

Novel Coronavirus (COVID-19): Considerations for Small Produce Farms

Notes from Webinar conducted on April 3, 2020

What do we know about COVID-19?

- Coronavirus disease 2019 (COVID-19) is a new disease that causes respiratory illness in people and can spread from **person to person**.
- CDC, FDA and USDA have no reports at this time of human illness suggesting coronavirus can be transmitted by food or food packaging. **COVID-19 is not a food borne illness.**
- There is little known about the virus; however one study has looked at the stability and transfer of the virus COVID-19 can survive up to four hours on copper, up to 24 hours on cardboard, and up to two to three days on plastic and stainless steel.
- COVID-19 has been shown to remain viable in aerosols up to 3 hours.

What does this mean to you as a small farm operator?

- Prevent the spread of COVID-19 by avoiding close contact with people who are sick; covering cough and sneeze; avoiding touching eyes, nose and mouth; and washing your hands with soap and water.
- Remember that the transmission route is from **person to person**. CDC is recommending individuals employ social distancing or maintaining approximately 6 feet from others, when possible. This is not always possible at farms and farm stands. Be creative and think about setting up work stations that allow for the distancing needed when possible.
- Promoting the ability of our workers within agriculture industry to continue to work during periods of community restrictions, social distances, and closure orders, among others, is crucial to community continuity and community resilience.
- It is important now more than ever to implement practices in your growing, packing and retail areas in response to the threat of COVID-19 to protect you and your workers.

Practices to consider

1. Provide training to anyone who works at the farm (employees, volunteers, family members, etc.) regarding the symptoms of COVID-19.
2. Monitor closely the health of anyone working at the farm.
3. Provide fully functional hand washing facilities.
4. Limit access to customers to areas where produce is staged for sale.
5. Clean and sanitize food contact surfaces, non-food contact surfaces and high traffic areas regularly.

Implementing recommended practices

1. Training resources for employees

- a. "Share the Facts about COVID-19" offered by the CDC in English and Spanish. Link to print resources: <https://www.cdc.gov/coronavirus/2019-ncov/communication/factsheets.html>
- b. Produce Marketing Association- PMA's Preventing the Spread of COVID-19 Among Field Workers (English and Spanish)
https://ncfreshproducesafety.ces.ncsu.edu/wp-content/uploads/2020/03/Fieldworker_COVID_flyer.pdf?pwd=no

https://ncfreshproducesafety.ces.ncsu.edu/wp-content/uploads/2020/03/Spansih-Fieldworker_COVID_flyerENSP-FINAL.pdf?pwd=no

2. Monitor closely health of employees. In the event an employee gets sick:

- a. CDC: [Interim Guidance for Businesses and Employers to Plan and Respond to Coronavirus Disease 2019 \(COVID-19\)](#)
- b. OSHA: <https://www.osha.gov/SLTC/covid-19/standards.html>
- c. United Fresh/Industry: [Protocols When Employee or Customers Test Positive for COVID- 19.](#)

3. Provide fully functional hand washing facilities AND pay attention to handwashing.

- a. A fully functional hand washing station should have potable water (it does not need to have hot water), soap, single use paper towels and a trash can with a liner.
- b. Times when everyone at the farm needs to wash their hands
 - i. Before starting work
 - ii. Before putting on gloves
 - iii. After using the toilet
 - iv. Upon return to the work station after breaks or other absence
 - v. As soon as practical after touching animals or animal waste
 - vi. At any other time workers hands may have become contaminated
 - vii. After blowing one's nose, coughing, or sneezing
 - viii. Before and after providing care for another person who needs assistance.
- c. Handwashing – Is critical for COVID-19, make sure your employees follow the steps carefully. **Remember the bubbles in the soap is what controls the virus.**
- d. Steps: Wet hands, add soap to hands, rub hands (front, back, between fingers and under nails), rinse hands, dry hands with a single use paper towel, and throw away paper towel. Optional: apply hand sanitizer on dry hands for an extra level of disinfection for COVID-19.
- e. Comments regarding hand sanitizer with at least 60% alcohol: it is usually not recommended in produce operations because it does not help control other

pathogens we commonly fight (like Salmonella and noroviruses), but if hands are clean the use of hand sanitizer is effective against this virus.

