VEGETABLE CROPS HOTLINE

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

Issue

In This Issue

2016 Watermelon and Cantaloupe Variety Trials at Southwest Purdue Agricultural Center

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

Every year since 1980, we have conducted watermelon and cantaloupe variety trials at Southwest Purdue Agricultural Center. In 2016, our variety trials include 44 standard seedless watermelons, 12 cantaloupes, 4 mini-sized seedless watermelons, and 5 seeded watermelon varieties. Seeds have already been planted in the greenhouses and our target date for transplanting in the field will be the week of May 9th. The fruit will become ripe around the middle of July. If you are interested in observing how each variety performs during the season, don't hesitate to come to visit us and witness the plots first hand.

We will continue to present the results of our variety trials, as in the past, at the annual meeting held at the Southwest Purdue Ag Center in late November or early December but don't miss the opportunity to visualize them during the growing season. In the winter meeting, we will discuss yield and fruit quality (sugar content, flesh firmness, hollow heart etc.) of these varieties. Please watch for the announcement that will be sent out later this year as to the exact date. Below is a list of the varieties that will be in our trails this year. We also want to give special thanks to the seed companies that continue to support our research here at the Southwest Purdue Ag Center this year and in the years past.

To visit, please contact Wenjing Guan at guan40@purdue.edu, or (812)886-0198.

Standard seedless watermelon varieties

Sweet Dawn	Exclamation	Excursion-WDL2413	Sugar Fresh
Captivation	Fascination	HSR 4638	HSR4631
Joy Ride	Road Trip	Summer Breeze	7167
7197	Warrior	Embasy	KB 12106
Kb 15010	Charismatic	Unbridled	Secretariat
Kingman	Traveler	Wayfarer	Crunchy Red
Poseidon	Neptune	Premont	Cut Above
Wolverine	Razorback	UGR 1763-14	UGR 1762-14
Prime	Chubbiness	3F-4139	3F-2186
3F-4221	ORS6064b	ORS6227	Maxima
Talca	ORS12.154a	USAW 90020	Distinction

Cantaloupe varieties

Infinite Gold	NUN 26181	NUN 26191	Sweet East
Maxi East	Durawest	SV5196MF	ME3743
ME3716	Aphrodite	Athena	IM 183

Mini-sized seedless watermelon varieties

Extazy	Serval	Ocelott	Krimson Kiss

Seeded watermelon varieties

Sentinel	Regency	Santa Matilde	SV8443WL	Royal Sweet

MELCAST 2016

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

I have never had as many questions about how to use **MELCAST** as I did in 2015. The interest in this program is growing both here in Indiana and nationally. Read on to find out how to apply fungicides according to the weather and perhaps save money in the process.

MELCAST (MELon disease foreCASTer) is a weather-based disease-forecasting program for cantaloupe and watermelon growers developed By Dr. Rick Latin at Purdue University. Instead of using a calendar based fungicide application program where one applies fungicides every 7 to 14 days, the **MELCAST** program lets growers apply fungicides when the weather is most conducive to disease. The diseases for which **MELCAST** may be used for are: Alternaria leaf blight, anthracnose and gummy stem blight. Details are listed below or in the extension bulletin, Foliar Disease Control Using **MELCAST**, BP-67-W. Download the bulletin at http://www.extension.purdue. edu/extmedia/BP/BP-67-W.pdf or

contact Dan Egel for a copy. The **MELCAST** program uses weather information from one of the 12 sites located around Indiana: Daviess County, Decker, Elkhart County, Gibson County, Jackson County, Oaktown, Richmond, Rockville, Sullivan, SW Purdue Ag Center, Vincennes, and Wanatah. Cantaloupe and watermelon growers who want to use **MELCAST** should farm within about 50 miles of a **MELCAST** site. Cantaloupe and watermelon growers using **MELCAST** apply foliar fungicides every 14 days unless the weather thresholds described below indicate that an application should be made sooner. Below find more details.

