areas need to be cleaned, sanitized, and/or disinfected. This [On-Farm Illness and Injury Sample SOP](#) could help you create your own process—or

Health and Self Care, Continued.

just copy and paste it right into this plan!

Make sure everyone knows where the first aid kits are—signs help!—and that they should let you know when they need to be refilled or replaced. If the first aid kits are your responsibility, add a note to your paper or online calendar to check them at least once a year—but probably more often when teaching how to harvest. Accidents are going to happen! Wondering what to include? Please click here for resources on how to [Build Your Own Farm First Aid Kit](#).

WHAT TO DO WHEN PEOPLE ARE SICK

EXAMPLE LANGUAGE

On our farm, if we get hurt, we:

- *Take care of ourselves and each other! If you need to, please dial 911. Farm address/GPS location is _____.*
- *Cover minor cuts and scrapes with a bandage and place a glove over any bandages on our hands. We don't want band aids in our salad mix.*
- *Notify someone else as soon as we can*
- *Clean, sanitize, and disinfect any areas that may have become contaminated (blood, etc.) or clearly mark those areas to be cleaned, sanitized, and disinfected.*
- *If there is blood in the field, put on gloves and remove anything that has been contaminated into a plastic bag and then place that bag into a trash can.*
- *Do not handle produce or food contact surfaces if you have exposed cuts, sores, or lesions.*
- *Check with our supervisor before returning to work.*

Taking Breaks

A well-rested and properly hydrated human will better engage with the farm—lowering risks and increasing productivity! A specific break area doesn't have to be a fancy space, but can simply be a designated tree, a picnic bench, or a part of the barn that you've taped off. It's nice to have an indoor or shaded area for your workers to eat lunch and a smoking area for workers that smoke. Hang a sign! It helps.

Write down when and where people should take breaks. Other than bringing water to the field, workers should eat, chew gum, or use tobacco in designated break areas—areas where produce is not grown, handled, harvested or packed.

TAKING BREAKS

EXAMPLE LANGUAGE

Other than bringing water with us when out in the field, we take our breaks and do all our eating/snacking/hydrating/smoking in designated areas.

Our break areas are next to the south door of the packhouse, at the picnic table under the willow tree, and next to the shade house near field 3. Look for the signs!

Smoking is only allowed at the entrance of the farm next to the sign that says, "Smoking allowed here."

We're thankful that after you take a break, you dispose of your trash and wash your hands.

Health and Self Care, Continued.

Visitors

Visitors are wonderful and we want them to visit safely and know how to help us keep our produce safe. To create a welcoming space for visitors and help reduce risks, communicate which areas of the farm they can visit, that they should stay home if they're sick, how and where to wash their hands, and that their pets should stay at home.

For more detailed information on visitors, including information on service animals, please see these [visitor best practices](#). You may also be interested in this information on visitors at [U-Pick and produce farm stands](#).

Signs can be very helpful for people who are unfamiliar with the farm. Here are some example [Visitor Signs and Policies](#). Parking signs are especially nice! Nobody likes to find a Subaru in the okra field.



VISITORS

EXAMPLE LANGUAGE

Thanks for visiting!

If you are ill, please come back when you are feeling better!

If you brought a pet, please leave them leashed up outside, in your vehicle, or come back another time without them. We do allow service animals, but access may be limited in areas where fresh fruit and vegetable production, handling, or packing occurs.

Before entering the farm, please wash your hands. Handwashing stations are outside of the restroom, at the entrance to fields, beside food stands, and by areas with animals.

The restroom is an outhouse on the north end of the asparagus patch.

Thank you for only visiting areas of the farm open to the public. We keep the house and the farm office as private spaces for worker-owners.

Please only eat and smoke in designated areas.

If you get injured, please tell us right away.

Farm and Field Maps

“Really getting centered on the design (for a wash pack station) was important and keeping me up at night. One evening at 10pm, I just started drawing. I got out some graph paper and I was putting what we’ve read and the feedback that my team was giving me and I just tried to put all the ideas down on paper. And then Russell was sitting next to me and started cutting out—he measured to scale what a pallet size was and what a popup table was on index cards to match the graph paper. It felt very elementary-esque, but we really had to get all of our ideas out on paper.”

**MONICA PONCE,
LOVE IS LOVE FARM**

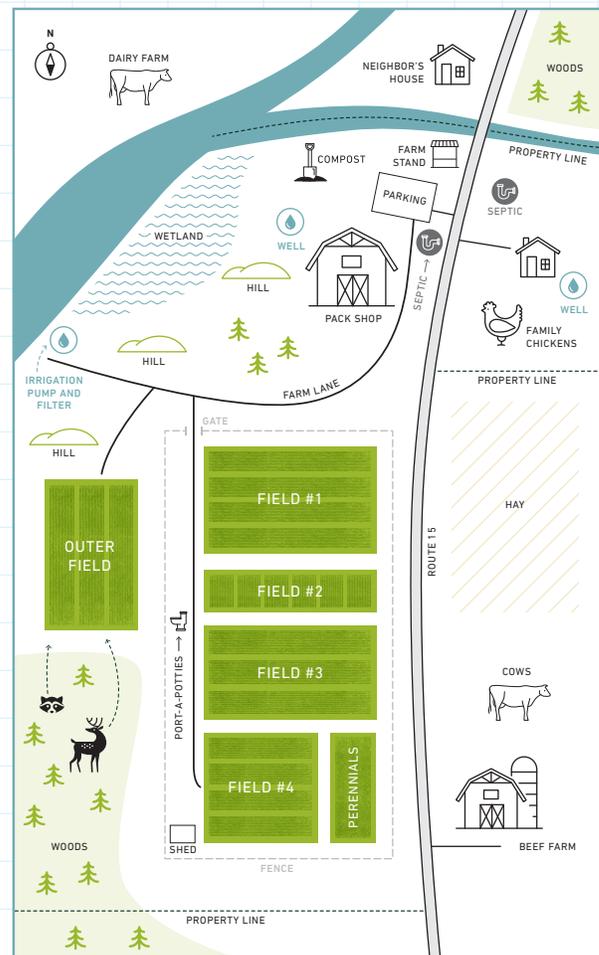


Tune in to the companion podcast episode with farmers talking on this topic.