- f. Handwashing Units: An Overview of Units for Small to Large-Scale Agricultural Operations <https://ncfreshproducesafety.ces.ncsu.edu/wp-content/uploads/2014/03/Hand-washing-unit-handout.pdf?pwd=no>

4. Limit access to customers to areas where produce is staged for sale.

- a. Consider taking orders over the phone, online, getting orders ready ahead of time and taking them to the car.
- b. Post signage for visitors with your expectations.
- c. Clean high traffic or high touch areas more frequently.
- d. Consider the use of gloves (with proper disposal) or hand sanitizer when handling money, credit cards or having contact with customers.
- e. Don't forget to purposely practice social distancing.

5. Clean and sanitize food contact surfaces, non-food contact surfaces and disinfect high traffic areas regularly.

- a. First, identify surfaces in your farm that come in contact with fruits and vegetables from the time of harvest on (food contact surfaces), non-food contact surfaces and high touch surfaces.
- b. Understand the differences between cleaning, sanitation and disinfection.



Clean, Sanitize, Disinfect: What are the differences?

Clean	Sanitize	Disinfect
Physical removal of soil and food residue from surfaces which can include the use of clean water and detergent.	Treatment of a cleaned surface to reduce the number of microorganisms of public health significance to a safe level within 1 minute.	Treatment of a cleaned surface to destroy or inactivate all infectious organisms on hard surfaces within 10 minutes.
All surfaces	Food contact surfaces (99.999% reduction) Non-food contact surfaces (99.9% reduction)	Non-food contact surfaces, high touch surfaces, incident with infected person

- c. Clean all surfaces before sanitizing or disinfecting, if not the process will not work.

- d. **Follow 4 basic steps to clean and sanitize. This process will apply to food contact surfaces and some non-contact food surfaces.**
- i. Clean. Cleaning means removing any obvious dirt and debris from a surface. This can be done using a brush to sweep, air to blow off, or water to rinse off debris.
 - ii. Use a detergent and physically scrub the surface to remove debris.
 - iii. Rinse the surface with clean water, remove all the detergent.
 - iv. Apply and use sanitizers according to label instructions. There may be a 5th step if the sanitizer requires a final rinse, so be sure to read and follow the label.
- e. Examples of detergents used for cleaning include: Greenclean, CS 223 and Simple Green.
- f. Examples of sanitizers: Germicidal bleach, Sanidate (OMRI approved) and Quaternary ammonium. A full list of sanitizers from the Produce Safety Alliance: <https://producesafetyalliance.cornell.edu/resources/general-resource-listing/>

g. **Comparison between sanitizers and disinfectants**

Sanitizers	Disinfectants
EPA-registered	EPA-registered
Food contact surfaces (and non food contact surfaces)	Non-food contact surfaces
Reduce bacterial load 99.999% on food contact surfaces; 99.9% on non-food contact surfaces	Destroy/inactivate 100% of certain infectious microorganisms (such as bacteria and viruses) and fungi; exception includes bacterial spores
Lower concentration and shorter contact time (within 1 minute)	Higher concentration and longer contact time (within 10 minutes)
Cannot have artificial scents or perfumes for use on food contact surfaces	May include artificial scents and perfumes
Tested against bacterial pathogens only (<i>E.coli</i> , <i>Salmonella</i> Typhimurium, <i>Staphylococcus aureus</i>)	May be effective against bacteria, viruses, and fungi; must be tested against every organism the label claims to kill
Used throughout the food industry	Typically used in hospitals, nursing homes, hotels

h. **Disinfectants**

- i. **Disinfect high touch surfaces:** doorknobs, touch screens, control panels, time clocks, tabletops, breakroom/cafeteria facilities, handrails, handwashing stations, and restroom facilities.
- ii. Surfaces must be cleaned before disinfecting, read the label!
- iii. Not intended for food contact surfaces
- iv. Harsh chemical may not be compatible with processing/packing equipment

