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Getting Started with Good Agricultural Practices (GAPs) for Produce Operations

Amanda Philyaw Perez
Associate Professor, Food Systems and Food Safety Specialist - Horticulture

Sarah Bakker
Local Food Program Lead - Horticulture

Introduction

As small-scale produce operations expand, many consider the value of getting a third-party food-safety audit, such as the U.S. Department of Agriculture's (USDA) Good Agricultural Practices (GAPs) Audit, to access new market opportunities. Establishing a food safety program helps growers prevent contamination and reduce the risk of foodborne illness. Buyers request suppliers to maintain these annual audits to ensure farms understand the risks and implement practices to limit liability from farm to table. Outbreaks linked to fresh fruits and vegetables have become more common, raising concerns about how produce is grown, handled, and transported (1). Food safety starts on the farm.

What are GAPs and Why Do We Need Them?

Good Agricultural Practices, commonly referred to as GAPs, are voluntary guidelines that help fruit and vegetable growers reduce the risk of contamination on their farms. These guidelines originated from the U.S. Food and Drug Administration's (FDA) 1998 publication, the *Guide to Minimizing Microbial Food Safety Hazards for Fresh Produce*, which emphasized the importance of preventative measures in the production and handling of fresh produce, laying the foundation for what are now recognized as GAPs (2).

GAPs are not required by law; they are voluntary. They form the foundation for many buyer-driven third-party certification programs. Getting certified can help farmers sell to larger markets like grocery chains or institutions. You do not have to get an audit to use GAPs; however, any grower can apply these best practices on their own to improve food safety. Nonetheless, becoming GAP certified shows buyers that you take food safety seriously and can ultimately open new market opportunities.

Tip: Ask your buyers or potential buyers for the food-safety certifications they require before starting the audit process.

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While it is impossible to eliminate all contamination risks on farms, produce growers are responsible for ensuring their products are safe to eat. Because fruits and vegetables are often consumed raw, farms should consider hazards at every stage, from planting to harvest and packing. Following science-backed food safety guidelines greatly reduces the risk of contamination. GAPs are one of the most effective tools farmers can use to protect both their customers' health and their farm's reputation. Although GAP certification is voluntary and often driven by buyer requirements, understanding and applying GAP principles can help safeguard public health from foodborne illness and reduce legal liability in the event of an outbreak.

In 2011, the U.S Food and Drug Administration (FDA) enacted the Food Safety Modernization Act (FSMA), which includes the Produce Safety Rule (PSR). This rule made certain produce-safety practices mandatory for farms that meet specific size or sales thresholds (3). Farms that are covered under FSMA must receive training and have periodic inspections conducted by their state Department of Agriculture.

To determine whether your farm falls under the FSMA Produce Safety Rule, contact your state Department of Agriculture or local county extension office. The FSMA rule is a regulatory requirement, not a market audit.

Many farms subject to FSMA inspections also choose to participate in voluntary third-party audits such as the USDA GAP audit or, more recently, the Harmonized GAP audit, to meet buyer requirements. It is important to note that while the requirements of FSMA and the original USDA GAP audits are similar, they are not identical. The Harmonized GAP audit was developed to align both regulatory and market expectations, providing a single food safety program that addresses the needs of both.

If your farm is considering selling to new markets, talk directly with potential buyers to identify the type of audit or certification they require from vendors. Some buyers may accept a USDA GAP audit, while others may require different programs, such as a Leafy Green Marketing Agreement (LGMA) or a Global G.A.P. Each option varies in cost, complexity, and time commitment, so it is important to choose one that fits with your farm's size, goals, resources, and capacity.

USDA GAP audits are voluntary and conducted by USDA-certified auditors. Typically, audits are scheduled annually during harvest or post-harvest activities. USDA offers audits for individual farms as well as group audits (for groups of small farmers, food hubs, or cooperatives). These group audits may take the form of a "process audit" for an individual operation or a "systems audit" for a collective group. Whether you are audited individually or as part of a group, all USDA GAP audits look at how your operation prevents contamination, manages food safety, and maintains proper records and documentation.

