
FARMER'S GUIDE TO ON-FARM FOOD SAFETY CERTIFICATION

an introduction to food safety, plus tools, resources and first steps



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What's inside:

Food safety: why me, why now - p. 1 | First steps - p. 2 | Sorting through the “standards” - p. 3 | Taking the next step - p. 5
Estimating costs - p. 6 | Ten steps to certification - p. 8 | Food safety resources - p. 9

Food safety: why me, why now?

As the preference among buyers of all kinds for local and regionally produced and distributed foods increases, standards and expectations placed upon producer/farmers increase as well. The “local” brand is synonymous with freshness and flavor, and

All food, local and otherwise, is expected to be packed properly, graded accurately, weighed and described (on a label) correctly, and to have been cared for properly during handling and delivery (cold chain). It's a mark of the success and positive impact of local food that these market factors are coming into play.

In the end, better on-farm food safety practices protect farmers as much as they protect all others in the supply chain.

Buyers also have expectations for the “safety” of the food that they buy, sell, or serve. All too frequently, we read headlines about foodborne illness outbreaks, affecting unsuspecting consumers across the country. No one expects to be sickened by the food they eat, and those who are vulnerable to illness—the old, the young, and the infirm—are particularly supportive of local and regional foods for this reason. Everyone expects that all reasonable measures have been taken to insure that the food they are sold or served is as safe as possible. Those of us who produce food don't expect to deal with cases of foodborne illness, either.

There is an expectation throughout the supply chain that all reasonable efforts have been made to minimize risks that may be present in food delivered for sale or preparation. The bigger (in commercial terms) the buyer, the more likely they have lawyers, marketers, and public relations staff beating the drum for food safety verification. Public discontent over the perceived increase in foodborne illness outbreaks, especially from fresh produce, led to one of the few successful bi-partisan legislative achievements of the last decade: the FSMA (Food Safety Modernization Act). Food safety expectations are everywhere, and they will not be going away anytime soon, if ever.

As local and regional food producers and distributors gain access to supply chain partners who are larger, more institutionalized, and more commercial, there will be an expectation and eventually a requirement that food safety best practices—known on farms as good agricultural practices, or GAP—are being practiced, and, equally important, that those practices are verified by a trustworthy third party. Your customers are concerned about this, and to gain and sustain their confidence, you will need to demonstrate and act on the same concern.

This may sound overwhelming to you. Some farmers may choose to organize their marketing to avoid food safety requirements. Such a strategy is possible, but limiting. There is really no good reason to design a business plan around avoiding the issue. In the end, better on-farm food safety practices protect farmers as much as they protect all others in the supply chain. Food

safety requirements are just another type of risk that farmers and food producers can and will learn to understand and address as they build healthy, resilient businesses in response to growing demand for food with a face, from close to home, built on relationships and trust.

First steps

The basis of food safety best practices are rooted in common sense. Farming may be one of the last bastions of common sense in the media-hyped culture of overstimulation that we live in today, so rest assured that much of what is called for in GAP will make perfect sense to you. Yes, this is a whole new set of risks which require learning a new language, but as farmers, that is what you have always done best: learn to balance risks with opportunities, and move toward the latter by building healthy soil and cultivating relationships from the farm forward. Though there will be some new learning involved, many farmers find that a majority of the requirements of food safety practices are asking them to systematize and document actions that they are already taking.

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As you learn, you'll want to be on the lookout for the trap of disproportionate expectation: be sure that expectations are relevant to the scale, locale, and style of operation of your operation. For example, one danger in the area of food safety requirements is a "one size fits all" approach. Generally, such an approach would favor larger entities and punishes smaller ones. "Best practices" are not the same on all farms, but the goal of minimizing risk is one that all farmers share. The purpose of implementing GAP is to achieve the desired outcome of risk reduction. As you become more familiar with the language and goals of food safety requirements, your creativity and problem solving skills will help you to avoid prescriptive requirements, and to substitute your own best practices, practices that achieve the same goals in ways that are most appropriate for your operation.

Here are a few good resources to get you started, including a tool for self-assessment and several overviews of food safety from a variety of sources and perspectives:

Self-assessment:

This is great place to begin learning the language of food safety, and to see how your farm stacks up. One popular and well tested self-assessment tool is available from the Cornell University National GAP program:

<http://www.gaps.cornell.edu/Educationalmaterials/Fapdfs/CompleteAssessment.pdf>

It should take no more than a few hours to go complete a self-assessment, which will give you some immediate ideas about priorities and relatively easily first steps for on-farm improvement. Pick a time when you can dig in without distraction, and stick with it until you've finished.