Mapping Your Space

Drawing out your farm, mapping fields and areas, and diagramming your buildings will help orient your employees and visitors to your farm. This can also help clarify the paths you take between those areas and potential ways that those paths could overlap—maybe wasting steps while increasing opportunities for cross contamination.

It can be helpful to zoom out with a tool like [Google Maps](#) to see how your fields, wash/pack, and other areas relate to each other and plan for future build outs.



This farm map example is taken from our Practical Guide to Food Safety. Notice what details are included, and how it could impact food safety on the farm.

Farm and Field Maps, Continued.

WHEN LOOKING AT YOUR MAPS, IT'S HELPFUL TO ASK YOURSELF:

Are the paths that you, your vehicles, and your produce take from the field to the wash/pack area the most effective ones?

Do you see ways to simplify your steps?

How about areas to avoid? Like sources of contamination between the field and wash/pack, heavy traffic travel lanes, drainage ditches, or livestock areas?

Are there ways that one area might be affecting another?

THINGS TO INCLUDE ON YOUR MAPS AND DRAWINGS ARE:

- Production fields
- High Tunnels or Greenhouses
- Barns
- Other buildings
- Manure or compost storage areas
- Livestock/dairy pastures and facilities
- Wells
- Ponds, lakes, rivers

WHAT SURROUNDS YOUR FARM

(Like other farms, homes, roads, etc.)

- Bathrooms
- Hand washing stations
- Sewage/septic system
- Direction of drainage
- Possible flooding areas
- Roads and pathways on the farm
- Areas open to the public

One more tip: Share your map with a fellow farmer or friends, you'll be amazed what their fresh eyes will see.

Your Land and Your Neighbors' Land

It's important to consider the impact that your neighbor's land has on your land—and the impact your land has on your neighbor's land. For instance, you don't want to build a beautiful lettuce field at the bottom of their cow pasture—it could be puddles of pathogens in your lettuce when rainwater comes rushing down that hill! Understanding the geography of your land and adjacent land helps to find areas of risk, such as where contamination could easily spread, and areas for co-benefit like planting a pollinator buffer with your neighbor or sharing an access road.

When looking at the land that surrounds your farm, ask yourself questions like:

- Does their runoff affect our fields?
- Do their goats jump the fence?
- Do the fans from their chicken houses blow into our raspberries?
- Do we love the same types of trees and can agree on what to plant on the fence line?
- Would we benefit by having shared access roads?



Farm and Field Maps, Continued.

FARM AND FIELD MAPS

EXAMPLE LANGUAGE (FROM CASEY HOLLAND, CHISPAS FARM)

Our farm is located in a small neighborhood just off of a busy main road. The four borders of the farm are as follows:

East: Neighborhood road, general traffic present and 30 feet are between the road and the adjacent field. In 2018 we planted a hedgerow of Desert Willows, Apache Plums, Sumacs, Chokecherries, and Penstemons to serve as an additional barrier.

South: A residence, the first part is owned by the farm owner. The second part is a treeline separating fields from the neighbor's yard. It is currently used as storage and a run for several sheep and chickens they keep. They are aware of our status as a diversified veggie farm and agree to not treat their animals or land with non-organic materials.

West: A treeline and a drain run the full length of the west side of the farm. The folks responsible for maintaining the drain ditch are aware that we are a diversified veggie farm and we have spoken with them and our ditch runner about using manual means to clean the ditch, so they do not spray the area to clean it. Instead they mow.

North: This is a neighbor's property the whole length. The house area is not located near any fields, and their backyard is largely abandoned and neglected with trees and weeds.

We do try to use best practices in relation to our neighbors and surrounding property, communicating with them frequently, making them aware that we are farming vegetables for our community, and posting signage about the property to serve as a reminder.



Harvest

“A ‘pre-harvest assessment’! Sounds so fancy, sounds so official! When I really sat down and started thinking about what the heck is a pre-harvest assessment, it kind of clicked in my brain—that just means walking around and looking at the vegetables before you start harvesting them. Are you paying attention to what you’re doing? And are you making sure that you have food that you want people to be eating? Are you paying attention?”

**KELLY SKILLINGSTEAD,
LONG HEARING FARM**



Field observations

We would be shocked (shocked!) if you aren't already walking your fields, being curious about what needs attention or what needs harvested. Adding food safety and Good Agricultural Practices (GAPs) to what you are curious about when taking these walks will help you find food safety risks.

Take a moment and describe how and when you know that wild and/or domestic animals are in or around your fields. Noticing clues that there has been animal intrusion, contamination, or anything else that may lead to contaminated produce or other issues - like flooding, trash in the field, broken fences, chewed up irrigation, trampled produce, poop on the ground, insect damage, etc.—should be communicated to everyone working in the fields. This will help you identify what to harvest, what not to harvest, and areas where some problems may need to be fixed.

These clues can also help you determine how to implement some conservation practices like where to plant buffer zones to keep animals out of your fields or areas you should not cut or mow down to protect habitat.

On top of the food safety and conservation benefits, this increased awareness and curiosity about what you see happening and the ways your farm changes each day provides you with a lot of information to communicate to everyone else on the farm. Did you see the echinacea is blooming? That the egg plants are wilting? All the birds out in field 2? That the walkways need weeding?

Harvest, Continued.