Audit Types	
Process Audits	**Systems Audit**
USDA Good Agricultural Practices (GAP) Harmonized GAP Harmonized GAP Plus+ Mushroom GAP Leafy Green Marketing Agreement (LGMA) Global GAP Primus GFS	GroupGAP

Process Audits

USDA Good Agricultural Practices (GAP)

The USDA Good Agricultural Practices (GAP) audit is a voluntary, third-party audit that checks how well a farm follows basic food-safety practices. During the audit, USDA inspectors use a standard checklist to verify that fruits and vegetables are grown, harvested, handled, and stored safely to reduce contamination risks. The checklist covers key topics such as worker training, sanitation, recordkeeping, and monitoring. It is updated regularly as food-science changes and can be found on the USDA Agricultural Marketing Service (AMS) website (4).

Building on the foundational USDA GAP program, additional audit schemes have been developed to help farms align with evolving reg-

ulatory and industry standards. After the FDA passed the FSMA in 2011, many farms became subject to federal inspection and training requirements under the PSR (5).

To determine whether your farm is subject to the FSMA PSR, contact your state Department of Agriculture or local county extension office. Farms that fall under FSMA PSR and pursue a USDA GAP audit typically choose the enhanced auditing scheme known as the Harmonized GAP. This version of the audit incorporates additional requirements designed to meet both regulatory expectations and buyer specifications.

Harmonized GAP

The Harmonized GAP audit helps farmers demonstrate to buyers that they are meeting the same produce safety goals as the PSR. It was designed so that the USDA's checklist lines up closely with FSMA's expectations. However, this audit does *not* replace an official FSMA inspection; it simply shows that a farm is following similar safety standards.

Some buyers require food safety audits that go beyond the basic USDA GAP or Harmonized GAP programs. For those markets, the USDA offers an advanced option called Harmonized GAP Plus+, described in the next section.

Harmonized GAP Plus+

Harmonized Good Agricultural Practices Plus+ (HGAP Plus+) is recognized as meeting *Global Food Safety Initiative (GFSI)* Technical Equivalence Requirements. The Global Food Safety Initiative (GFSI) is an international organization that benchmarks and recognizes food-safety certification programs. GFSI-recognized audits meet industry-accepted global standards used by major buyers and retailers. Many retail, food service, and institutional buyers require their suppliers to complete a GFSI-level audit. Choosing this audit can help farmers sell to larger national and international buyers.

Mushroom GAP

The Mushroom GAP audit is a voluntary, commodity-specific audit designed for mushroom growers. It covers food safety from production through the supply chain to make sure mushrooms are grown and handled safely.

Leafy Green Marketing Agreement (LGMA)

The Leafy Green Marketing Agreement (LGMA) is a state-level food-safety program for lettuce, spinach, and other leafy greens. Although the LGMA only applies to growers in California and Arizona, its food-safety standards have strongly influenced national produce safety practices and the development of metrics used in other audit programs.

System Audits

GroupGAP

The **GroupGAP Certification Program** (GroupGAP), started by USDA in 2016, provides small and mid-sized farms with the option to certify together as part of a group. A food hub or other central organization coordinates the paperwork, training, and inspections. This makes GAP certification more affordable and accessible to small growers while still meeting the latest FSMA requirements and either GAP, Harmonized GAP, or Harmonized GAP Plus+ GFSI Equivalent audit standards.

GAP Guidelines

GAP guidelines prioritize five key areas of food safety:

1. **Farm review:** looks at the farm's overall setup including water use and source, waste management, presence of animals (wildlife and livestock), use of animal-based soil amendments, soil management, and traceability which refers to the ability to track produce from field to consumer.
2. **Harvest and field packing:** reviews how produce is handled and packed in the field as well as the cleanliness of harvest tools and containers.
3. **Packinghouse and worker hygiene:** evaluates cleaning schedules, handwashing facilities, worker training, and how the produce is stored or washed.
4. **Storage and transportation:** checks that produce is stored at safe temperatures, kept clean and protected from contamination during transport.

5. **Preventive food defense measures:** looks at how the farm protects food from intentional tampering, like locking storage areas and limiting access to the facility.

