VEGETABLE CROPS HOTLINE

A newsletter for commercial vegetable growers prepared by the Purdue University Cooperative Extension Service

Issue: 671
April 9, 2020

In This Issue

Staying in Touch with Purdue Extension Fruit and Vegetable Team During Indiana Stay-at-Home Order

Purdue's fruit and vegetable Extension team members are following Governor Holcomb's Stay-at-Home Order and Purdue University policies to slow the spread of COVID-19. Extension is considered part of the critical industry of agriculture in Indiana and so specialists and educators continue to work. Most of us are working from home.

There are lots of ways to stay in touch. In addition to those listed below, Purdue Extension educators in counties across Indiana are at work and ready to help you get information you need. Find an office near you at this site: extension.purdue.edu/about#counties

Newsletters

- Vegetable Crops Hotline vegcropshotline.org
  Sign up for email notification of new issues,and/or subscribe to a print version sent by U.S. mail
- Facts for Fancy Fruit fff.hort.purdue.edu
  Sign up for email notifications of new issues, and/or subscribe to a print version sent by U.S. mail

Facebook

- Purdue Horticulture Extension
- Southwest Purdue Ag Center
- Purdue Diversified Farming and Food Systems
- Safe Produce Indiana
- Purdue Horticulture Business
- Purdue Fruit & Veg IPM
- *Your County Extension Office – look for Purdue Extension [XXXCounty]*

Twitter

- @PurdueHortExt
- @SWPurdueAg
- @PurdueDFFS
- @SafeProduceIN
- @HortBizPurdue
- @nwch

Email Listservs

In addition to the email lists for Vegetable Crops Hotline and Facts for Fancy Fruit, Purdue Horticulture has two other listservs. They were set up to allow easy communication within the fruit and vegetable farming community in Indiana. Anyone who joins these listservs is permitted to send messages. Extension staff also use these lists to share information.

- Fruit and Vegetable mail list, currently about 143 members purdue.edu/hla/fruitveg/Pages/fvmaillist.aspx
- Winegrape mail list, , currently has about 250 members purdue.edu/hla/fruitveg/Pages/wgmaillist.aspx

Text Messages: Veggie Texts

To sign up for the veggie text program, please contact Dan Egel (below) or Barb Joyner (812-886-0198) with:

1. Your mobile phone number.
2. The name of your phone carrier. Common names of phone carriers include: AT&T; Verizon; T-Mobile, Sprint PCS; Virgin Mobile; US Cellular; Nextel; Boost; Alltel.

Alternatively, if you would rather receive the veggie text information via email, just contact us with your email address and we will add you to the list.

Individual Contacts (alphabetical by last name)

Name: Janna Beckerman
Email: janna@purdue.edu
Phone1: (765) 492-4628 (please leave a message)
Physical location: West Lafayette, IN
Expertise: Disease management in fruit; greenhouse, nursery, landscape ornamentals

Name: Bruce Bordelon
Email: bordelon@purdue.edu
Phone1: (765) 494-8212 (will transfer to my cell phone)
Phone2: (765) 427-0209 (texts and calls)
URL: ag.purdue.edu/winegrapeteam
Twitter: @PurdueVineGuy
Physical location: West Lafayette, IN
Expertise: Viticulture and small fruit (berry crops)

Name: Amanda Deering
Email: adeering@purdue.edu
Phone1: (765) 494-0512 (office, forwards to my cell phone)
Phone2: (765) 586-7544 (texts and calls)
URL: www.safeproducein.com
Physical location: West Lafayette, IN
Expertise: Fresh produce food safety

Name: Dan Egel
Email: egel@purdue.edu
Phone1: (812) 886-0198 (office)
Phone2: (812) 890-2704 (mobile)
Physical location: Vincennes, IN
Expertise: Vegetable Diseases

Name: Betty Feng
Email: yhfeng@purdue.edu
Phone1: (765) 494-0331 (office, please leave a message)
Phone2: (530) 574-2267 (cell, text)
Physical location: West Lafayette, IN
Expertise: Consumer Food Safety, Home-Based Vendor