1. Apply the initial fungicide application at or before vines touch within a row.
2. Check the Environmental Favorability (EFI) value for the day of fungicide application.
3. Calculate the threshold for the next application by adding 20 (cantaloupe) or 35 (watermelon) to the EFI value in step 2. To get a MELCAST calendar to keep track of EFI values, call Dan Egel. Alternatively, a **MELCAST** spreadsheet can be downloaded from http://melcast.info.
4. Apply the next fungicide application 14 days after the first, or sooner if the EFI threshold has been reached.
5. Check the EFI values on the day you make your next fungicide application and re-calculate the threshold for the next application.

A few things to remember: It is best to apply fungicides before the threshold has been reached rather than wait until after the threshold has been exceeded. So, for example, if you are a watermelon grower, the EFI threshold has reached 33 and a rain is expected soon, then go ahead and apply a fungicide. Use the thresholds of 20 and 35 EFI values as guides. Use a lower threshold if you feel that disease pressure is high. Finally, note that fungicide applications for downy mildew and powdery mildew cannot be scheduled with **MELCAST**.

Keeping track of **MELCAST** values is similar to keeping track of oil changes in a car or truck. When one changes oil, the mileage is written down and the oil is changed again at the next threshold (3,000 miles or 35 EFI values). EFI values, like mileage of a truck, continue to increase. Check EFI values by using the toll-free phone number 800-939-1604 Monday though Friday; check the website 7 days a week http://melcast.info and/or sign up for the free **MELCAST** Update that comes once a week during the season. Please call Dan Egel with any questions.

Protecting Pollinators

(Rick Foster, fosterre@purdue.edu, (765) 494-9572)

In recent years, protecting declining populations of pollinators has become an important issue. Many of our vegetable crops are dependent upon pollinators for production of fruit. Below is a table that highlights the benefits of honey bees and other pollinators for vegetable production.

Crops That Require Pollinators	**Crops That Don't Require Pollinators But Have Better Yields with Them**	**Crops From Which Pollinators Collect Pollen**
melons	eggplant	pea
cucumber	lima bean	snap bean
squash/pumpkin	okra	sweet corn
	pepper	tomato

Table 1. The importance of pollinators in selected vegetable crop production.

There are a number of stresses that harm pollinator populations. Pesticides, although not the most important, are one factor that vegetable growers have some control over. Here are some of the ways that vegetable growers can impact pollinators with pesticides.

- Applicators apply insecticides to vegetables when pollinators are present, resulting in direct exposure. This can be true for crops that require pollination services and for crops where pollinators are only feeding on pollen.
- Applicators apply insecticides to vegetables when pollinators are not present, but the insecticide residues persist enough to potentially harm pollinators when they visit the crop.
- Applicators apply systemic insecticides to vegetables. These products move through the plant to flowers in quantities that could harm pollinators.
- Applicators apply insecticides outside the vegetable production field that move (in some manner) into the field in sufficient quantities to harm pollinators.
- The residues of systemic insecticides remain in the soil from a previous crop. The vegetable crop then takes up the insecticide, which moves to flowers in quantities large enough to harm pollinators.

There are a number of steps that vegetable growers can use to protect pollinators.

1. *Read and Follow Insecticide Labels*

Insecticide labels contain specific instructions to help you reduce risks. All insecticides that are toxic to bees have warnings on the label. These warnings are often hard to find on some older insecticide labels. However, many newer insecticides have special bee icons on their labels that draw attention to the potential for harm to pollinators. They often have specific instructions for

2. *Follow IPM Principles*

Integrated Pest Management (IPM) is a system that combines different methods to keep pest populations low while allowing for profitable production and minimizing adverse environmental effects. To reduce the risk of harming pollinators, IPM principles guide producers to take advantage of non-insecticidal practices that can reduce pest damage. For example, you might rotate crops to control Colorado potato beetle control or plant sweet corn early to avoid corn earworm.