FIELD OBSERVATIONS

EXAMPLE LANGUAGE

Each week on Monday morning, the three farm owner-operators walk the field to discuss harvest schedules, find areas where animals could be affecting produce, and create a to-do list for the week. We look for food safety concerns, along with other farm maintenance issues. We discuss main take-aways from this walk with staff at our group lunch on Monday and via the wipe-off board of to-dos in the barn. We share all the news, from exciting things like “the cherry tomatoes taste amazing!” to the not exciting “we need to weed the cherry tomatoes!”

We have also deterred animals from our fields by installing fences and check on them at least (daily, weekly, monthly, etc.)

We’ve also encouraged animals to stay outside our fields by planting hedgerows, pollinator barriers, buffer zones, etc.

Some farmers will flag the contaminated area and some will tape that zone off. Once you know where not to harvest, discuss what you’ll do with the poop and any contaminated produce. You may have a color-coded poop shovel and shovel it out at the end of the day or, if it’s the end of the season, you may just take it as a sign that that bed is done for the year.

Please click [here](#) for a sample SOP on teaching workers to find, report, and respond to animal activity and fecal contamination in produce production areas.

POOP PATROL

EXAMPLE LANGUAGE

Observe the fields for animal activity and communicating what we see and brainstorming strategies with our fellow farmers

Do not harvest crops that have been damaged by animals. For example, from them munching, trampling, or pooping in our fields.

Mark areas where we see signs of animal contamination and harvest outside the perimeter of those areas.

Poop Patrol

Animal poop on produce is a major quality and food safety issue. Animal poop can carry diseases that make humans sick and 100% of customers do not want to see it on their food.

In this section, describe what you do to keep poop off of produce. Explain why you have a rule to not pick produce with poop on it.

One way to minimize the risks of the poop you will find in your fields is to form a ‘no-harvest buffer zone’ around that poop—you can decide a size that works for your operation, common recommendations range between 0 and 25 ft.

Harvesting

As you harvest, keep an eye out for physical, chemical, and biological hazards. When using your harvest tools, inspect them to ensure that they are in good condition and clean. We don’t want them to be a physical hazard (debris ending up in our produce), a chemical hazard (like oil, sanitizer, or soap residue), or a biological hazard (poop and other signs of animal activity).

Harvest, Continued.

Color coding is your friend! Visually show what tools, containers, and vehicles are for harvesting and which tools are not. For example, green totes go in the field and blue totes are for packing produce. You could have red tape on clippers that are used for harvest and blue tape on ones that live in the greenhouse. If you do use tools, containers, and vehicles for multiple purposes, clean and sanitize them in between uses. For example, after using your harvest knife to cut open packaging, you would clean and sanitize it before you use it to harvest.

When you stack harvest bins or totes, especially if they do not have lids, you'll want to watch for soil on the bottom of the bins that could touch produce in the bin below. You could choose to keep harvest totes off the ground or the soil, for example using a tote under the one into which you're harvesting. The classic tote-in-a-tote method.

Ideally, you'll be able to store your harvest bins under cover, separate from dirty bins, and off the floor.

In the field—and anywhere else really—minimize contact between soil and food as much as you can. That means, if you drop produce to the ground, especially produce that will be consumed raw, you should send it to the compost bin and not to market. To follow this, you may need to change harvest activities to ensure that produce goes directly into clean totes instead of placing it on the ground first and coming back to put it in totes.

Finally, keep in mind that your postharvest practices and areas should be more like a hotel than a hospital—you don't want to be doing a ton of quality control work and trying to "save" your produce in the wash/pack area. It really helps to handle your produce and harvest tools well in the field to reduce quality and food safety issues later

on and increases the shelf of your produce. There's a big difference between rushing and making mistakes and moving efficiently and quickly while paying attention to quality control. Invest the time in teaching workers the difference and help them know how to not harvest decayed or contaminated produce.

HARVESTING

EXAMPLE LANGUAGE

Harvest containers are inspected, cleaned, and sanitized before each harvest season and whenever needed.

Harvest containers are kept in good repair and damaged ones are at once discarded or set aside to be repaired. We use ____.

[List brand/type here—this can be very helpful for when employees need to order more of something.]

Harvesting containers will not be used for carrying anything but produce. If something other than produce is placed in a harvesting container, that tote must be cleaned and sanitized.

The tools, containers, and vehicles we use for harvest are spray painted orange and actively kept clean and in good working condition.

Our harvest tools are:

- [List harvest tools]

Our harvest containers are:

- [List harvest containers]

Our harvest vehicles are:

[Include wagons, carts, wheelbarrows, etc.]

- [List harvest vehicles]

Livestock and Pets

The way livestock and pets move through your farm and any interaction you have with your animals, including doing chores like cleaning stalls or collecting eggs, can be potential sources of cross contamination. It's important to keep animal chores and handling produce separate.

If your workers have pets or animal chores at their own homes, be clear about your expectations about minimizing that potential source of cross-contamination such as them coming to work in clean clothes or having a separate pair of boots for home chores and work chores.

Rotational Grazing and Other Animal Poops

If you work with animals, you should know how to reduce the risk from their poop! And, if you are working with those animals to increase soil health, know how to work with them to also decrease human health risks.

Rotational grazing is a commonly used system on diversified livestock farms to allow certain parts of the pasture to rest. Pasture is subdivided into smaller areas and livestock is moved from one area to the next.

Rotational grazing is sometimes also used with produce production and the animals will graze off residues from crops or cover crops. This grazing may work up the soil and the animal's manure may provide a source of nutrients and organic matter. It can also be a potential source of pathogens which means, like anytime you work with animals, use caution, planning, and common sense to help prevent any cross contamination.

ROTATIONAL GRAZING & OTHER ANIMAL POOPS

EXAMPLE LANGUAGE

On our farm, our workers who engage with both animals and produce are aware of the potential risk of cross-contamination from their clothing, footwear, and any equipment used.