Name: Wenjing Guan
Email: guan40@purdue.edu
Phone1: (812) 886-0198 (office, please leave a message)
Phone2: (352) 870-4696 (cell, text)
Twitter:@VeggieGuan
Physical location: Vincennes, IN
Expertise: Vegetable and strawberry production, general

Name: Peter Hirst
Email: hirst@purdue.edu
Phone1: (765) 494-1323 (office, please leave a message)
Physical location: West Lafayette, IN
Expertise: Tree fruit

Name: Petrus Langenhoven
Email: plangenh@purdue.edu
Phone1: (765) 496-7955 (office, please leave a message)
Phone2: (765) 409-8620 (cell, text)
Physical location: West Lafayette, IN
Expertise: Vegetable crop production in a controlled environment and the open field

Name: Laura Ingwell
Email: lingwell@purdue.edu
Phone1: (765) 494-6167 (Office, please leave a message)
Twitter: @Ingwell_vegIPM
Facebook: @PurdueFruitVegIPM
Physical location: West Lafayette, IN
Expertise: Vegetable insect pest management, controlled environment pest management, biological control

Name: Elizabeth Long
Email: eylong@purdue.edu
Phone1: (765) 496-1918 (office, please leave a message)
Twitter: @DrEliLong
Facebook: @PurdueFruitVegIPM, @OhioGrapeIPM
Physical location: West Lafayette, IN
Expertise: Insect management in field vegetable production, grapes, and tree fruit

Name: Liz Maynard
Email: emaynard@purdue.edu
Phone1: (219) 508-1644 (cell, text)
Phone2: (219) 508-1429 (cell, no texts)
Phone3: (219) 548-3674 (office, please leave a message)
Physical location: Valparaiso, IN
Expertise: Vegetable production, general

Stephen Meyers
Email: slmeyers@purdue.edu
Phone1: (765) 496-6540
Twitter: @stephenlmeyers
Physical location: West Lafayette, IN
Expertise: Weed management in vegetable and fruit crops, and landscape nurseries

Name: Scott Monroe
Email: jsmonroe@purdue.edu
Phone1: (812) 888-7401 (office)
Phone2: (765) 427-9910 (cell)
Physical location: Vincennes, IN
Expertise: Produce Food Safety

Name: Michael O'Donnell
Email: modonnel@purdue.edu
Phone1: (765) 284-8414 (cell)
Physical location: Muncie, IN
Expertise: Organic crop production, diversified vegetable production, food safety

Name: Ariana Torres
Email: torres2@purdue.edu
Phone1: (765) 494-8781
Phone2: (765) 430-7585 (cell)
Physical location: West Lafayette, IN
Expertise: Marketing and Economics

We are adjusting to work in the new environment, doing what we normally do: responding to individual questions; writing newsletter articles, Extension bulletins, research papers, and grant proposals; planning and analyzing data from research projects. In addition, we are staying informed about COVID-19 and implications for fruit and vegetable farming in Indiana so that we

can serve you. In-person events have been cancelled, but online educational programs are continuing and new ones are being added. We are still allowed to do on-farm visits if we follow social distancing guidance and if it is absolutely necessary.

At this time of year many of us would be beginning research in the field. Purdue has stopped all field and lab research that is not considered critical, and critical research may be conducted only if it is possible to abide by social distancing regulations. Among the fruit and vegetable team, some research may be continuing and some may not; a Purdue freeze on recruiting and hiring may prevent much research that relies on seasonal help.

All of us are committed to doing our part to stop COVID-19 while continuing to support fruit and vegetable farmers doing the important work of growing food and getting it to consumers.

Vegetable Samples for the SW Purdue Ag Center

(Dan Egel, egel@purdue.edu, (812) 886-0198)

In a normal year, vegetable growers may drop samples by the SW Purdue Ag Center in Vincennes Indiana for problem identification. However, this is far from a normal year. Due to concerns about the coronavirus, SWPAC is closed to walk-in visitors. We do not know how long this situation may last.

We have devised an alternative method of dropping off samples that will avoid face-to-face contact. Follow these instructions to drop off samples.