When deciding whether to apply an insecticide, determine

whether the net profit from applying the insecticide is greater than the cost of applying it. Making an informed decision usually involves scouting your field or orchard to determine the level of pests that are present. It doesn't make good sense to spend $50 per acre to avoid $30 per acre in losses. Using IPM principles will often reduce the amount of insecticides you need to apply.

3. *Register with DriftWatch*

The DriftWatch website (driftwatch.org) is a place where specialty crop producers can register their production sites on a map. Pesticide applicators can access this data before applying anything to nearby fields. The rationale behind this site is to provide applicators with the locations of sensitive sites, so they can take precautions to avoid overspray or drift to locations where they are not wanted.

4. *Don't Treat Areas Where Pollinators Visit*

Some crops, like cantaloupe, bloom throughout the growing season. If melon growers stopped applying insecticides when the first flowers appeared, striped cucumber beetles would feed unabated and likely vector the bacterium that causes bacterial wilt of cucurbits to a large percentage of the plants in the field.

However, a muskmelon flower only opens for one day and it closes in the late afternoon. This means pollinators are unlikely to be in fields after the flowers have closed. This knowledge provides melon growers an opportunity to spray their fields with an insecticide in the late evening without harming pollinators. However, growers still need to use a non-systemic insecticide so that the residue will only be on the outside of the new flowers that open the next day. In that way pollinators will not contact the insecticide and no harm will ensue.

Growers should also remember that pollinators will be attracted to dandelions and other blooming weeds even if the crop is not in bloom. Applying insecticides when weeds are in bloom can also potentially harm pollinators.

5. *Avoid Seeds Treated with Neonicotinoids*

Some vegetable seeds are sold with a coating of a neonicotinoid insecticide, usually thiamethoxam. If you direct-seeding a crop (such as pumpkins), the insecticide in the seed coating will control insects such as aphids and striped cucumber beetles for up to three weeks. However, because neonicotinoids are systemic insecticides, they move into the flowers and will be present in the pollen in levels that could harm pollinators.

If you grow transplants in a greenhouse for four or five weeks before planting them in the field, the insecticide from a coated seed will not control any insect pest in the field, but harmful residues may be present in the pollen, which would harm pollinators.

Growers who are direct-seeding crops may decide that the insect control treated seed provides outweighs the potential harm to pollinators based on field history. However, growers who are transplanting crops will receive no benefit from seeds insecticide-treated with insecticides but still risk harming pollinators. If you are planning transplant production, request seeds with no insecticide treatment from your seed dealer.

6. *Use Low Rates for Neonicotinoid Soil Drenches*

Some growers of cucurbits and other crops apply a neonicotinoid insecticide (Admire Pro® or Platinum®) at planting. Like the seed treatments, these applications provide about three weeks of insect control. Never use a soil drench insecticide if you also have seed treated with a neonicotinoid. The combination will not improve insect control.

Research has shown that soil drench applications at the low end of the label range provide control equal to applications at the highest label rates. However, the lower rates reduce (but don't eliminate) residues in the pollen. Although both rates produce residue levels in the pollen that could cause harm, the lower rate is less likely to cause a problem.

7. *Communicate with Your Bee Provider*

If you rent bees to pollinate your crops, be sure to talk with your beekeeper about the pests that you have to deal with and the need for any insecticides you may apply. Coordinate the arrival and departure of the bees with your insecticide applications to ensure minimize any potential harm to the bees.

Pollinators, both domesticated and feral, are important to the production of many vegetables. By following these few suggestions, vegetable growers can do their part to preserve the health of all of our pollinators, as well as maintain the goodwill of beekeepers.

Substrates for Soilless High Tunnel or Greenhouse Production

(Petrus Langenhoven, plangenh@purdue.edu, (765) 496-7955)

In a previous article 'Opportunities in Hydroponics' (VCH 609) we discussed two types of Hydroponics, solution culture and medium culture. In this article we will focus on **Growth Substrates (media)**, which form an integral part of medium culture.