Other resources:

- The FDA's "Guide to Minimize Microbial Food Safety Hazards in Fresh Fruits and Vegetables," though written in 1998, provides a good overview of GAP:
<http://www.fda.gov/downloads/Food/GuidanceComplianceRegulatoryInformation/GuidanceDocuments/ProduceandPlanProducts/UCM169112.pdf>

- The Product Safety Alliance offers a variety of resources:
<http://producesafetyalliance.cornell.edu/psa.html>
- The National Sustainable Agriculture Coalition provides a broader look at food safety issues, from a sustainable agriculture perspective, here:
http://sustainableagriculture.net/wp-content/uploads/2010/11/Sustainable-Food-Safety_FINAL.pdf

The next step will be to plug into more local efforts. It's likely that these are led by non-profit organizations involved in the local food movement, small- and family-farmer advocacy, local cooperative extension, or the state department of agriculture, all of whom offer low-cost training in GAP. A cautionary note: you should not go to these trainings expecting all the answers. You are still very much in the phase of learning the language and getting a feel for the process of integrating food safety-related expectations into your operations; don't be discouraged if you attend a training that sets a bar that seems out of your reach.

Your commitment to providing a product that is safe, as well as fresh, flavorful, and well packed and presented will sustain your credibility as you work out the details of meeting requirements over time.

Just as food safety will be an issue for years to come, the systematic implementation of food safety best practices is itself a long-term process. Your process, beginning with self-assessment and education, will move on to training and implementation of the most accessible and understandable practices, and eventually to verification by a trusted third party based on buyer and market preferences. It's a graduated process, one that, hopefully, allows you to avoid biting off more than you can chew, and instead moves gradually toward the integration of food safety practices into your operations in ways that benefit your customers and your farm.

In terms of timing, the urgency with which you'll address food safety expectations and implement best practices will be driven to a great extent by your customers and buyers, though of course you'll also be limited by your own time and resources. As part of your education and orientation process, you'll want to approach your major customers and prospective customers and talk to them about GAP and food safety. You're likely to encounter a range of responses, from some who still hope to avoid placing demands on you

for fear of driving you away as a vendor, to others who have explicit and narrowly-defined expectations with which you must comply in order to qualify as a vendor.

In general, you can expect that your interest in their food safety needs will be as well received as your interest in any of their requirements of you as a vendor. It's important to be candid and honest about your intentions and capacity. Your commitment to providing a product that is safe, as well as fresh, flavorful, and well packed and presented will sustain your credibility even as you work out the details of meeting their requirements over time. It would be pretty unusual and unexpected for a buyer with high expectations to refuse to work with you as you progress toward meeting them.

Sorting through the “standards”

Supply chain produce buyers, whether in the food service or retail sector, have been driving the process of establishing food

safety standards for years. Dozens of different standards exist today, ranging from fairly loose to detailed and prescriptive. The development of standards is a global practice, with buying (importing) industrialized countries and regions setting expectations for producing (exporting) regions. Internationally, this process eventually led to the establishment of Global GAP, a non-profit, multi-stakeholder association that brings together all segments of the supply chain to create a fair and equitable system of standard setting, re-evaluation, and verification. Global Gap advances the notion that food safety requirements are “pre-competitive”, or a requirement that all produce must meet in order to participate in commerce and gain access to the supply chain. In addition, the USDA has also developed a standard, based on FDA guidance outlined in its “Guide to Minimizing Microbial Food Safety Hazards in Fresh Fruits and Vegetables”.

Over a several year period here in the United States, many buyers engaged in one-upsmanship on standards, a process referred to as “super metrics,” in which standards were routinely raised without any scientific or risk-based reason. Over time, these requirements led to audit fatigue, and were ultimately counterproductive for producers. In response to this situation, the leadership of the United Fresh Produce Association (the leading produce industry trade association) assembled a group of industry leaders who directed their Food Safety technical experts to create a harmonized GAP standard, taking the best language and strategies from 13 different private standards, and unifying them into a single document. The “Harmonized Standard” as it has come to be called, represents the most commonly agreed upon standard for GAP in North America. You can see the details of the Harmonized Standard at http://www.unitedfresh.org/newsviews/gap_harmonization.