1. Contact Dan Egel or Wenjing Guan before stopping by or attempting any drop off (see contact info below)!
2. There will be a sign on the front door with instructions about how and where to drop off a sample. Do not try to enter the front door.
3. When leaving the sample, include as much info as you can about the sample. You will be contacted as soon as possible about the sample by phone or email.
4. Leave only Indiana samples!

If you have a sample to send, you are encouraged to send it instead to the Plant Pest and Diagnostic Laboratory (PPDL). The PPDL can also accept out-of-state samples. We are in close contact with the PPDL about vegetable samples.

Plant and Soils Building (LSPS) Room 116
915 West State Street
West Lafayette, IN 47907
(765) 494-7071

For farm visits and specialists' contact information, please see the article above.

Strawberry Growers Should be Prepared for Cold Protection

(Wenjing Guan, guan40@purdue.edu, (812) 886-0198)

Warm temperatures this week greatly encouraged strawberry growth and development. Some of the early cultivars may have entered the open blossom stage especially if they are grown with the annual plasticulture system in southern Indiana. Open flowers cannot tolerate temperatures lower than 32°F, while popcorn stage flowers (Figure 1) and tight buds may tolerant temperatures low to 26 and 22°F, respectively, according to information from Barclay Poling from NCSU. Lower than threshold temperatures may completely kill flowers or damage flowers that lead to misshaped fruit. Depending on the crop stages, this may result in devastating yield losses and/or delay the start of harvest season.

Figure 1. The two flowers on the left are in 'Popcorn' stage.

According to USDA Midwest Climate Hub briefing, warm temperatures this week will be followed by several days of freezing chances this weekend into early next week, and cold is likely through mid-April at least. The current forecast in southern Indiana predicts low temperatures that are in the mid 30's for a few nights. It is important to note that even when air temperatures are forecasted to be in the upper 30's at the weather shelter height (5 ft), it is still possible to have a killing frost at the strawberry canopy level.

When is it necessary for strawberry growers in southern Indiana to apply cold protection? Evaluating crop stage is extremely important. Growers may randomly pick 20 plants, calculate the average number of *emerged flower buds/plant*, *popcorn stage blossoms/plant*, and *open blossoms/plant*. If there are no open blossoms, growers in southern Indiana may not need to apply cold protection assuming predicted low temperatures stay in the mid 30's. With 2-3 open blossoms per plant, growers may weigh the economic benefit of applying cold protection. Assuming strawberries are 20 grams each, if there are 15,000 plants/acre, loss 2-3 blossoms per plant may result in yield loss of about 1,600 lb/acre. Growers need to judge whether the yield loss is acceptable. If the plants are in the main blooming period, with more than 10 open blossoms per plant, there may be a risk of losing more than 60% yield without cold protection in the coming days. In northern Indiana, although it may still be early for strawberries to enter the open blossom stage, with predicted

temperatures in the 20s, cold protection for emerging flowers is needed.

Hopefully, strawberry growers already have sprinkler irrigation set up or have middle to heavy row covers (1 to 2 oz/sq) handy for cold protection. Overhead sprinkler irrigation is the most effective for frost/freeze protection of developing and open blossom. But it can be risky if wind speed is more than 10 mph. Row covers can also provide 3 to 4 degrees of cold protection but they have to be pulled back in the morning following a night of cold protection as flowers need to be pollinated.

Clean and Sanitize

(Dan Egel, egel@purdue.edu, (812) 886-0198)

As Indiana growers start the 2020 season, it is important to remember to clean and sanitize equipment and tools. In this article, I would like to discuss the importance of and how to sanitize.

Bacteria and fungi that cause plant disease may survive on some types of equipment. Examples include: stakes, transplant trays, shovels, greenhouse benches etc.

Equipment can be contaminated by diseased plants in close contact with the surfaces. For example, a tomato with bacterial canker may rub up against a wooden stake, transferring some of the bacteria to the stake. Such bacteria may cause disease problems next year. A transplant tray of cantaloupe with a damping-off problem may have the same disease next year if the tray is not properly cleaned and sanitized.

