



GAP: Bringing Good Agricultural Practices to Your Farm

Recent incidents of tainted foods—meats, peanuts, spinach, lettuce and even raspberries—have prompted Congress to review food safety laws designed to prevent health problems from food-borne pathogens. These incidents also have pushed many retailers, restaurants and institutions (such as schools) to require certification or some other system to avoid pathogens on the food they purchase. With many buyers seeking out locally grown produce, growers need to use Good Agricultural Practices (GAP) in order to sell to these markets. Many aspects of GAP are common sense and not that difficult to implement. The important thing is to have a specific system in place.

The USDA and other private companies provide GAP certification to growers, which can be quite expensive—from \$300-1,000 per year. While this certification currently is not mandatory, implementing GAP can help fresh produce growers access more markets. These practices are based on having a plan, following it and documenting activity—this should sound familiar to certified organic growers.

This fact sheet covers basic GAP requirements, but not every detail nor the various documents and traceability needed for full certification since each farm has its own set of circumstances. Some free resources are listed at the end of this sheet that can help farmers obtain GAP certification.

GAP Overview

GAP should be implemented in all areas of your farm, especially if you have multiple fields that don't adjoin each other. Remember, contamination can occur anywhere you are growing, packing or storing food.

Hygiene: Observe good hygienic practices for all workers. ALWAYS wash hands with soap (pump or bar) and drinkable water after using the bathroom. Dunking your hands in a muddy creek and subsequently handling produce is NOT GAP. Everyone (including kids and teens who handle produce) needs to know to wash hands for 20 seconds using soap and a clean towel for drying (not manure-splattered jeans). Bringing a large water jug, soap and paper towels out to the field is a good practice—workers can have drinking water and can wash their hands. Even if you are not getting GAP certified, you should still have a hand-washing protocol. Also, all market vegetable farms should have an annual water test to verify the

water is safe to drink. GAP inspectors also want to see that workers have access to either a porta-potty or bathroom.

Rodents: Preventing rodents from getting access to stored produce is GAP. You can't sell produce that's been nibbled or has rodent feces on it. Washing with other produce contaminates your entire supply. As you build or upgrade your buildings, consider how to make them more rodent-proof.

Feces in the field: Droppings from draft horses or from other domestic or wild animals will contaminate your produce. Field workers should not harvest produce that has been tainted by feces of any kind. GAP certification doesn't specify size for a "no-pick buffer zone," but it makes sense that the size of the buffer zone depends on the size of the droppings. Small animal manure (such as bird droppings) needs less of a buffer than large animal (horse) manure, which probably should have a buffer zone of 3-4 feet.

Monitor your fields for raw manure, and flag areas as those to be avoided, or remove the feces if you still have at least 90 days before harvest. National Organic Program (NOP) regulations allow either 90 or 120 days from incorporation of raw manure to harvest. NOP-compliant compost can be used throughout the growing season, since the pathogens have been destroyed by heat during the composting process.

Illness: Anyone (either a worker or a visitor) who is sick with a fever or diarrhea should NOT handle produce. Use common sense—anyone with a runny nose or a bleeding cut clearly shouldn't handle fresh produce. The farm should supply tissues and bandages. If you run a U-Pick operation, you should inform your visitors of all of your protocols.

Product Use: When applying any substance for controlling pests or a fertilizer (such as dipel, pyganic, fish emulsion, etc.) the person applying the product should wash hands and perhaps change clothes before packing produce for sale.

Water: If your irrigation water is not from a drinking water source, you may want to test this for the presence of pathogens, especially if you are harvesting crops such as lettuce or un-staked tomatoes that could come in contact with the water. Non-potable water from overhead sprinklers poses an even greater risk. If you wash produce in big tanks, remem-

ber “one bad apple can spoil the whole bunch.” If there is a risk of contamination, you should spray the produce clean before you put it in a chilling water tank to remove field heat. Flooded lands that have significant risk of manure runoff should either be tested or the produce not sold.