- v. In the rare event of disinfecting a food contact surface, the user must rinse with water and then apply sanitizer
- vi. Disinfectants in the EPA recommended list N:
<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>

i. Disinfecting high-touch areas

- i. CDC recommendation: Bleach may be used to disinfect surfaces after they have been cleaned. Household bleach will be effective against coronaviruses when properly diluted.
- ii. **Prepare a bleach solution by mixing: 5 tablespoons (1/3rd cup) bleach per gallon of water or 4 teaspoons bleach per quart of water**
- iii. Can use disinfecting wipes: Pay close attention to the directions for using disinfecting wipes. It may be necessary to use more than one wipe to keep the surface wet for the stated length of contact time.
- iv. Use proper Personal Protective Equipment: Gloves, apron, eye protection
- v. Pay close attention to hazard warnings and directions on product labels, using gloves or eye protection.
- vi. Do not mix cleaners and disinfectants unless the labels indicate it is safe to do so.
- vii. Combining certain products (such as chlorine bleach and ammonia cleaners) can result in serious injury or death.

j. How often should surfaces at the farm be cleaned, sanitized or disinfected?

NC STATE UNIVERSITY		
Suggested Frequencies of Cleaning, Sanitizing, and Disinfecting		
Clean	Sanitize	Disinfect
All surfaces	Food contact surfaces and non-food contact surfaces	Non-food contact surfaces - high touch surfaces; incident with infected person
Frequency		
Every day and before sanitizing or disinfecting surfaces	Food contact surfaces: once per day Non-food contact surfaces: daily, weekly, monthly, etc.	At least twice per day for high touch surfaces

- k. When, who and how will cleaning, sanitizing or disinfecting be conducted?**
- i. Create a sanitation schedule for your farm if you don't have one. See sample schedule and blank log to start a sanitation schedule. The sanitation schedule will help delegate responsibilities to specific employees and also will facilitate training for the person responsible for cleaning, sanitizing or disinfecting a surface adequately.

Sample Sanitation Schedule

Equipment/Area	Cleaning Frequency	Person Responsible
iPad in payment area	Every 2 hrs	Bobby Smith
Table in packaging area	Daily	Mary Smith
Conveyor belt (drying to packaging)	Daily	Mary Smith
Rollers	Daily	John Alberts
Wash tank	Daily	John Alberts
Packaging area walls	Weekly	Suzie Campbell
Pallet jack	Monthly	Suzie Campbell

- i. Handling trash in packing and retail areas**
 - i. Place no-touch waste baskets where they are easy to use.
 - ii. Throw disposable items used to clean surfaces and items in the trash immediately after use. Avoid touching used tissues and other waste when emptying waste baskets.
 - iii. Wash your hands with soap and water after emptying waste baskets and touching used tissues and similar waste.

 - m. Considerations regarding Packaging materials (extremely important)**
 - i. Only use **new or clean packaging materials** (bags, containers, boxes) to sell produce.
 - ii. Do not accept cardboard boxes or any other packaging from customers.

 - n. What do you do if an employee gets sick with COVID-19?**
 - i. Follow cleaning and disinfecting procedures according to CDC guidance at <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/cleaning-disinfection.html>
 - ii. Disinfect high-touch surfaces such as bins, counters, tools, etc. using a disinfectant listed in the EPA recommended **List N** <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>
 - iii. Contact your local health department
 - iv. United Fresh Produce Association has published guidelines on behalf of the food industry that align with CDC and FDA recommendations (See page 2)

 - o. A guide to cleaning, sanitizing and disinfecting for Produce Farms. University of Vermont.** <http://blog.uvm.edu/cwcallah/2020/03/30/clean-sanitize-disinfect/>
-

NC Fresh Produce Safety

ncfreshproducesafety.ces.ncsu.edu

For more information or if you need assistance implementing these practices please contact:

Elena Rogers – Area Specialized Agent- Food Safety/Fresh Produce- Western NC

Elena_rogers@ncsu.edu, (828)352-2519

Dr. Chip Simmons – Area Specialized Agent- Food Safety/Fresh Produce- Eastern NC

odsimmon@ncsu.edu, (919)414-5632

Dr. Lynette Johnston-Area Specialized Agent

lynette_johnston@ncsu.edu

Dr. Chris Gunter- Vegetable Specialist

cgunter@ncsu.edu