It is important to clean the equipment of crop debris or soil prior to the use of one of the sanitizers described below. Equipment free of crop debris and soil is less likely to harbor disease. However, the use of a sanitizer helps to kill any pathogens that remains after cleaning.

This article will discuss 3 types of sanitizers: sodium hypochlorite, hydrogen dioxide, and quaternary ammonium.

Sodium hypochlorite- this is common household bleach. The advantage of bleach is that it is easy to obtain and relatively cheap to purchase. The disadvantage of bleach is that sodium hypochlorite is easily deactivated by sun and organic matter. When the solution becomes dirty with organic matter, it needs to be changed. Normally, bleach solutions should be changed after about 2 hours of use. See detail below regarding use rates.

Hydrogen dioxide- products with this active ingredient include Oxidate® and Zerotol®. Hydrogen dioxide is similar to hydrogen peroxide, which is used as a skin disinfectant (do not use hydrogen peroxide for pest management unless it is labeled for such use). The labels I have for Oxidate®, Oxidate 2.0® and Zerotol 2.0® discuss the use of these products for sanitizing hard, non-porous surfaces. That would seem to exclude use on wooden stakes. However, the labels for Oxidate 2.0® and Zerotol 2.0® also describe the use of foaming applications for porous surfaces by the use of surfactant foaming agents. Both Oxidate 2.0® and Zerotol 2.0® have 2% peroxyacetic acid in addition to hydrogen peroxide. Do not store mixes of any of these products for use the next day. This year, there is a product Oxidate 5.0® as well.

Quaternary ammonium- Products with this active ingredient include Green-Shield® and Physan 20®. These products have identical active ingredients. The label for both products states that surfaces should remain wet after application for at least 10 minutes regardless of application method. Solutions should be prepared daily or re-mixed when solution becomes visibly dirty. This is good advice for all three of the sanitizers discussed here. The Physan 20® label clearly states that it should only be used for non-porous surfaces. The Physan 20® label also states, “Not intended for use in domestic greenhouses where food crops are grown”. I think this means not to use Physan 20® in homeowner greenhouses for food crops.

All three of the sanitizer products described here must be diluted before use. That is, don’t use any of these products straight out of the bottle.

Hydrogen dioxide and quaternary ammonium products have clear use directions for dilution and application. These products also have Worker Protection Standards (WPS) for what to wear during applications. Follow these directions carefully.

It may be more difficult to interpret the bleach label for use in agricultural situations. I recommend the rate listed under “Sanitizing work surfaces”, 2 tsp (1/3 fl oz) per gallon of water. This works out to 200 ppm available chlorine. WPS requirements for the use of bleach in an agricultural situation are not listed on the bottle. However, I recommend using similar requirements as are listed for the hydrogen dioxide and quaternary ammonium products: coveralls worn over long-sleeved shirt and long pants; waterproof gloves (the long chemical resistant kind); chemical-resistant footwear and socks; protective eyewear (goggles or face mask); chemical-resistant apron when mixing. Bleach is usually available in gallon jugs of 8.25% sodium hypochlorite. Note that old bottles of bleach may lose activity. Test kits are available to test sodium hypochlorite activity.

For most uses, I recommend the use of either the hydrogen dioxide and quaternary ammonium products. These products should have activity longer in solution than bleach.

Although it may seem like a lot of trouble now, cleaning and sanitizing equipment will save time and money in the long run.

Damping-off of Vegetables

(Dan Egel, egel@purdue.edu, (812) 886-0198)

If it hasn’t happened already, vegetable growers will soon drop seeds into transplant trays in preparation for the 2020 season. Or, in a few weeks, vegetable growers may drop seed into the ground. In either case, it is possible that one of several fungi that survive in the soil may attack the seed or seedling as it emerges from the ground. This disease is known as damping-off. The symptoms of damping-off range from a poor stand of seedlings when the fungus kills the seedlings before it emerges from the

soil to seedlings that have fallen over due to a lesion of the stem (Figure 1).

Figure 1. Several watermelon seedlings have collapsed from damping-off. Note the necrotic lesion at the base of the stem.