GAPs also consider other risk factors, like how fertilizers and crop chemicals are applied, whether animals have access to production areas, how equipment and tools are stored and cleaned, and how well workers are trained. Understanding the risks associated with each stage of production — from growing and harvesting to washing, packing, and delivery — is essential for minimizing contamination and ensuring food safety.

Tip: For a free GAP self-assessment checklist, visit USDA GAP & GHP Audit Services.

Standard Operating Procedures (SOPs)

Developing Standard Operating Procedures (SOPs) aligned with GAP principles is an effective way to keep food-safety practices consistent for everyone on the farm. Each farm's SOPs should be tailored to the specific needs and resources of each farm. As farm changes or new risks appear, these procedures must be regularly reviewed and updated, so they stay useful and accurate. For a detailed guide to SOP development visit the ATTRA (Appropriate Technology Transfer for Rural Areas) page (6) and view sample SOP templates on the Produce Safety Alliance website (7).

Considering a Food Safety Audit

Farms may want to consider exploring a third-party food safety audit, such as the USDA Good Agricultural Practices (GAPs) Audit, under several situations:

- **Market Access Requirements:** Larger buyers like grocery store chains, institutional purchasers, or export markets often mandate food safety audits for suppliers. To sell to these markets, farms often need to complete a third-part audit. Before selecting an audit, it is crucial for growers to consult with potential buyers. Some may accept the USDA GAP audit, while others may prefer more comprehensive programs like Global-G.A.P. or Primus GFS. Understanding buyer preferences is key to choosing the right audit program and avoiding extra costs.
- **Risk Management:** Adopting rigorous food safety practices is essential for reducing the risk of contamination or foodborne illness. Farms of all sizes should prioritize understanding these practices through training and consider utilizing audits as a strategic tool to further mitigate risks. Getting an audit also builds buyer and customer confidence by showing your farm is committed to safety.
- **Continuous Improvement:** Audits not only check compliance; they also give useful feedback for improvement. Even if not required for market access, an audit can help identify ways to improve daily operations and strengthen food-safety systems.
- **Consumer Confidence:** Shoppers and local customers are paying attention to food safety now more than ever. A third-party audit can demonstrate a farm's commitment to producing safe and high-quality food.
- **Regulatory Compliance:** Food safety regulations vary by region, but every farm must follow basic food-safety laws like the Food Safety Modernization Act (FSMA) and its Produce Safety Rule (PSR). Many states offer training programs on the FSMA Produce Safety Rule, which not only educate but also promote Good Agricultural Practices applicable to both voluntary and regulatory audit programs. Growers with questions about their responsibilities can contact their State Department of Agriculture or county extension agent for guidance. Undertaking a third-party audit can also assist farms in confirming these regulations.

Steps to Obtain a USDA GAP Audit

Step 1: Understand USDA GAP Standards

Start by familiarizing yourself with the USDA's Good Agricultural Practices (GAP) standards and the specific requirements based on the type of audit needed for your operation. These standards are designed to ensure that

farms follow practices that minimize the risk of foodborne illnesses. You can download the full checklists and audit details from the USDA GAP & GHP Audit Services page.

Step 2: Prepare Your Farm

Create or update a farm food-safety plan that fits your operation. Review your water sources, worker hygiene, sanitation practices, and record-keeping. Fix any gaps, like missing records or unclear cleaning procedures, before scheduling your audit. On-farm assistance may also be available through your Cooperative Extension Service or the State Department of Agriculture to help growers prepare for a GAP audit. To request support or schedule a visit, contact your local county extension agent who can coordinate with the state specialists on your behalf.

Step 3: Contact the Arkansas Department of Agriculture

In Arkansas, GAP audits are carried out by the Arkansas Department of Agriculture under the USDA program. Reach out to the state's audit coordinator to learn about fees, audit dates, and what documents you will need to submit.

Step 4: Schedule an Audit

When your food-safety plan and improvements are in place, schedule your audit for a time when harvest or post-harvest work is happening; auditors need to see your normal operations in action.