Growth substrates can be divided into two groups, organic and inorganic media. Inorganic media can be further divided into natural and synthetic. Media included under inorganic and natural are sand, gravel, rockwool, perlite, vermiculite, pumice, expanded clay aggregate, zeolite and volcanic tuff. Inorganic and synthetic media includes foam mats (polyurethane) polystyrene foam, oasis (plastic foam), hydrogel, and Biostrate felt®. Included under organic media is pine sawdust, pine bark, wood chips, peat moss, coconut coir, and rice hulls. The number of substrates available are not limited to this list. Using growth substrates instead of soil gives the grower several advantages:

No need for arable land. Soilless growing media (substrates) is lightweight and can be mixed according to plant needs. Aeration and drainage concerns can be addressed effectively by choosing the appropriate substrate or substrate mix that is compatible with your crop and irrigation practice.

Total control over root environment. Medium culture allows the grower to have total control over the root zone. Meaning the

grower has control over what the plant gets and when it gets it. Having control of the root zone permits the grower to apply exact amounts of fertilizer and water on a daily basis to each plant. Since we are now growing in a media other than soil, it is possible to use a complete, balanced, crop specific nutrient solution that fulfills every nutritional need the crop might have. The pH and electrical conductivity (EC) of the mineral nutrient solution can be adjusted instantaneously to address root zone or plant growth issues. This allows the grower to plant at higher planting densities, which results in higher yields.

Precise irrigation scheduling. Growing media has a lower water retention than soil and can therefore be irrigated more frequently, allowing for a more frequent supply of nutrients to the roots. Therefore the grower can accurately schedule a precise pattern of irrigation that will have a positive effect on growth and productivity based on the crop grown and the age of the crop, the climatic conditions at your location, the growth substrate used, the texture of the substrate, and the volume of available growth substrate per plant. However, in order to have control over and manage the fertilizer and water needs of your plant you need to frequently sample, measure and keep complete records.

Improved crop uniformity. Managing every need of the plant makes it much easier for the grower to harvest produce that is uniform in weight, size and texture. Yields are more predictable, which allows for more consistency in marketing.

Limits root disease. The possibility of root disease is limited by using medium culture. This is not a guaranteed solution for root disease since disease can still enter the production system through the water or any other unhygienic production practices. However, root disease can easily be prevented by disinfecting your water source and improving hygiene before and during plant production. The use of containerized substrates reduce the turnaround time between crops. During the cleaning process all containers with substrate (including roots) are easily removed. Afterwards the growing space can be washed down and sterilized in a very short amount of time.

Environmental impact lower. Using a substrate gives the grower an opportunity to collect the nutrient rich drainage water from the greenhouse. The drainage water can be reused in the greenhouse or can be disposed of in an environmentally friendly manner. It is important to note that disinfection needs to be part of the production process when the nutrient solution is recycled.

What constitutes a good growing media?

1. **Physical and Chemical properties**
    - Nutrient retention. The growth medium must have a relatively low soluble salts content, but need to have an adequate cation exchange capacity to retain and supply the necessary mineral elements for sustained plant growth. The pH should be between 5.0 and 6.5.
    - Gas exchange/aeration and porosity. The total porosity of a medium is the sum of all the space in the macro-pores and micro-pores. A medium with good porosity will allow for efficient gas exchange in the root zone. Usually gas exchange takes place in the large pores or air spaces in the growing medium. Aeration is known as the percentage of pore space that remains filled with air after excess water has drained away. However, a substrate composed primarily of large particles will have more aeration and less water holding capacity than a substrate with smaller particles. The invert applies to substrates that is mostly made up of smaller particles.
    - Water retention and drainage. The growing media needs to be porous and well drained, but must also be able to retain enough moisture between irrigations to satisfy plant water requirements.
    - Biologically and chemically stable. Organic substrates need to be well composted. This will ensure that there is no nitrogen negative period at the onset of production. Some substrates like rice hulls are very resistant to decomposition and do not pose a serious problem with nitrogen depletion. Inorganic substrates that are inert and well composted organic substrates work best.
    - Standardized and uniform. This will allow the grower to use standardized production practices, such as fertilization and irrigation, with every crop.
    - Free from harmful soil pathogens. Make sure that substrates are free of harmful soil pathogens. Inorganic substrates like rockwool and perlite are sterilized by virtue of the production process, but gravel and sand, for instance, need to be well cleaned and sterilized.
2. **Cost and availability**
    - Substrates should be readily available and inexpensive.