There are several fungi which may cause damping off. These include Pythium, Rhizoctonia, Theleviaopsis, Fusarium spp. and many more. The identity of the culprit may seem unimportant, but if the problem persists, knowledge of the causal fungus may help one to know how to alter the environmental conditions or even find a product for management.

Sanitation is key to managing damping-off, especially with transplants grown in the greenhouse. Soilless mix purchased for transplant use should be opened on a clean, sanitized surface. Avoid using tools contaminated with field soil. Bags of soilless mix that have been opened for a long period are likely to be contaminated with fungi that might cause damping-off.

Transplants grown under cool, wet conditions, seem to have more damping-off problems. In general, cool conditions slow plant development and give the soil fungi a chance to infect. Wet conditions may favor fungal growth and spread. Some soilless mixes do not provide good drainage and therefore may cause more damping off. In addition, seedlings grown in low light conditions tend to be tall and thin, a condition which may lead to the collapse of the seedling due to damping-off.

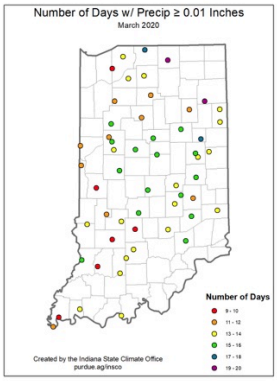
Raised beds may help to warm soil and help direct seeded plants from damping-off. Sometimes, a later planting date, when the soil is warmer, can help to avoid damping-off.

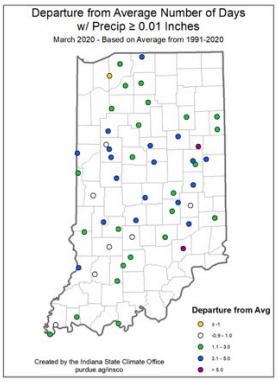
Seed treated with fungicides with the active ingredient captan or thiram by the seed company may help to slow fungi that may rot the seed. However, these fungi are contact fungi, and thus these products will not help the growing seedling. Some seed is treated with systemic fungicides by the seed company that may move with the seedling and protect new growth. However, transplants that are grown in the absence of pathogens in the soilless mix should not have disease problems. It seldom makes sense to treat the soil or soilless mix with fungicides. But feel free to contact me with questions.

Was March any Indicator of the Next Few Months?

(Beth Hall, hall556@purdue.edu)

Staying true to global climate trends these days, March 2020 finished warmer and wetter than the 1981-2010 climate normal period. Snowfall across the state was below normal and localized flooding was a common feature. There were 3-to-5 more days than average in March where rainfall was observed. This has led to saturated soils throughout the state and a desperate need for some drying out.



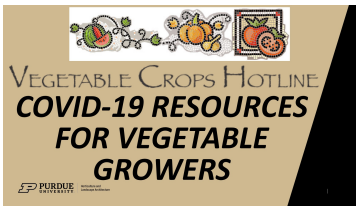


Will that happen? The national Climate Prediction Center is currently sending mixed messages. The April outlook suggests increased confidence in temperatures being warmer than average and slight confidence that precipitation will be above normal. However, shorter-range outlooks are suggesting even greater confidence for cooler temperatures throughout the rest of the month with uncertainty about rainfall amounts relative to normal. A significant cold wave is expected to pass through the state over the next several days into next week. Overnight lows will be at or below freezing, so the recent period of warm days may have set up vegetation to be at significant risk for frost/freeze damage. At this time, it does not look as if April 2020 will be as wet as April 2019. However, delayed planting may be necessary so keep an eye out for those dry periods to get planting and condition monitoring in when you can!

To keep track of recent frost/freeze data and explore climatological probabilities of frost/freeze events still occurring, checking out the Midwestern Regional Climate Center's Vegetation Impact Program's Frost Freeze Guidance products. This suite of tools can show the date of the most recent freeze event (32°F and 28°F), how many days since the last freeze event (can be an indicator of early growth and green-up), how many frost/freeze days have occurred over the past 14 days and a variety of freeze climatologies.