Harmonized and GFSI/GlobalGAP represent the “highest” standards for GAP in the United States today, so it’s likely you’ll encounter buyers that expect you to meet them.

Even with the Harmonized Standard, buyers continue to have specific areas of particular concern, and they address these by adding “riders” to the common standard. This can create the feeling among farmers that food safety standards are a “moving target” and that whatever success they attain in meeting them can be undone by the addition of more requirements. For example, new information might emerge from the scientific research into pathogens responsible for foodborne illness—the food safety environment is not static. But then again, is there anything in the life of a farmer that is? If you go in with the understanding that when it comes to standards you’re working in an evolving environment, you’ll be better prepared for the ongoing process of education and understanding the risks that can be managed and reduced.

Farmers and aggregators who enter the supply chain with local and regionally produced foods will likely encounter larger buyers who require that farmers adhere to a standard that is approved by the Global Food Safety Initiative (GFSI), an international effort to establish common standards. GFSI compliance is required by the largest buyers; this reflects a general trend, where larger buyers, with deeper pockets, require higher standards. Global GAP has developed additional riders to the Harmonized Standard that will meet GFSI requirements.

These standards, Harmonized and GFSI/GlobalGAP, represent the “highest” standards for GAP in the United States today, so it’s likely you’ll encounter buyers that expect you to meet them. The self-assessment tool recommended above is based on the older USDA GAP standard, which draws on the FDA’s guide. Some producers consider the USDA standard more accessible for beginners, and adopt it as an easier first step toward eventual implementation of the Harmonized Standard—and buyers will likely accept it as a step in the right direction, too.

Taking the next step

Once you have built an understanding of the language of food safety and the basics of GAP (by completing the Cornell self-assessment tool, doing some additional reading, or attending a local GAP training), and you've gotten a feel for what your buyers and potential buyers expect, you should start to get an idea of the scope and breadth of work ahead. You should have some very accessible "next steps" that you can implement on your farm, and that demonstrate your commitment and understanding. It's important to take some steps right away based on what you learned in the self-assessment, reading, and training, to begin what will be a process of continuous improvement.

The next valuable resource in implementing food safety GAP is the development of a food safety plan. In theory, the food safety plan is simple: a statement of your commitment to minimize risks, the actions that you will take to meet that commitment, and the documents and records that you agree to keep so that your efforts can be verified. In practice, given the details required to meet the existing GAP standards, the plan will become quite detailed.

The "On-Farm Food Safety Plan Tool," developed by FamilyFarmed.org, is a valuable web-based resource for developing your farm's food safety plan, and is available here <http://onfarmfoodsafety.org/>. Successfully following the plan created with this tool would lead to a positive audit of the farm's food safety program according to the criteria of the Harmonized GAP standard. The tool covers four key areas:

General requirements: Management policies and commitment, and recall and traceback procedure.

Worker health and hygiene: This area presents the greatest number of possible risks, so this section includes several important details that relate to training and working conditions.

Environmental considerations: Previous land use on and around the farm, agricultural water sources and quality, wild and domesticated animals and pests control, soil amendments and manure, and agricultural chemicals.

Product movement from field to eventual delivery: Harvesting practices, transportation on the farm, packing activities on the farm, and transportation of finished product to its eventual customer.

Using a series of questions as guide, the tool navigates the standards and provides additional information and resources along the way. At the end of the process, the tool automatically produces the farm's food safety plan as an Adobe Acrobat PDF document, including an appendix listing all of the policies, procedures, logs, and reports that together make up the day-to-day work of validating GAP on the farm. Templates for many of these will be available soon as well.

After completing the food safety plan as the farm intends to operate, you'll be able to understand the key areas of risk on the farm, and look realistically at the costs and timeline for implementing the full range of requirements leading to successful certification.

Estimating costs

The addition of food safety requirements to the workload of any farm necessarily raises the question of whether a farm can afford the costs, in terms of both money and time. Larger scale and corporate vegetable farmers may see GAP implementation as just a “cost of doing business,” and take the stance that no farm can be allowed to cut corners on food safety. That’s easy for them to say, as externally imposed rules generally favor larger entities, who have the organizational capacity and access to resources that make it possible to absorb these costs. This is one of the main reasons why every regulated industry quickly consolidates, with the merged entities better able to meet regulatory requirements and create profits.

Simply put, farms that succeed at developing and implementing food safety plans become better-run businesses.

