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Extension

# Vegetable Notes

For Vegetable Farmers in Massachusetts since 1975



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*Winter greens have taken off in the last few weeks, responding to the longer day length and warmer temperatures. However your farm will be marketing produce in the coming weeks and months, take measures to limit handling of produce by staff and customers, including pre-bagging goods.*

*Photo: UMass Extension*

## CROP CONDITIONS

The outbreak of COVID-19 has wreaked tremendous havoc on all of our lives and on the food system especially, and our hearts go out to all of you who are trying to run your businesses during this uncertain time, while balancing your own health and safety as well as that of your families, neighbors, and employees. We have been communicating with colleagues and farmers from around the region and the country to gather information about how this situation is affecting farmers and others who work within the food system, and collecting resources and responses. For some, the issue is product with no market, while for others it's the opposite. Many are just ramping up their season with incredible uncertainty as to whether supplies, labor, and markets will be available when they need them. The many farms in and around Massachusetts producing fresh, healthy food are a critical asset to our communities as longer food supply chains are necessarily shortened. As of March 20, 2020, the [CDC states](#) that there is no evidence to support transmission of COVID-19 associated with food, and the risk of spread from food products or packaging is also very low. We will provide updates if new science emerges on this topic and applaud the efforts that MDAR and farmers are making to ensure that MA-grown produce as safe and healthy as possible.

Farm businesses are responding creatively to social distancing recommendations by using things like preordering, online platforms, pre-bagged sales, and drive-through pickups. The Massachusetts Departments of Agricultural Resources and Public Health (MDAR and MDPH) are working to put together a jointly issued guidance document for farmers' markets to help ensure that best practices are followed at these venues.

Good practices for cleaning and sanitation are always important and

this outbreak only makes that more clear. The science on the novel coronavirus is still emerging and recommendations may change as we learn more, but strategies proven to prevent the spread of other pathogens like *E. coli* and *Salmonella*—things like proper handwashing and not working around produce when sick—remain the first line of defense for now. It is also critically important now to continue following good agricultural practices to manage these known food-borne pathogens, because all food safety risks tend to increase during periods of stress, staffing changes, and changing on-farm protocols.

The University of Vermont (UVM) Extension put together the guidance below for fruit and vegetable growers related to COVID-19. We sent this guidance to Veg Notes readers on March 13, 2020 and it has since been updated to include some additional links and information.

We have also included in this issue links to farm-related COVID-19 resources we have found most useful. There are many,

## **CONTACT US:**

Contact the UMass Extension Vegetable Program with your farm-related questions, any time of the year. We always do our best to respond to all inquiries.

**Office phone:** (413) 577-3976 \*We are currently working remotely but checking these messages daily, so please leave us a message!

**Email:** [umassveg@umass.edu](mailto:umassveg@umass.edu)

**Home Gardeners:** Please contact the UMass GreenInfo Help Line with home gardening and homesteading questions, at [greeninfo@umext.umass.edu](mailto:greeninfo@umext.umass.edu).

## **UMASS EXTENSION SERVICES UPDATE:**

As you are probably aware, operations at the University of Massachusetts Amherst have been significantly reduced in response to the COVID-19 pandemic. Currently, MA and University policy have the effect of temporarily suspending most of the on-campus services that we provide until further notice, including:

- Soil & Plant Nutrient Testing
- Plant Disease Diagnostics
- Hot Water Seed Treatment\*
- Nematode Analysis
- Weed, Insect, Turfgrass, and Invasive Plant Identification
- Public access to all farm properties

*Until further notice, please do not send or deliver samples to campus, as we cannot process them.*

\*If you recently sent in seeds for hot water treatment, please contact the Vegetable Program (see Contact Us, above).

In addition, all in-person UMass Extension events scheduled at least through April 6 have been canceled or postponed.

many other resources out there, with more being developed every day, and in the interest of not overwhelming you, we are including a select few.

**If you have questions or concerns about food safety, you can contact:**

**Lisa McKeag**, UMass Extension Vegetable Program, [lmckeag@umass.edu](mailto:lmckeag@umass.edu), (413) 545-1051

**Amanda Kinchla**, UMass Food Science Extension, [amanda.kinchla@foodsci.umass.edu](mailto:amanda.kinchla@foodsci.umass.edu), (413) 545-1017

**Michael Botelho**, MDAR's Produce Safety Inspection Program, [michael.botelho@state.ma.us](mailto:michael.botelho@state.ma.us), (508) 985-8751

## **CONSIDERATIONS FOR FRUIT & VEGETABLE GROWERS RELATED TO CORONAVIRUS & COVID-19**

*Updated March 18, 2020*

*--Written by Chris Callahan, UVM Extension, [chris.callahan@uvm.edu](mailto:chris.callahan@uvm.edu)*

Available at <http://go.uvm.edu/covid19produce> and as a podcast at <http://go.uvm.edu/agengpodcast>

The current COVID-19 pandemic is a common concern and many are wondering what they can and should do. The information here is intended to help guide the fruit and vegetable farming community.