COVID-19 Resources for Vegetable Growers

(Liz Maynard, emaynard@purdue.edu, (219) 548-3674) & (Wenjing Guan, guan40@purdue.edu, (812) 886-0198)



New 4-9-2020: FDA Q&A regarding food safety and the coronavirus disease, updated questions; Indiana State Dept. of Health – Food Safety Guidance (update 4/6)

What is new? (4-9-2020)

FDA Q&A regarding food safety and the coronavirus disease. Updated questions including: *How do I maintain social distancing in my food production/processing facility?*; What do I need to do if a worker in my farm has tested positive for COVID-19? (4/07)
https://www.fda.gov/food/food-safety-during-emergencies/food-safety-and-coronavirus-disease-2019-covid-19

Indiana State Dept. of Health – Food Safety Guidance (update 4/6)
English:
https://coronavirus.in.gov/files/IN_COVID-19_FoodGuidance_4.6.20.pdf
Spanish:
https://coronavirus.in.gov/files/IN_COVID-19_FoodGuidance_03.31.20_version%20nueva.pdf

Here are the categorized information resources

Financial

COVID-19 Affected Business and Employee Resource Guide from Sen. Braun (3/27)
https://www.braun.senate.gov/sites/default/files/2020-03/Senator%20Mike%20Braun%20COVID-19%20Affected%20Business%20and%20Employee%20Resource%20Guide_0.pdf
Information about the Coronavirus Aid, Relief, and Economic Security (CARES Act); the Families First Coronavirus Response Act; and Small Business Economic Injury Disaster Loans (EIDL).

SBA COVID-19 DISASTER LOANS FOR INDIANA SMALL BUSINESSES (3/19)
Apply : https://disasterloan.sba.gov/ela/
Instructions:
https://disasterloan.sba.gov/ela/Documents/Three_Step_Process_SBA_Disaster_Loans.pdf

Production

A Guide for Community Gardens During the COVID-19 Pandemic (3/25)
https://extension.purdue.edu/article/36666

Indiana State Chemist and Seed Commissioner COVID-19 Adjustments Update (3/26)
https://www.oisc.purdue.edu/pesticide/pdf/covid-19_adjustment_update_032620.pdf

EPA List of Disinfectants for COVID-19 (3/19)
https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2

Purdue Crop Chat Podcast Episode 2, COVID-19 Implications (3/25)
https://www.hoosieragtoday.com/purdue-crop-chat-podcast-episode-2-covid-19-implications/

Labor

Interim Guidance for Businesses and Employers to Plan and Respond to Coronavirus Disease 2019 (COVID-19) from CDC (3/24)
https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-business-response.html

H2A Update: Waiver of in-person interview requirements for certain H-2A and H-2B visa applicants. (3/27)
https://travel.state.gov/content/travel/en/News/visas-news/important-announcement-on-h2-visas.html
Additional info and FAQ at https://www.farmers.gov/manage/h2a

OSHA Guidance to Help Prevent Worker Exposure to COVID-19 (3/19)
https://www.osha.gov/SLTC/covid-19/controlprevention.html

U.S. Dept. of Labor – COVID-19 and the American Workplace. (3/27)
https://www.dol.gov/agencies/whd/pandemic

Food Safety and Sanitation

Please check Safe Produce Indiana for more updated information related to food safety

FDA Q&A regarding food safety and the coronavirus disease. Updated questions including: *How do I maintain social distancing in my food production/processing facility?*; What do I need to do if a worker in my farm has tested positive for COVID-19? (4/07)
https://www.fda.gov/food/food-safety-during-emergencies/food-safety-and-coronavirus-disease-2019-covid-19

FDA food safety recommendations for producers and restaurant owners (3/19)
https://extension.purdue.edu/article/36599

USDA Temporarily Extends Expiration Dates for Some Good Agricultural Practices, Domestic Origin Verification, Plant Systems Audit Program Certifications (3/31)
https://content.govdelivery.com/accounts/USDAAMS/bulletins/283fd87