Among farms and food businesses engaged in production for local and regional distribution, there’s a disincentive for individual businesses to automatically look to growth and scale as benefits. Instead, these businesses look for ways to collaborate. Voluntary associations and formal cooperatives help local and regional producers attain benefits that larger entities achieve through their own growth.

This strategy can be very helpful in addressing the costs of implementing GAP on farms. The more farms that participate, the less training costs per farm. Even audits can be less expensive if neighboring farms are audited on successive days, as this decreases travel time and costs for the auditors.

The ultimate form of cooperation and collaboration is the GAP Group Certification process. Originally pioneered by GlobalGAP to ensure that small farmers in emerging market countries were not denied access to European (export) markets, this approach involves the creation of an internal system for development and implementation of policies, procedures, and practices that all group member farms agree to follow. The internal system includes a fully developed internal verification system, which is then audited as a whole by an external, third-party auditor. Individual members are able to more efficiently identify areas for improvement and to implement corrections when the inspection process is an internal one. While this approach is more expensive to establish, it offers tremendous long term savings to group members. The ability to retain staff that are qualified food safety specialists, who understand emerging best practices and requirements and can then pass them along to group members, eliminates many missteps and extra expenses. Individually, these farms could never afford such specialized staff, but collectively they can.

Regardless of whether you’re able to participate in a formal group, or simply cooperate wherever possible with neighboring farms, you’ll find that the costs associated with buyer food safety requirements fall into three categories:

1. Management and operational costs of monitoring and documenting activity that reflect fulfillment of management commitment to food safety
2. Facility, equipment, supplies, and related changes that must be made to reduce risks as outlined in the food safety plan
3. Cost of annual auditing by third party entity

Larger farms describe this process as “creating a culture of food safety” on the farm. The greatest amount of effort, and investment of dollars, will necessarily come in the first years of GAP implementation. It’s difficult to put a dollar figure on

these costs, as there are so many factors involved and differences between farms, but be prepared to spend thousands of dollars over a period of years (not, say, hundreds, or tens of thousands).

A thoughtful, systematic approach, along with maximizing opportunities to cooperate with other farms, will help keep these costs down. The more quickly and easily management, owners, family, and staff members accept and embrace this new commitment, the more seamless and cost efficient the process can be.

The cost to management of the development and maintenance of records is difficult to estimate, but the specter of this type of paperwork is a source of anxiety for many farmers. In larger operations, where quality control and human resource needs are differentiated and assigned to specially trained staff, the work of food safety monitoring and record keeping is distributed and becomes a manageable cost of doing business. In small operations, it's best to identify a person with administrative and accounting skills or interests, but who also communicates well, gets along well with others, and is trusted by colleagues. If a smaller farm can join some type of producer- or distribution-oriented local food cooperative, some of these internal costs can be shared; for example, several farms can share the cost of hiring someone with specialized skills.

It's also difficult to estimate the cost of ongoing monitoring, but farms who have successfully developed and implemented food safety plans—even those that resisted it vigorously at the start—almost always acknowledge that the process improved their business and added value in a number of indirectly related areas. Simply put, farms that succeed at developing and implementing food safety plans become better-run businesses.

The best way to keep the cost of a food safety audit to a minimum is to be properly prepared for it.

The facility, equipment, and supply costs associated with meeting food safety standards will generally be scalable to the size of the farm. Smaller operations won't have to make major improvements to their facilities due to food safety requirements; instead, they'll be relying on good training and procedures to minimize risks. As an operation gets larger and employs temporary help or experiences large shifts in the number of people needed to complete farm tasks, costs will follow proportionally.

Farms with both livestock and produce operations at the same location are the most likely to incur facility-related costs, because standards require fully separating the tasks associated with those aspects of the operation, in order to minimize the risk of contaminating the fresh produce. And for all operations, proper hand washing and sanitary facilities are essential, as is separation of spaces for worker personal needs and activities such as break and meals, from product related work areas. Still, much risk reduction can be accomplished with good planning of work flow, effective procedures, and training.