To reduce any food safety risks that come from working with animals, we:

- *Work with animals on different days than when we harvest and handle produce.*
- *Wear dedicated clothing, boots, and gloves for working with animals.*
- *Have a dedicated area to remove clothing after working with animals that is located close to a handwashing station.*
- *Change boots between animal chores and working with produce.*
- *Wash exposed parts of our body—like our hands, arms, and face—after working with animals.*

Our livestock have dedicated ponds/ troughs and do not enter our sources of irrigation water.

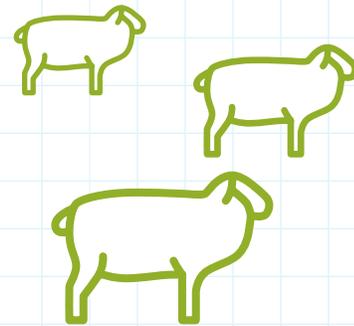
Harvest, Continued.

“Working on a property where we do have vegetable production paired with animal production can be a little bit tricky because we are producing a ton of food that is going out to the public and we want to make sure that food is safe and that the farmers producing it are remaining healthy from any pathogenic exposures. Largely we try to keep buffer zones between our annual vegetable production systems and our perennial pasture systems. When we are grazing adjacent to our vegetable production, we make sure we do this at the very beginning of the season, we’ll hit it, and then not hit it again until the fall once vegetable production is wrapped up. We try to stick to that 90 to 120 day buffer zone of not allowing that manure to be trapped into our vegetable area, especially spots where we know we will be growing low growing plants that have more exposure to touching the soil.”

**JEN GHIGARELLI,
ROCK BOTTOM RANCH**

Determine WHY you are adding livestock and what role they will play, understand animal husbandry and the additional time and resources that caring for livestock requires, and gain a basic understanding of grazing management principles.

Like any risk management decision on the farm, consider all the benefits and risks. Not just the produce safety ones, but also how the time spent moving, caring for, and chasing after animals when they get out—they will get out!—will take time away from other tasks.



Soil Health

Soil Amendments

Adding compost, minerals, or manure to our soil is beneficial. As produce farmers, we take a lot from our land and this is our chance to give back. Soil amendments can balance our soil, add fertility and beneficial soil microbes, improve water-holding capacity, and more.

Soil amendments, however, especially types that originate from animals, can pose food safety risks. Animals can host many of the same bacteria or parasites that make humans sick.

Compost

If you make your own compost, follow a method that has been scientifically validated to create a soil amendment that eliminates and/or reduces weed seeds and pathogens. Not sure if your process is validated, reach out to an Extension Agent or service provider!

Two methods you could use are:

- 1 Static composting that maintains aerobic (oxygen) conditions at a minimum of 131° F (55° C) for 3 consecutive days and is followed by some time for the pile to “cure.” This involves letting the pile sit and rest, ensuring that it completely breaks down and may or may not involve insulation (like a tarp) depending on what the weather is like. Piles like these often have air being forced into them by pipes.
- 2 Turned composting that maintains aerobic conditions at a minimum of 131° F (55° C) for 15 days (can be non-consecutive), with a minimum of 5 turnings and followed by some time for the pile to “cure.” This involves letting the pile sit and rest, ensuring that it completely breaks down and may or may not involve insulation (like a tarp) depending on what the weather is like.

“In the greenhouse I was sort of constrained based on what I knew I needed to grow by a certain time so the compost I ordered was from a local supplier. I spoke with them about what I needed it for and what I was growing and they were able to supply me with a certain consistency—it’s a little less clumpy. They brought that in, I applied it, it’s ready to go. You’re able to request all their testing results so you can see that it’s within all the parameters you need to grow right away in it. I applied that, and within a couple of weeks I was doing bed prep and then transplanting right into it. That timing is fast if you can find a supplier near you who can get it to you and you have the money to buy it.”

**ELLEN BAIRD,
RIVENDALE FARM**



Tune in to the companion podcast episode with farmers talking on this topic.

Soil Health, Continued.

In our minds, actively composting is NOT piling up and then forgetting about a stack of rotting vegetables or animal manure in the back of a field. “Passive” piles like that may be used, but should be treated as if they were raw manure. See the next section for more information.

Please click here for a [Sample Compost Process Log](#).

If you make an agricultural tea, usually a mix of compost and bubbled water used as a soil drench to supply nutrients or reduce disease, use water free from detectable generic E. coli and compost that has been treated in a way that is validated to reduce or eliminate pathogens. Many farmers add nutrients, like molasses, to their compost tea. Research shows this can give dangerous pathogens in the compost tea an upper hand, creating a welcoming environment for harmful bacteria to grow.

If you buy compost, one way to guarantee you are getting a high quality, low risk soil amendment is to ask for a [Certificate of Conformance](#). Most manufacturers probably already have a Certificate of Analysis, please click here for an [Example Certificate of Conformance Template](#) you can share with your supplier if they have no clue what you are talking about. The Produce Safety Rule is still new to a lot of us, you might have to do a little education!

COMPOST

EXAMPLE LANGUAGE

We use dedicated tools and equipment for the compost area and clean and sanitize any tools and equipment after use in the compost area if they are to be used elsewhere.

The process we use to make compost is:
[Add your process here.]

[and/or:]

We buy compost/soil amendments from:
[List your amendments here.]



HUMANURE

Heads up! Do not use untreated human waste to grow produce!
If you collect humanure, say from a composting toilet, be mindful that it is never applied on any produce crops.

Example language:
NO HUMAN POOP ON THE CROPS!

Soil Health, Continued.

Manure

Different soil amendments bring different benefits and risks. From a human health perspective, manure has the highest pathogen risk.