Livestock: Plant your vegetable fields away from livestock areas to avoid contamination from runoff or dust (which is a mix of dirt and manure). Manure piles should not be near the packing area. If flies can access the manure piles, consider building a screen-enclosed packing area to prevent flies from landing on your freshly washed produce.

Containers: Field crates, buckets and wagons should be kept clean and used only for produce. If crates or wagons are wood, they might need to be lined with plastic tarp to prevent splinters from getting in the produce. Cutting tools and harvest bags need to be clean, too. Avoid using glass, which could break and mix in with produce or cut someone.

Washing: Change wash water frequently to keep it cold and prevent build up of dirt. It helps to use several wash tubs, with one tub for removing caked dirt from the produce, a second to rinse, and a third for a final rinse that’s as clean as possible. Some products (chlorine and periacetic acid) can be used in that final rinse—ask your certifier what additives you are allowed to use in rinse water for organic produce. If you cool produce in a water tank to remove field heat, this water and ice should also be drinkable water verified by testing.

Packing Area: Table tops, racks, conveyors, and any other place produce touches should be kept clean and in good repair. Plan the packing area so that the dirty produce area is apart from the final rinse-and-pack area. Also, have a separate area where workers eat or take breaks. Make sure fans, overhead pipes, and ducts are clean and will not drop dust or filth onto tanks or tables. Ceilings in the packing area shouldn’t have cobwebs. All garbage cans should have tight-fitting covers. Don’t let pets or other animals in the packing area. If produce falls on the floor, there should be a specific protocol for either rewashing or removing it from sale. Routinely clean up water on the floor that could breed pathogens and get soaked into the bottom of produce boxes. Clean all trucks before loading clean produce into them.

GAP Certification: You will need a written plan and documentation to become GAP-certified. A plan may include things such as: a written checklist documenting someone has scouted the field for fresh manure and flagged it; a well-stocked first aid kit (could be in the truck) wherever people are using sharp instruments; protocols that everyone understands and can implement; a test verifying water used in direct contact with produce is safe to drink.

The cost of GAP certification depends on how far the inspector has to travel, how many other operations are getting inspected at the same time as you (split the cost), how orga-

nized you are (good recordkeeping helps) and how long it takes for the inspector to view all of your fields and packing facilities. Inspectors charge almost \$100 per hour for travel and time spent on the farm. The grower has one announced and one unannounced inspection each year—so the cost is incurred twice per year. Some organic certification agencies are considering adding a food safety inspection for an extra fee, which would be cheaper than getting a separate GAP certification. Most certification agencies are waiting until Congress sets requirements first. Maine Organic Gardeners and Farmers Association (MOFGA) is working on an add-on food safety certification for their growers who might need this, and they are taking the lead. If you are interested in this type of add-on GAP certification, let your organic certification agency know of your interest.

It is unfortunate that small growers, who have not been the source of the recent contamination problems, might need to spend hard-earned dollars to meet GAP, even if they are not certified. However, doing a good job of protecting your produce from harmful pathogens is one of the best ways to provide your customers with the healthy food they seek. While removing all risk is impossible, following common sense and instituting protocols that lessen contamination not only help you be more confident in the quality of your products, but hopefully help you sleep better at night. Many buyers do not mandate GAP certification, but would open their market to you if you present a “food safety plan.” Protecting yourself, your buyers and the ultimate consumer from food borne illness is a win-win for everyone.

Resources:

www.GAPs.cornell.edu - Food Safety Begins on the Farm

www.foodsafety.gov/~dms/prodguid.html
The Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables- USDA publication.

www.ams.usda.gov/fv/fpbstates/map.htm
Listing of USDA GAP inspection offices.



The Midwest Organic and Sustainable Education Service (MOSES) provides education and resources to farmers to encourage organic and sustainable farming practices. To learn more, please see:

www.mosesorganic.org