*Photo: UVM Extension*

### **Background**

COVID-19 is the disease caused by the SARS-CoV-2 virus (“the novel coronavirus”). Symptoms include fever, cough, and shortness of breath, and may appear 2-14 days after exposure. While the majority of COVID-19 illnesses are mild, it can result in severe and fatal illness, particularly in the elderly and among those with severe underlying health conditions. Federal and State agencies are working hard to better understand the virus, how to control its spread, and how to treat those

infected. One of the key things we can all do is to limit and slow the spread of COVID-19 to provide time for this understanding to develop and to not overwhelm the medical system. Much more information is available at the [CDC Situational Summary page](#).

## What Should Growers Do?

- 1. Stay Away from Produce if Sick** – If someone is sick, they should be nowhere near fruit and vegetables that others are going to eat. This is likely already part of your farm’s food safety plan and policies, but this is a good reminder to emphasize and enforce the policy. Make sure employees stay home if they feel sick and send them home if they develop symptoms at work. Consider posting signs asking customers not to shop at your farm stand if they have symptoms.
- 2. Practice Social Distancing** – By putting a bit more space between you and others you can reduce your chances of getting ill. This might mean limiting or prohibiting farm visitors or reducing the number of off-farm meetings you attend in person. Avoid shaking hands and other physical contact. This also reduces the risk of your produce coming into contact with someone who is ill before it heads to market.
- 3. Minimize the Number of Touches** - Consider changes in your policies and operations that minimize the number of times produce is touched by different people. This may include workers, distributors, and customers. More examples are provided below in the Q&A section.
- 4. Wash Your Hands** – Reinforce the importance of washing hands well when arriving at work, when changing tasks (e.g. moving from office work to wash/pack), before and after eating, after using the bathroom, before putting on gloves when working with produce, and after contact with animals. Soap + water + 20 seconds or more are needed to scrub all surfaces of your hands and fingers thoroughly. Then, dispose of paper towels in a covered, lined trash container.

**What about using gloves?** Gloves can provide a barrier between hands and produce, preventing transmission of pathogens from hands to produce and from produce to hands. The MA Department of Agricultural Resources encourages the use of gloves for farm managers and staff who are handling produce and reminds growers that gloves alone do not serve as a barrier. Follow [CDC glove removal guidelines](#). Gloves can be a source of contamination if not used properly. Please remember to [follow hand washing guidelines recommended by the CDC](#) before the use of gloves and between glove change-outs.

- 5. Cleaning, Sanitizing, and Drying** – [According to the FDA](#), there is no indication that this virus has spread via food. But, we know viruses ([including SARS-CoV-2](#)) survive and spread via hard surfaces. Farms handle produce using tools and equipment with surfaces. We also know that produce has surfaces. Viruses, in general, can be relatively long-lasting in the environment, and have the potential to be transferred via food or food contact surfaces. So, there’s no better time than the present to review, improve, and reinforce your standard operating procedures for cleaning, sanitizing, disinfecting, and drying any food contact surfaces, food handling equipment, bins, and tools. Remember, cleaning means using soap and water, sanitizing is using a product labeled for sanitizing, disinfecting typically involves higher concentrations of a product labeled for disinfection, and drying means allowing the surfaces to dry completely before use.

**What is the difference between cleaning, sanitizing, and disinfection?** The CDC provides more detail on their cleaning website, but the take-homes are:

- “**Cleaning** removes germs, dirt, and impurities from surfaces and objects...using soap (or detergent) and water to physically remove [them].”
- “**Disinfecting** kills germs on surfaces or objects. Disinfecting works by using chemicals to kill germs on surfaces or objects. This process does not necessarily clean dirty surfaces or remove germs, but by killing germs on a surface after cleaning, it can further lower the risk of spreading infection.”
- “**Sanitizing** lowers the number of germs on surfaces or objects to a safe level, as judged by public health standards or requirements.”

Rates for sanitizing versus disinfecting may differ on product labels—read labels carefully and remember that labels are the law.

**What should I use for disinfection and sanitizing?** The EPA has provided [a list of disinfectants for use against SARS-CoV-2](#), the virus causing COVID-19. Very few of these products are common on the farm and may be hard to find. If you are currently using a sanitizer as part of a standard cleaning and sanitizing procedure for hard surfaces on your farm, continue doing so. Consider reviewing the label for that product and using it for disinfection of specific high-touch surfaces if applicable. You can also follow the CDC guidance and use [a mixture of bleach](#)

[and water](#) (5 tbsp/gallon or 4 tsp/quart).

**Should I be disinfecting my produce?** As noted above, there is no indication that COVID-19 has spread via produce. The virus is thought to be spread mainly from person to person [according to the CDC](#). For most farms the level of operational change and amount of disinfectant needed to disinfect produce is unrealistic.