Some examples of manures or soil amendments you should treat the same as raw manure are:

- “Aged” or “stacked” manure
- Untreated slurry
- Compost that hasn’t been processed with a validated process (see the “Compost” section)
- Soil amendments that have been mixed with raw manure
- Soil amendments that have become contaminated
- Agricultural teas with supplemental microbial nutrients (such as molasses)

MANURE

EXAMPLE LANGUAGE

Manure is applied and incorporated at least 90 days (about 3 months) before harvest for crops not in contact with the soil and 120 days (about 4 months) for crops in contact with the soil. Also known as the 90/120 rule.

We store manure to minimize the potential for water or wind to carry the manure to other areas. Some strategies we use are covering the manure with tarps and building berms and swales to divert any runoff from rains. We exclude animals from our manure storage through fencing and tarps.

Equipment and tools for manure and other tasks are kept separate and color coded. We color code the handles of our manure shovels (red) and non-manure shovels (green).

Our bucket loader is cleaned and sanitized after it has touched manure and before we use it for any other task.

We take care to ensure that boots and wheels are not tracking manure into other areas on the farm.

We have coveralls, clothing, gloves, and/or boots that we only wear when handling manure.

Water Quality

“Water testing is not as hard as the SOPs and the buildup of the audit makes it seem. The important thing to remember is to use the container that is authorized by the place where you are taking the water sample to. Make sure you take it that day, don’t pull it and wait until that afternoon when it’s been sitting on the dashboard of your farm truck turning into a pile of boiling water.”

**BRENT BILES,
ROLLING BRANCH FARM**



Tune in to the companion podcast episode with farmers talking on this topic.

Testing

If you aren’t testing yet, start testing! If you are already testing your water, keep testing!

There are lots of great reasons to test your water with one of them being that you want to know that the water you are using is safe! In the late 80’s, Montana State University Extension Water Quality found that nearly 40% of well water samples they took tested positive for coliform bacteria! You might say to yourself “Well, that’s Montana—we’re good!” But, in 2009, the U.S. Geological Survey reported that a third of all test results of private well water from 30 of the nation’s 62 principal aquifers across these United States had microbial contamination. That’s a lot! Test your water so you know whether or not you have an issue—even if you’ve been drinking that water your whole life and think you’ve never had a contamination problem.

Please click here for a [national map of water testing labs](#).

All irrigation water should be tested for generic E. coli, which is an indicator of fecal contamination. Depending on the source, the frequency of testing will vary.

- Municipal water or city water is considered low risk because it is treated and maintained by the city that provides its source. You probably don’t need to test since these records are available online. But, it doesn’t hurt to test!
- Well water has an increased level of risk, but it’s typically low. Still, it’s important to test it!
- Surface water, like ponds, acequias and rain barrels have the highest level of risk because it is open to wildlife or other pollution sources. Think about rainwater catchment with gutters coming off of your roof or shed—that water is exposed to everything on the surface of that

Water Quality, Continued.

roof, including bird poop. Or all the geese that bathe—and poop—in your pond every season. Definitely test this water!

If your test comes back positive for generic E. coli, stop using that water and call a service provider like your Extension Agent. They'll be able to walk you through what steps you may or may not need to take, like [shocking the well](#), treating the water, or changing your water source.

WATER QUALITY

EXAMPLE LANGUAGE

Our farm's irrigation water comes from [source] and has a [high, moderate, or low] relative risk. We use [list the type of irrigation method used here, such as overhead, drip, microjet] and consider the risk of each type of system and the crops we are using it with.



Water Systems

At least at the start of each season, walk your whole water system from source (a pond, city connection, etc.) and follow it all the way to the delivery (for example overhead irrigation or a faucet in your wash and pack area.) Look for leaks, potential physical hazards (trash, breaks in the line), chemical hazards (oil spills, faulty injectors), and biological hazards (animal intrusion, chewed up drip line). Fix what you can and control what's in your control. If it's too risky, don't use it! Double check you have backflow preventers installed to ensure that your irrigation water doesn't wash back to the source

Please click the link for more information on [Backflow Prevention for Produce Farms](#).

Please click the link for more information on [Wellhead Maintenance and Protection](#).

WATER SYSTEMS

EXAMPLE LANGUAGE

At least once a week during the season, we visually inspect our irrigation systems and fix any issues that we see.

We are aware that our farm's water source could become contaminated by wildlife or adjacent land and we follow measures like fencing out animals to help control those risks. After running over the irrigation for five years in a row, we've also flagged where it is so we stop knocking down connections and mowing over our drip lines.

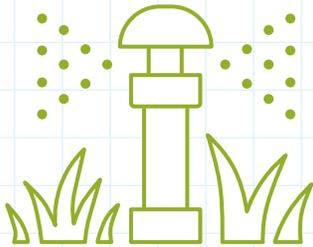
Water Quality, Continued.

Irrigation Risks

If you're using surface water to irrigate, there are more risks associated than if your source of water is from a public water supply (that is tested and treated) or a well on your property (see above for more details). You should always consider your source, method of application (drip, sprinkler, flood, etc.), and how long you wait to harvest the crop when it comes to irrigation.

Each method of irrigation has different risks. Water applied to the roots of a tomato plant using drip irrigation normally isn't as risky as water sprayed directly onto the tomato, the harvestable portion of that crop. Drip irrigation, usually considered the least risky, could have more risk if applied to root crops - the water from drip irrigation is very likely to touch the harvestable portion of a root crop like a carrot or turnip.

If you are irrigating close to the time of harvest, the quality of the water source is especially important because there is less time for any contamination to die-off.



Crop Sprays

To lower the risk of water contaminating your fresh produce, fields, or packinghouse areas, all water sources used to mix topical/pesticide/protective sprays should be tested for and come back negative for generic E. coli. Because crop sprays can come into direct contact with the harvestable portion of the crop, it's imperative that the water is free from generic E. coli to avoid contamination from water.

CROP SPRAYS

EXAMPLE LANGUAGE

We use well water, which has been tested and shown to have no detectable generic E. coli (water test results stored in the office) for all of our crop sprays.