Step 5: Audit Preparation

Review the USDA GAP checklist and make sure all your records are up to date. This includes records such as water quality testing results, pesticide use logs, worker training records, and cleaning schedules. For extra help, contact your county extension agent or your state Department of Agriculture for information about training or additional guidance.

Step 6: The Audit Visit

During the audit, a USDA-certified auditor will visit your farm to see your food-safety plan in action. They will review documentation, observe food safety practices, and may want to talk to workers about the farm's food safety practices. The audit checklist includes points for documentation, worker training, sanitation, and traceability. The auditor's goal is to confirm that your farm is following GAP standards consistently.

Step 7: Fix Any Issues and Keep Improving

After your audit, you will get a report that lists your score and any areas that need improvement. If corrections are required, fix them quickly and submit proof or schedule a follow-up visit.

Tips for Success:

- Keep Good Records: Organized logs for cleaning, water tests, and worker training make audits faster and easier.
- Train your Team: Ensure that all farm workers are trained in food safety practices relevant to their tasks.
- Continuous Improvement: Use the audit process as a roadmap to tighten your systems and document changes over time.

Step 8: Maintain your Certification

After you pass, your USDA GAP certification is valid for one year and each audit is subjected to one unannounced audit within one year of completing initial audit. To stay certified going forward, keep following your food safety plan and update as needed. Schedule your next audit before your certificate expires. Staying on top of recordkeeping and training year-round makes recertification easier. USDA GAP certification is valid for one year following a successful audit. To remain certified, farms must continue implementing their food safety plan and update it as needed. The next audit should be certified before the current certificate expires. Maintaining thorough record keeping and ongoing staff training throughout the year helps streamline the re-certification process.

By following these steps and keeping up with your farm's food-safety practices year-round, you can earn and keep your USDA GAP certification. Certification shows buyers and customers that your farm is committed to safe, high-quality food and opens doors to new market opportunities.

Breaking Down Areas of Concern within Good Agricultural Practices (GAPs) *		
Area of Concern	**Important Considerations**	**Ways to Minimize Risk**
WATER	• What is the water source, and how is it used? (e.g., irrigation, washing, chemical application) • Is the water in direct contact with the edible portion of the crop? • Is the water tested regularly, and do you take action if contamination is found? • Could nearby activities (e.g., runoff from cattle operations, landfills, and wildlife activity) affect your water quality?	• Use safe, tested water for all farm activities (see USDA water-use guidelines [9]) • Schedule irrigation to avoid contamination close to harvest. • Use drip irrigation to reduce direct contact with the edible portion of crops • If using overhead irrigation, ensure water comes from a safe source. • Test water at regular intervals and inspect hoses, wells, and tanks for leaks or infiltration.
FERTILIZER AND CHEMICAL USAGE	• Does the biological amendment or compost meet USDA recommendations for safety? (10) • What type of manure is being used, and how is it applied? • How and when are you applying it? • Are fertilizer and compost storage areas separated from washing/packing areas? • Are all chemicals stored in their original packaging with intact, legible labels? Are they stored according to label instructions? • Are restricted-use chemicals handled only by licensed applicators? • Are pre-harvest intervals (PHIs) and re-entry intervals (REIs) followed?	• Store all fertilizers, manure, and chemicals stored separately from produce and water sources. • Cover compost piles and store manure downhill or away from crops. • Follow manure timing recommendations: apply 90 days before harvest (for crops not touching soil) and 120 days before harvest (for crops that do touch soil) • Always follow label directions and safety rules and make sure only certified applicators handle any restricted-use chemicals.
LAND USE AND ANIMAL ACCESS	• Do you know the land history (past uses, flooding risks)? • Are neighboring properties causing risks (chemical drift, livestock runoff)? • Is animal activity being monitored (wildlife, pets, livestock)? • Could worker activities (e.g., chores with animals before harvest) transfer contamination?	• Create barriers (e.g., hedgerows, vegetative ditches, berms) to protect fields. • Monitor animal activity and avoid harvesting from contaminated areas (feces, tracks). Use deterrents or plant alternative food sources outside the growing area. • Manage livestock or poultry access using the 90/120-day guidelines after manure application.
EQUIPMENT, TOOLS, AND BUILDINGS	• Are tools used for multiple purposes (e.g., manure and harvesting transfer)? • Do workers know how and when to clean tools and equipment? • Are there clear cleaning schedules for surfaces and buildings? • Are chemicals stored in a labeled, ventilated area away from food contact surfaces?	• Ensure tools for their intended purpose or clean and sanitize before reusing. • Keep Standard Operating Procedures (SOPs) and cleaning logs for documentation. • Store pesticides and chemicals in a locked, labeled, ventilated area away from food or packaging. • Train all employees to follow cleaning schedules and safety procedures.
EMPLOYEE HEALTH AND HYGIENE	• Are all new employees trained in food-safety procedures before starting work? • Are trash areas, toilets, and handwashing stations clean and easy to access? • Are there clear areas for eating, resting, or smoking that are separate from produce areas? • Is there a first-aid station available, and are employees trained in how to properly handle cuts or wounds?	• Provide regular food safety training and refresher for all workers. • Post clear signage to remind workers of handwashing, trash disposal, and first aid. • Keep break areas separate from fields or wash/pack locations. • Lead by example. When supervisors follow hygiene rules, employees will too.

