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Prevention of *Cyclospora* Contamination and Transmission on the Farm[1]

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This EDIS fact sheet is intended for fresh produce growers to provide education on preventing transmission and contamination of *Cyclospora* on the farm.

Recent outbreaks of *Cyclospora cayetanensis* (*Cyclospora*) linked to fresh produce have prompted a closer look into prevention strategies on the farm. *Cyclospora cayetanensis* is the only species of *Cyclospora* that causes disease in humans, known as cyclosporiasis. Unlike bacteria, parasites such as *Cyclospora* require a human host to survive and multiply. *Cyclospora* is spread when human feces containing *Cyclospora* oocysts (egg-like life stage) are released into the environment in or around agriculture growing regions. Due to the oocysts' thick-walled "outer shell," *Cyclospora* survives in the environment for weeks before sporulating (i.e., maturing), at which time they become infectious. People become infected with *Cyclospora* when food contaminated with the oocystsis consumed.

At this time, we do not have specific control strategies for *Cyclospora* except strict adherence to good agricultural practices along with the emphases outlined here. Unlike bacteria and viruses, sanitizers used in fresh produce settings are not effective against *Cyclospora,* due to the oocysts' protective coating. Because humans are the only source of contamination, prevention efforts should focus on health, hygiene, and sanitation on the farm. The following preventive measures can help reduce the risk of contamination of fresh produce on the farm:

- Worker training:
  - Ensure worker training materials are appropriate for workers' native language, cultural practices, education level, and background.
  - Train workers on health and hygiene principles, including proper handwashing, identification of foodborne illness symptoms, and the importance of not working when sick.
  - Train workers on how to properly use toilet facilities provided by the farm, including the sanitary disposal of toilet paper inside the toilet, and emphasizing handwashing after use.
- Health, Hygiene, and Sanitation:
  - Ensure there is supervisor monitoring of health/hygiene/sanitation practices.
  - Ensure workers' tools are properly cleaned and sanitized before and after use.
  - Consider the potential for contamination during preharvest, harvest, and postharvest by workers/water sources.

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- Provide sufficient, accessible and properly functioning toilets for workers.
- Use reputable third-party companies for cleaning and sanitation of portable toilets. Dispose human waste into an adequate sewage system or through other adequate means.
- Clean and maintain portable toilets away from the growing environment where contamination of produce can occur, including all sources of water.
- Develop corrective actions and a plan to monitor management of leakages or spills of human waste.
- Develop a plan to prevent contamination after significant weather events or natural disasters, including flooding or wind damage caused by hurricanes.
- Locate and map sewage and septic systems, including drain fields, to assist in monitoring and prevention of contamination.
- Locate and map water sources, including nearby and adjacent lands, to prevent contamination by adjacent or upstream land/water uses.
- Avoid the use of surface water sources, after plant establishment, for activities that contact the harvestable portion of the crop.

For more information about *Cyclospora*, refer to:

AFDO: "Investigating Fresh Produce Cyclospora Outbreaks" (https://www.afdo.org/wp-content/uploads/2021/05/Investigating-Fresh-Produce-Cyclospora-Outbreaks.pdf)

FDA Fact Sheet: "Cyclospora in Fresh Produce" (https://www.fda.gov/media/123995/download)

UF/IFAS EDIS: "Preventing Foodborne Illness: Cyclosporiasis" (https://edis.ifas.ufl.edu/publication/FS130)