Water Quality, Continued.

Wash Water

To help maintain the quality of your wash water, both to help keep it free of detectable generic E. coli and free of debris, you should set a schedule for changing it. You may need to use a testing kit if you are adding a sanitizer, but most farmers just do a visual check—if you observe it looks dirty and is potentially adding more dirt to your crops than removing, you should change the water. You might remember the phrase “turbidity” if you attended a Produce Safety Alliance grower training. Turbidity is how dirty and full of organic matter (dirt, debris, etc.) the water is getting, most folks don’t like their salad mix to come with a side of dirt.

Please click this link for a sample SOP:
[Changing Postharvest Water in a Bulk Tank, Bin, or Container.](#)

“Part of why we set up multiple dunk tanks is to also keep crops separate—especially for our greens which we know are going to be really dirty. It allows us to dunk everything at the same time and keep that water from having to be changed constantly, which is a huge time sink in the middle of the day when we are trying to beat the heat. When it’s visibly gritty, that’s when we will change the water. We do use a pool skimmer or finer mesh harvest basket to remove larger particulates, especially on a salad harvest day.”

RACHEL KIMPTON,
STAR FARM

“For me, when I talk about turbidity, I explain to them [highschoolers] it’s how disgusting your water is. On the days that I introduce the term turbidity, I’m like, ‘All right, I want you to put your hand in the dunk tank all the way to the bottom and let me know when you feel like you can’t see your hand anymore and if that makes you feel good about washing produce in that.’ Usually that elicits a pretty good response from people about this water is disgusting and that means we should probably change the water. It’s talking about the level of murkiness.”

RACHEL KIMPTON,
STAR FARM

WASH WATER

EXAMPLE LANGUAGE

Wash water is changed [insert how often].

We change the wash water at least every hour. We observe our wash water and if it becomes too dirty, normally this means that we can no longer see the bottom of the tank, we change the water even if it has not been an hour.

Water Quality, Continued.

Sanitize Your Wash Water

Adding a sanitizer to your wash water doesn't remove contamination from produce, it just attempts to keep contamination from spreading in your wash water—what food safety pros, like you, may call cross contamination. Make sure it is a sanitizer that is labeled for your intended use (for example, in produce wash water).

If you use a sanitizer in your wash water, you should monitor the amount of sanitizer in the water. Please click this link for a [Sample Water Monitoring Log](#). Like all sample logs, there may be things on there you aren't checking (yet), like PH or temp. Please remove what you aren't using or don't understand and work with other farmers or Extension agents to add in those pieces as your systems change over time.

"It's city farming and so I think having that added step of the sanitizer makes me as a farmer feel more comfortable in knowing that we are minimizing a food safety risk and, since we are training farmers through an incubator program and staff who want to continue working in urban agriculture in Chicago, I want them to be familiar with that process that I think is becoming more and more an industry standard."

RACHEL KIMPTON,
STAR FARM

SANITIZE YOUR WASH WATER

EXAMPLE LANGUAGE

Our wash water sanitizer policy is:

*We use _____ [list brand/type here].
The sanitizer is always used according to the label. We check the sanitizer use to be sure that there is still enough "free" sanitizer in the water to be effective using test strips from the sanitizer supplier.*



Preventative Maintenance

A preventive maintenance and master cleaning schedule that matches the needs of your farm will ensure that your equipment stays in good working order, that you and other people on the farm have some helpful guiding tasks to stay organized, and that you find issues before problems occur. (Doesn't that sound low stress?!)

“When you start to use the tiller, you need to do an inspection beforehand. Is everything working fine? You need to check the oil levels, the chain and keep it clean. Wash the equipment and clean it, make sure everything is in good condition. And it’s a completely different thing when you finish using the equipment. Many people think driving the tractor is sitting on the tractor and driving it straight and doing your job, but it’s more. You need to have specific training and specific skills.”

DANIEL GUZMAN,
LITTLE FOX FARM

“\$50 an hour for a mechanic is really expensive so if you can do basic maintenance on your own, it saves a lot of money in the long run and it can be a preventive thing, too. It can prevent the tractor from having larger issues in the future, especially with things like checking the oil levels, the hydraulic fluid, if they run low, it can damage the engine, gears and bearings.”

LINDY KLOEPFER,
LITTLE FOX FARM



Tune in to the companion podcast episode with farmers talking on this topic.

Equipment Monitoring

As you see the way nature is working out in your fields, also take the time to visually inspect how your equipment is working—like drip lines, spigots, hoses, drains, tubs, root washers, cool bots, tractors, and spray nozzles—before, after, and as you use them. That way, you can confirm they are still in good working condition and fix small problems before they become big problems. A leaky hose will happily flood a field over the course of a weekend or a tractor leaking oil can be messy and possibly contaminate a field if not checked.

Using your irrigation system as an example, you probably check out all of your irrigation parts when

Preventative Maintenance, Continued.

you hook them up and then monitor them when you are irrigating. Write down that schedule as a reminder for yourself and to help team members be successful.

EQUIPMENT MONITORING

EXAMPLE LANGUAGE

We inspect all of our irrigation parts when we set up our irrigation at the beginning of our season, usually in late April. We flush the system, connect the parts, and test to ensure that the pressure is correct. Each time we connect our overhead irrigation, we walk to the end of the row to be sure that all of the nozzles are working correctly and there isn't significant puddling.

Buildings and Packhouses

We want our buildings and packhouses to be easy to clean, comfortable places for us to work in, and uncomfortable places for pests to start families. Devote some time to considering and redesigning your setup if needed and make sure equipment is installed in a way that supplies easy access for cleaning.

[The University of Vermont](#) has some great resources to help with planning and redesigning.

Keep it bright! Adequate lighting is key to employee happiness and being able to see areas of wear, tear, and contamination.