Indiana State Dept. of Health – Food Safety Guidance (update 4/6)
English:
https://coronavirus.in.gov/files/IN_COVID-19_FoodGuidance_4.6.20.pdf
Spanish:
https://coronavirus.in.gov/files/IN_COVID-19_FoodGuidance_03.31.20_version%20nueva.pdf

A Guide to Cleaning, Sanitizing, and Disinfecting for Produce Farms, from Univ. Vermont (3/31)
https://blog.uvm.edu/cwcallah/2020/03/30/clean-sanitize-disinfect/

Build Your Own Handwashing Station, Rutgers (3/31)
https://onfarmfoodsafety.rutgers.edu/wp-content/uploads/2020/03/Build-Your-Own-Hand-Washing-Station.pdf

Food Safety and Sanitation Resources from NCSU (3/25)
https://foodsafety.ces.ncsu.edu/covid-19-resources/
Simple 2-page, large-font materials about food safety and sanitation. Social media images. Spanish and English.

Markets/Marketing

A Guide to Alternative Delivery Systems for Local Producers During the COVID-19 Pandemic (3/24)
https://extension.purdue.edu/article/36645

Ag Economist weighs in on impacts of COVID-19 on food markets (3/24)
https://extension.purdue.edu/article/36559

A guide for local producers to navigate the COVID-19 outbreak (3/19)
https://extension.purdue.edu/article/36549

A guide for farmers' markets to navigate the COVID-19 outbreak (3/19)
https://extension.purdue.edu/article/36616

A consumer guide to buying from local farmers during the COVID-19 outbreak (3/19)
https://extension.purdue.edu/article/36596

USDA – if you wish to provide suggestions (3/25)
For solutions to feeding children impacted by COVID-19, email feedingkids@usda.gov.
For solutions impacting America's food supply chain and other logistical complications, email foodsupplychain@usda.gov.
(from
https://www.usda.gov/media/press-releases/2020/03/17/usda-working-private-sector-response-covid-19)

Resources from Trade Associations, etc.

Farmers Market Coalition Resource Page – includes examples of practices across the country (3/27)
https://farmersmarketcoalition.org/covid-19-crisis-farmers-market-new-guidelines/

Hoosier Young Farmers Coalition Resources Page (3/25)
https://www.hoosieryfc.org/resources.html

Supporting the Supply Chain During COVID-19 from United Fresh Produce Association (3/25)
https://specialtyagriculture.secondstreetapp.com/api/message_contents/1749388/2077401/A3D52D2F-6160-4476-9816-EC3EB82F2DE3

Key Sites – General

Coronavirus and USDA Service Centers (3/24)
https://www.farmers.gov/coronavirus

Indiana Disaster Prep from Purdue Extension (3/19)
https://extension.purdue.edu/INPREPared/coronavirus/

Indiana State Dept. of Agriculture (3/24)
https://www.in.gov/isda/3555.htm

Indiana State Dept. of Health (3/19)
https://www.in.gov/coronavirus/

U.S. Centers for Disease Control (3/19)
https://www.cdc.gov/coronavirus/2019-nCoV/index.html

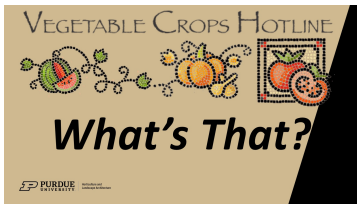
U.S. FDA (3/19)
https://www.fda.gov/emergency-preparedness-and-response/mcm-issues/coronavirus-disease-2019-covid-19

World Health Organization (3/19)
https://www.who.int/emergencies/diseases/novel-coronavirus-2019

Please let us know of other resources we should publicize, or information you need and can't find.

What's That? 4-9-2020

(Liz Maynard, emaynard@purdue.edu, (219) 548-3674)



Who is resting in this tray of cucumber seedlings that is on the floor in a high tunnel? An aid to pest management or food safety concern? Weigh in with your responses here, and check back in next issue for answers.

Vegetable Crops Hotline © Purdue University - vegcropshotline.org
Editor: Wenjing Guan | Department of Horticulture and Landscape Architecture, 625 Agriculture Mall Dr., West Lafayette, IN 47907 | (812) 886-0198