** For detailed recommendations, visit the USDA GAP and GHP Audit services page (11) or contact your county extension office*

Traceability

In addition to managing on-farm risks, it is equally important to keep good records of where your produce comes from and where it goes. This process is called traceability and means being able to track your produce from field to buyer and back again if needed. It includes knowing what inputs are used, which part of the field a crop came from, and where that product went after leaving your farm. Records like harvest logs, planting maps, invoices, and field or bed numbers are vital during a recall or foodborne illness investigation, but they are also valuable business tools. Many growers use them year after year to plan rotations, evaluate sales, and improve efficiency.

A key part of traceability is the lot number, a unique code printed on your product labels that links each package to your farm records. A lot number can include details like the harvest date, field or bed number, and initials of the packer. Always label your products with your farm name, address, and contact information, and add a lot number when possible. Doing this can limit the size of a recall by pinpointing exactly which batch of produce was affected.

For free templates and examples of record-keeping forms, see the AR Record Templates document (12).

Food Safety Plans

Many farmers take food safety further by developing a comprehensive food safety plan for their operation. This plan not only serves as a critical tool in the event of a foodborne illness outbreak but also signals to buyers that food safety is a core component of the farm's business model, not just an afterthought.

In many cases, large retailers and distributors require a written food safety plan before agreeing to purchase products. Having a well-documented plan in place can streamline the audit process and reduce the stress associated with preparing for certification.

Growers can begin building their plan by using the USDA GAP Audit Checklist (13) to identify potential risks and improvement opportunities. For those looking for a more structured approach, the FDA has developed a Food Safety Plan Builder, a free digital tool designed to help farms create a formal food safety plan that meets regulatory standards (14).

Audits and Trainings

Following GAP principles on your own is a great start, but it doesn't replace an official USDA GAP audit or certification. For farms that want to meet both FSMA PSR and GAP requirements, the Harmonized GAP program combines both sets of standards into one audit.

If a buyer has requested a specific certification or you may be interested in gaining a different certification to increase market possibilities, see the FDA database on Third-Party Certification Programs (15).

The Produce Safety Alliance (PSA) offers a nationally recognized training that teaches growers how to meet FSMA Produce Safety Rule standards. These workshops are valuable for anyone who handles fresh produce, from farmers to packing crews to food retailers. Contact your county extension office or State Department of Agriculture for more information and upcoming PSA Grower Trainings.

Whether you are just getting started with GAP practices or preparing for your first audit, food-safety planning and training are investments that strengthen your farm's reputation, open new market opportunities, and protect your customers.

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DR. AMANDA PHILYAW PEREZ is an associate professor and food systems and food safety specialist in the Department of Horticulture at the University of Arkansas System Division of Agriculture, Little Rock. **SARAH BAKKER** is a local food program lead in the Department of Horticulture at the University of Arkansas System Division of Agriculture, Little Rock.