A few considerations for packinghouses are:

- Deter birds from roosting with nets, spikes, or some other method.
- Mow or keep the grounds around the area nice and clean to deter pest harborage.
- Fans to deter flies.
- Keep the area clean and control dust and dry dirt from spreading around.

"Make sure whatever you do, it can be easily moved and cleaned, especially if you are washing dirty produce or it's muddy. For us, we have it so everything can come out and we can pressure wash the whole container and put everything back in fairly easily. Having everything on casters is important, that way you don't need 4 people to lift a giant 3 compartment sink if you need to move that. Have more room than you think you need or want to move around in. Just because you can get away with less room doesn't mean you should."

RAHUL ANAND,
SNAPPINGER FARM

BUILDINGS AND PACKHOUSES

EXAMPLE LANGUAGE

At the start of each day when buildings are in use:

- *We make sure they are clean and orderly before use.*

At the end of the day:

- *The floors are swept and free from trash and litter.*
- *The floors are free of standing water and drains are free from obstructions.*

Preventative Maintenance, Continued.

Cold Storage

Our coolers are so important! A one-hour delay in cooling can reduce the shelf life of produce by a day or more. Cooler temperatures should be checked and logged each day you are on the farm and any problems should be addressed at once. Proper temps will extend your shelf life and reduce the risk of some pathogens growing.

Please click here for a [Sample Cooler Temperature Log](#).

Click here for [recommended cooling temperatures based on specific crop needs](#).

Keep the cooler clean and dry and sanitize as needed. This will create and keep an environment that can lower your produce safety risks and increase the shelf life of your produce.

Many small farmers use a tool called the CoolBot, along with an air conditioner unit, to create low cost and effective cold storage. To prevent condensation from the air conditioner unit dripping down and coming into contact with your produce, place your CoolBot and air conditioner in an area of the cooler where produce will not be stored below them.

“A CoolBot is basically just a little device that controls certain window air conditioning units and it can trick the air conditioning unit to cooling below it’s normal amount which is 60. Depending on what we are storing, we will keep it anywhere from 34-50.”

RAHUL ANAND,
SNAPPINGER FARM

“We don’t have a cleaning schedule, it’s as needed. In practice it comes to quarterly taking everything out and deep cleaning it. If there are any racks or anything in there, we take it out, we fully empty the entire cooler. We either get Sanidate or bleach and scrub down everything. First with sponges, we would get rid of any visible dirt and after that is clean we would come in and put the sanidate or bleach over it.”

RAHUL ANAND,
SNAPPINGER FARM

COLD STORAGE

EXAMPLE LANGUAGE

Before using coolers for the season, we check for holes/cracks by checking at night with a light on inside the cooler and looking at it from the outside to see if any light is visible. We clean and sanitize the entire cooler at the beginning of the season and as needed throughout the season. We do not store produce below the air conditioner unit!

Preventative Maintenance, Continued.

Pests

Pest control is important, especially in areas of your farm where produce is stored. Pests can be a big source of contamination and put your produce at risk—if they move in, it can be difficult to get them to leave.

Keeping your packing space and cold storage clean and tidy is a great first step. Dispose of trash, litter, cull piles, and other waste. This minimizes the potential for attracting or harboring pests and from grossing out co-workers, visitors, or customers with a super dirty space.

Avoid setting traps *with bait* inside your pack house—this could work in reverse and actually lure pests in! If you are setting traps, make sure that they are not near any produce storage or food contact surfaces.

PESTS

EXAMPLE LANGUAGE

Keep those pests out!

- *Please report any signs of infestation—take care to look at walls, doors, and windows.*
- *Keep areas clean and not a safe place for pests.*
- *Keep all old, unused equipment located away from the produce handling areas.*
- *Check the traps each day we are on the farm.*
- *NEVER use bait inside the packinghouse.*

Transportation

Keep your vehicles clean and maintained. It'll help them last longer and be a better environment for everyone on the farm. It's not a good feeling to get into a nasty van on a hot day—or really any day!

Please click the link for a [Sample SOP: Cleaning Produce Transport Vehicles.](#)

TRANSPORTATION

EXAMPLE LANGUAGE

Our farm has a freight van designated solely for produce deliveries. The van is cleaned regularly, and is part of the master cleaning schedule.

If farm staff use personal vehicles to transport produce at any time, all vehicles are visually inspected and cleaned out of any debris before transport.

If needed, barriers (such as clean tarp or clean drop cloth) are placed between product and surface of vehicle.

Vehicles that are used to transport possible contaminants (such as manure) are never used for produce delivery and are kept on farm.

Daily(ish) Farm Chores

"We try to create a first task and last task of the day. The first task on Wednesday morning is prepping for CSA and the first task on Thursday is doing some cleanup from CSA the day before—this way we can jump into the day in a straightforward way. A last task every Friday is we do a good sweep of the farm and just make sure all tools are put away and random buckets with compost are taken care of, that we know where the electric fence testers are, and make sure everything is straightened up. That's how we end the main production week just to set the next week up really well."

**MARIAH FOLEY,
ROCK BOTTOM FARM**

"Sharpies used to be in my pockets at all times for writing on my hands, now it's for writing on cardboard more or random surfaces. But I have a planner and a notebook. This year is the first year that I have a proper 2021 planner, which is amazing, so helpful. Previously I carried a notebook with me and would date the day and just write all of my random thoughts from a day: 'this thing is broken, don't forget to order this, this could be the harvest list next week'—all of those notes in one place. That's my not plugged into technology record keeping. I'd say it's an impossible task to stay on top of everything. Google docs and spreadsheets are my other two best friends. I make spreadsheets for everything. I have 3-4 that I'm visiting weekly."

**KEELY CURLISS,
MOVEMENT GROUND FARM**



*Tune in to the
companion podcast
episode with
farmers talking
on this topic.*

Daily(ish) Farm Chores, Continued.

