UMass Extension

Vegetable Program
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French Hall • 230 Stockbridge Rd. • University of Massachusetts • Amherst, MA 01003-9316 • ph: 413.577.3976 • f: 413.545.5858

Standard Operating Procedures

Standard Operating Procedures, or SOPs, are documents that outline how to complete a task. An SOP doesn't need to be complicated – in fact, it should be as concise as possible and provide step-by-step instructions for a specific task.

While the thought of developing standard operating procedures (SOPs) for your farm may seem daunting, or simply like a bureaucratic waste of time, these standardized protocols are simply a way to capture routine farm processes and ensure that they happen the same way each time. SOPs come up a lot when talking about produce safety and complying with the sanitation standards of FSMA's Produce Rule or 3rd-party food safety audits, but their usefulness goes well beyond jumping through food safety hoops. A well-written SOP can help you save time, train workers, manage pests, and put out a more consistent product.

How to develop an SOP

Accurately capturing all of the steps to even a simple process does require an investment of time. These steps are often stored only in a farmer's head and might have evolved over a long period of time. You might not realize all of the steps that go into a certain task or the best way to convey that information to someone else. Investing time up front will be made up by not having to spend as much time training or correcting mistakes.

Writing an SOP should start with either doing a task yourself, or watching somebody else do it, and writing down all of the steps that lead to the completion of the task. Note which tools and materials are necessary for the job, and if there are tricks that you use to make the job easier. Ask anyone who routinely performs the task to weigh in on whether you've captured the process accurately and included important details or efficiencies – workers will be less likely to follow SOPs if they know a different way to complete a task that's better for them and if they weren't involved in the process of writing it.

What tasks should SOPs be created for?

A good rule of thumb is if a task needs to be done more than twice – whether twice a week or twice a year – you should have an SOP for it. SOPs are useful when it is important that a task be completed in the same way every time, or for tasks that are complex or involve many steps that should be done in order.

They are useful where there is high worker turnover and a frequent need for retraining, or if different employees are responsible for conducting trainings at different times. It is confusing for a trainee to learn Mary's way one day and Jim's the next—processes and standards of completion should be agreed upon ahead of time and adhered to.

SOPs, in combination with recordkeeping, are also important for showing that you are meeting regulatory requirements. For example, FSMA requires that covered farms avoid contamination of produce from dripping condensation in coolers, which seems like a daunting requirement to prove that you're meeting. With an SOP regarding how to effectively clean your cooler and how often to do so, and a recordkeeping log, you can easily show that any condensation forming in your cooler is unlikely to carry food-borne pathogens.

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Examples of tasks that may warrant a written SOP:

- Leafy greens washing, drying and packing
- Tote washing and sanitizing
- Monitoring and changing sanitizers in wash water
- Moving animals
- Water sampling
- Greenhouse seeding
- Mixing and applying pesticides
- Sprayer calibration
- Monitoring irrigation equipment
- Any task that you want done efficiently and consistently…

A general format for an SOP might consist of the following parts:

- Title
- Objective/purpose—what task are you accomplishing and why?
- Scope—where and to whom does the SOP apply?
- Responsibility—who is responsible for making sure the task is completed?
- Materials—what specific items are needed to complete the task?
- Procedure—what are the steps to the task, in order?
- Verification/documentation—how will you verify that the procedure was completed correctly and what records will you keep?

Characteristics of good SOPs:

- **Easy and rapidly accessible to employees.** Keep SOPs posted at eye level in the relevant area. Laminating SOPs or keeping them in plastic sheet covers is often helpful. Having SOPs readily accessible also makes it easier to revise them on the spot when procedures change.
- **Able to be followed by anyone with basic knowledge.** A good way to test this is to watch someone who is unfamiliar with the task try to complete the task correctly using the SOP.
- **Written using short, direct sentences and simple words** wherever possible. Bulleted or numbered lists are usually good.
- **Use diagrams and pictures** wherever appropriate. For example, diagrams of where tools/materials belong, or pictures of how something should look at a certain step in the process.
- **Separate general information from instructions.**
- **Don't micromanage.** Include any details that are essential and that must be completed in the same way by any worker. Leave out unessential details.

Some examples of SOPs can be found in the Resources section at the end of this fact sheet. It's helpful to look at existing SOPs or even use them as a starting point for your own, but remember to tailor them to your own farm so that your final SOPs accurately reflect your actual processes.

SOPs and Food Safety

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SOPs are particularly useful where there is a high risk for mistakes or contamination. This is why they feature so prominently in farm food safety plans. SOPs also provide a way to show that you have procedures in place to avoid produce contamination as required by the Food Safety Modernization Act (FSMA). The FMSA Produce Rule requires farms to avoid contamination of produce on many fronts, but doesn't always specify how a farm should do so. With SOPs and recordkeeping, you can show that you've established procedures to avoid produce contamination and that you are following those procedures.

SOPs can be especially helpful for food safety because while you can see an unorganized washroom or manure caked onto tractor tires, you generally cannot see contamination itself. An organized washroom and apparently clean tractor doesn't necessarily mean that your produce is safe from contamination. With a good SOPs that address things like standing water, cleaning and sanitizing food contact surfaces, and keeping totes and tools off of the floor and protected from pests, you can have peace of mind that you've thought through common routes of contamination and established processes to avoid that – even if you can't see the contamination you're trying to avoid.

Resources

The Cornell GAPs program has good examples of SOPs relevant to the major food safety risk areas: https://gaps.cornell.edu/educational-materials/decision-trees/log-sheets-sops

The University of Idaho has SOPs for all of the field procedures at their research farm to prevent the spread of a particularly noxious weed: http://ucanr.edu/sites/placernevadasmallfarms/files/140712.pdf

North Carolina Extension Produce Safety: Standard Operating Procedures

Penn State Extension - Standard Operating Procedures: A Writing Guide

University of California Extension - Standard Operating Procedures

Authors:
Lisa McKeag and Genevieve Higgins

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