- 6. Plan for Change** – Many produce farms are lean operations run by one or two managers and a minimal crew. Do you have a plan for if you become severely ill? How do things change if half your workforce is out sick? More business and labor planning guidance is available at the [Cornell Agricultural Workforce Development site](#).

### What Should Markets and Farmers Markets Do?

- 1. Everything Above** – Growers, retail food market owners, and farmers market managers should do all the things above. Does your market have a hand washing station? More guidance for food and lodging businesses is available from the [Vermont Department of Health](#). [See also [Massachusetts Department of Public Health coronavirus information](#)]
- 2. Communicate with Your Customers** – Consider reaching out to your customers and recommend they stay home if they are ill. Have you informed your customers about any changes in your hours or policies?
- 3. Consider Alternative Delivery** – Some markets are taking this opportunity to launch pre-ordering and electronic payment options to enable social distancing at market. Some markets are moving to a drive-through pickup option. More examples are provided below in the Q&A section.
- 4. Reinforce the Health Benefits of Fruits and Vegetables** – We're fortunate to have so many growers who do a great job with storage crops and winter production. This means our community has access to fresh fruits and vegetables that are important to their immune systems at this time of need. Be sure to promote the nutritional value of your products! But, keep in mind that promotion of your products should be within reason. Avoid making overly broad or unsupported health claims. Fresh produce contains many minerals and nutrients important for immune health which may reduce the severity and duration of an illness. **Fun Fact:** Pound for pound, that storage cabbage in your cooler has as nearly as much vitamin C as oranges.



*Gloves can provide protection to employees but can also become a source of contamination if used improperly. See [these guidelines from Penn State Extension](#) for more information. Photo: UVM Extension*

## **ADDITIONAL COVID-19 RESOURCES**

- MDAR Bulletin: [Addressing COVID-19 Impacts & Guidance](#)
- [MA Department of Public Health COVID-19 Information](#)
- [MA Business Loans and Relief Measures](#): Information on the Economic Injury Disaster Loan (EIDL) Program and administrative tax relief measures.
- [How to Build a Field Handwashing Station in 10 Easy Steps for Under \\$20](#)
- [Disinfectants for Use Against SARS-CoV-2 \(the cause of COVID-19\)](#)
- [Online Marketing Platforms Webinar, from Oregon Tilth](#) - Friday, March 20, 2020, 2pm
- [Spanish-Language Resources from North Carolina State University](#)
- [H-2A Visas, Embassy Closures, and Travel Restrictions](#)

## **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. Developing SOPs for your farm is especially important in light of the COVID-19 pandemic. A clear, concise SOP can inform

staff of existing or new protocols, especially if your farm is changing schedules to minimize the number of employees on the farm at any given time.

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.

SOPs 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.

### **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?

[Click here for an SOP template](#), created by University of Maine Extension.

## 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

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 FSMA 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](#)

--Written by Lisa McKeag and Genevieve Higgins

## **EVENTS**

### **PRODUCE SAFETY ALLIANCE GROWER TRAINING SERIES - CANCELLED**

In keeping with directives from the University of Massachusetts and the Massachusetts Department of Agricultural Resources, this PSA Grower Training Series has been canceled.

We plan to reschedule all of the trainings in the near future, as the situation allows. Those currently registered for a training will be notified by email when a new course schedule is released. Courses will also be advertised in UMass' Vegetable Notes newsletter and through the UMass website.

Inspections for the 2020 production cycle will take into account the cancellations and impact of COVID-19 on training cycles (PSA) in support of FSMA Produce Safety rule requirements. Growers who had intended to fulfill the regulatory requirement this cycle will not be penalized based on cancellation of the course. Inspection Summary Reports and MA4056 Inspection Forms provided upon the completion of an inspection will note delayed training cycles and will not be captured in Corrective Actions.

**Questions?** Contact for all programs: Lisa McKeag, [lmckeag@umass.edu](mailto:lmckeag@umass.edu), 413- 545-1051

### **OREGON TILTH ONLINE SALES PLATFORMS WEBINAR**

**When:** Friday, March 20, 2020, 2-3pm EST

**How:** [Click here to register for this webinar.](#)

With restaurants and some farmers markets shutting down, we know many of you need to find alternative sales channels for your products. Customers are also looking for new solutions to buy quality, organic food safely. We'll hear from representatives from four online sales platforms:

- Barn2Door
- Harvie
- Local Food Marketplace
- Food4All
- Open Food Network

When you register, we'll send you a round-up of online sales platforms, questions to consider, and other resources to help your farm adapt during this crisis.

The webinar will be recorded and available on the Oregon Tilth website.

## THANK YOU TO OUR SPONSORS:



*Vegetable Notes. Genevieve Higgins, Lisa McKeag, Susan Scheufele, co-editors.*

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