"I try really hard during orientation to make sure folks have all of their questions answered and know and can think through their own protocol and problem solving as much as possible so that any person can plug into those tasks. Random things break all the time and random things come up so ideally everyone feels prepared to make decisions if something is not the way they usually see it. But it is word of mouth and we have a weekly staff check-in/meeting where a lot of things can be addressed—for example, the meat birds are in a different stage and need to be moved twice a day now, those kinds of things can be brought to everyone's attention."

KEELY CURLISS,
MOVEMENT GROUND FARM

Cleaning and Sanitizing (It's Not Just For Your Hands!)

Cleaning, and sometimes sanitizing, happens almost every day you are on the farm.

Understanding the differences between cleaning, sanitizing, and disinfecting are so important! Please review this [guide to Cleaning, Sanitizing, and Disinfecting for Produce Farms](#). Not everything needs to be cleaned, sanitized, and disinfected—if you're not sure when to do what, this is a great reason to reach out to your Extension agent or local service provider!

Food contact surfaces are a high priority and should be cleaned and sanitized using a schedule and visual inspections. The Produce Safety Rule defines food contact surfaces as those surfaces that contact human food. "Food contact surfaces" includes food contact surfaces of equipment and tools used during harvest, packing and holding.

Some examples of food contact surfaces on your farm may be:

- Harvest tools (knives, bins, gloves, etc.)
- CSA boxes
- Coolers
- Cold Storage
- Wash/pack tables
- Sinks
- What else can you think of?



Daily(ish) Farm Chores, Continued.

Cleaning and sanitizing with water is a 4 step process:

- 1 Remove visible dirt and debris—this might be done with a brush, rag, or a rinse.
- 2 Apply a detergent that's approved for food contact surfaces and scrub the surfaces until lather forms.
- 3 Use clean water to rinse the lather off the table.
- 4 Apply a sanitizer and follow the label directions—most sanitizers need a certain amount of contact time and should air dry.



Soaps, Detergents, and Sanitizers

Since you are cleaning surfaces on the farm almost every day—and definitely your hands everyday—what you use to clean your hands and surfaces is important! Keeping a list helps your employees re-stock if needed and hopefully keeps them from washing bins with hand soap.

You'll want to make sure that your sanitizers are approved for how you are using them and this [Tipsheet for Selecting a Sanitizer](#) might help.

It also helps to print out “recipes” for your sanitizers for everyone to reference. This much sanitizer and water in a spray bottle or this much sanitizer and water in our three compartment sinks. This helps ensure they are used properly and not under-used (which could pose a food safety risk) or over used (which could pose a health risk and a financial risk—you'll be wasting expensive sanitizer!)

SOAPS, DETERGENTS, AND SANITIZERS

EXAMPLE LANGUAGE

Our farm uses the soaps, detergents, and sanitizers listed below.

The ratios we use are [list brand/type and what they are used for—this can be very helpful for employees who need to order more of something.]

Financial Sustainability

Tracking Sales

"I love any numbers that have a dollar sign attached to them, but now I'm really excited about how we actually keep the numbers and what they can mean for us as business owners."

**ELLEN POLISHUK,
PLANT TO PROFIT**

"If you don't keep track, you can't draw any conclusions from growing things a certain way, changing your market—if you don't know, you can't have cause and effect, you're always just shooting in the dark. That would be my plea and my advice, to start deciding that being a business person means you are excited about keeping track of numbers—data, the numbers of bunches, pounds and tons and the dollars."

**ELLEN POLISHUK,
PLANT TO PROFIT**

Physical health, soil health, financial health—they all go hand in hand. Deciding how you want to track your sales and the types of documents you'll keep will help reduce the stress of running your business. Ask any old-timer, the ones that keep good books almost always are running great farms.

This will also give you the opportunity to both know how well a crop is doing (how much did you plant, harvest, and then sell) and, in the super low chance you are involved in recall, give you an easy way to track your crops from seed sale. Both take what can be complicated and stressful situations and help them become more manageable.

Like everything else in this guide:

- Determine why you want to track your sales
- Determine what you'll want to track
- Determine how you want to track that
- And what tools you'll use.

One tool that may be worth exploring is [Veggie Compass](#). Your local service provider may have some great planning sheets or a neighboring farmer might have a DIY system that they love a well.



*Tune in to the
companion podcast
episode with
farmers talking
on this topic.*

Financial Stability, Continued.

"I like to handwrite them, that way if I want to doodle on the paper, I can do that. I make it simple, where there's not a 30 stage procedure. Keep it as refined and simple as you can. I don't like Quickbooks because it just feels unhuman. I need more humanity. I need more art and spirit in what I'm doing. Quickbooks just feels alien to me, so I like to write everything. I've got stacks of papers with doodles on it. I do use a little bit of Square because it's automatic—as I'm receiving the money it's there already. They make it really convenient. I can pull that stuff up from years ago, the week before, the month before. The inputting on that information is automated so that makes it easy for me. But I'm just an old soul, I like to write with pencil and paper."

**CHRIS EDWARDS,
SPARTA GARDENS**

"You got into record keeping when you started farming whether you knew it or not. The fact that we have an almanac, that's all record keeping. The foundation of agriculture is records. You have to know what happened preceding. You have to know what this seed can do, that's all records. It's just finding a way to make that record keeping work for you, to make it fun, to find a place in your day where it doesn't crumble your energy."

**CHRIS EDWARDS,
SPARTA GARDENS**

FINANCIAL STABILITY—TRACKING SALES

EXAMPLE LANGUAGE

Our farm uses a [describe your system here—Quickbooks, pen and paper, Square, Google Sheets, etc.] sales tracking system that allows us to trace product one step back (field) and one step forward (customer).

We track our harvest:

- *Which crop*
- *Which field*
- *Harvest date*

And track our sales:

- *Date it was sold*
- *Where it was sold*
- *How much was sold*