When it comes to the on-farm cost of food safety requirements, much of the focus has been on the cost of audits. These can range from \$800 for a one-day audit, and go up from there. As of this writing, the least expensive hourly rate for auditing is \$85 per hour, offered by the USDA Agricultural Marketing Service, <http://www.ams.usda.gov/AMSV1.0/GAPGHPAuditVerificationProgram>

Keep in mind the importance of good preparation and planning. For example, costs can skyrocket if the farm isn't prepared on the day of audit, because the auditor must make a follow-up visit to monitor corrections in order for the farm to pass. The best way to keep the cost of a food safety audit to a minimum is to be properly prepared for it, and to "pass" it the first time. Some form of self or pre-audit is crucial before calling for the "official" audit. This is where the fully developed Group Certification

approach has tremendous benefits, but absent that, a satisfactory self-audit should be conducted before calling for an external audit. Remember that the auditor does not expect to see perfect performance. In fact, a clean set of records, written in the same color pen, usually indicates to an auditor that the records were completed the day before. Corrections are expected; errors and situations that require correction, when noted and acted upon, are indications of an effective food safety plan in action.

In some cases, the time and financial costs of implementing a food safety plan can be integrated with ongoing costs or processes, alleviating some of the burden of implementing the plan. For example, there may be costs for water testing, which is a requirement in all food safety standards. But this cost can be minimized when water sources used for agriculture are also used for other purposes on the farm, because water from domestic wells or municipal supplies already have certain test requirements or data available; this existing data can be used to meet food safety reporting requirements. And while good worker sanitation and health practices are essential to an effective food safety plan, they are also required by local and state regulation; in adhering to these local and state regulations, food safety plan requirements are also addressed.

Ten steps to food safety certification

Many farmers, faced with what appears to be a complex and never ending set of requirements and costs, throw up their hands and want to quit—an understandable reaction, especially when compounded with pressure from buyers or auditors. But ultimately, the process of understanding and reducing on farm risk through GAP implementation will strengthen the farm as a business and bring a sense of security to the owners and managers. The GAP implementation process and food safety plan provide a framework for gathering valuable information about your farm's operations, which supports better decision making.

So, where to begin?

1. Take a self-assessment.

Get a sense of where you are now, and it will take to get on the right track for food safety certification.

2. Do some reading, study, and self-education.

Take advantage of the resources listed throughout the document, or in the list of resources that follows.

3. Attend a GAP training.

Find out who in your community offers workshops or resources, and focus on what's most appropriate and feasible for you.

4. Make a formal management commitment to food safety.

Remember that certification is an ongoing process, but one you can start and make a manageable commitment to today.

5. Develop a food safety plan for the farm as it should be.

Start with a concrete plan for now and for the future.

6. Implement the easiest and most accessible practices.

Tackle the “low hanging fruit” and remember that you're probably already engaging in some food safety best practices.

7. Reach out to your buyers and customers.

Communicate with your customers about your practices, plans and commitment.

8. Identify and build cooperative relationships that can help implement GAP.

Look for partnerships and take advantage of the potential for sharing resources.

9. Continue improving until you're ready for an external audit.

Keep up the good work, and lower audit costs by being prepared.

10. Seek out resources and support as needed.

The Wallace Center's National Good Food Network Food Safety Portal offers news, updates and resources at <http://ngfn.org/food-safety>

With these as a guide, you can rest assured that food safety requirements won't be a barrier to your farm's market access. When GAP implementations are scale, location, and operation appropriate, and led by properly educated farmers committed to the health and well-being of everyone in the value chain, they benefit farm owners, workers, customers, and the land itself.

Food Safety Resources:

Self Assessment Tool from Cornell University's National GAP Program

<http://www.gaps.cornell.edu/Educationalmaterials/FAPdfs/CompleteAssessment.pdf>

Food Safety Overview from the FDA, "Guide to Minimizing Microbial Hazard in Fresh Fruits and Vegetables"

<http://www.fda.gov/downloads/Food/GuidanceComplianceRegulatoryInformation/GuidanceDocuments/ProduceandPlanProducts/UCM169112.pdf>

Food Safety Resources from the Wallace Center's National Good Food Network

<http://ngfn.org/food-safety>

Food Safety Resources from the Product Safety Alliance

<http://producesafetyalliance.cornell.edu/psa.html>

Food Safety from a Sustainable Agriculture Perspective, from The National Sustainable Agriculture Coalition

http://sustainableagriculture.net/wp-content/uploads/2010/11/Sustainable-Food-Safety_FINAL.pdf

Harmonized Standard for GAP from the United Fresh Produce Association

http://www.unitedfresh.org/newsviews/gap_harmonization

Affordable Auditing Services from the USDA Agricultural Marketing Service

<http://www.ams.usda.gov/AMSV1.0/GAPGHPAuditVerificationProgram>



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