In the next article about substrates we will focus on the characteristics of rockwool, perlite, vermiculite, coconut coir, and peat moss.

Produce Rule Water Testing Requirements – Am I Covered?

(James Scott Monroe, jsmonroe@purdue.edu, (812) 886-0198)

In January 2016, *Standards for the Growing, Harvesting, Packing, and Holding of Produce for Human Consumption*, otherwise known as the Produce Rule, became law. This rule, as part of the Food Safety and Modernization Act, sets a standard for produce food safety. The water testing component of the produce rule requires growers to regularly test irrigation water. While a previous article dealt with water testing requirements, I've received questions as to exactly who is required to test water. As a result, I wanted to review the steps in determining whether or not one is held to the water testing requirement.

The first step is to determine if you are covered by the produce

rule. An excellent flowchart to help determine coverage may be found at http://www.fda.gov/downloads/Food/GuidanceRegulation/FSMA/UCM472499.pdf. If you're gross produce sales averaged $25,000 or less in the last three years or you are growing produce for your own personal consumption only, then your farm is not covered by the rule and is not subject to water testing requirements. If your gross sales for the last three years average $500,000 or less and a majority of your food sales are to a qualified end-user, then you may receive a qualified exemption and will not be held to the water testing requirements in the rule. A qualified end-user is defined as the consumer of the food or a restaurant or retail food establishment that is located in the same state or same Indian reservation as the farm that produced the food or not more than 275 miles from where the food was produced.

If your farm is covered by the rule, then the next step is to determine whether or not your produce is covered by the rule. FDA has established a list of commodities that have been identified as rarely consumed raw. Many of these commodities are grown in Indiana, such as pumpkins, sweet corn, and potatoes. Commodities identified as rarely consumed raw are not covered by the rule. Also, produce grown for processing receives a qualified exemption from the rule, provided that certain documentation requirements are met. Produce destined for a processor must be accompanied with documentation that identifies the crop as not having been processed adequately to reduce the presence of microorganisms of public health significance. Additionally, growers will need to obtain documentation annually from processors that demonstrates that their crops are, upon delivery, processed adequately to reduce the presence of microorganisms of public health significance.

If you determine that your farm and particular crop are covered by the rule, Section 112.41 of the rule states that, "All agricultural water must be safe and of adequate sanitary quality for its intended use". In following sections, the rule outlines the requirements for testing agricultural water, maintaining delivery systems, and the treating of agricultural water that does not meet standards.

The term "Agricultural Water" adds yet another layer of complexity. This term is defined earlier in the rule in Section 112.3(c) as, "water used in covered activities on covered produce where water is intended to, or is likely to, contact covered produce or food contact surfaces, including water used in growing activities (including irrigation water applied using direct water application methods, water used for preparing crop sprays, and water used for growing sprouts) and in harvesting, packing, and holding activities (including water used for washing or cooling harvested produce and water used for preventing dehydration of covered produce)."

Note that the definition of agricultural water covers water applied using "direct water application methods". This term is also defined in Section 112.3(c), which says, "Direct water application method means using agricultural water in a manner whereby the water is intended to, or is likely to, contact covered produce or food contact surfaces during use of the water." For purposes of the rule, the term "produce" also has a specific, and fairly lengthy, definition given in Section 112.3(c). Produce is defined, in part, as the harvestable part of a crop.

What do all of these definitions mean? Taken as a whole, it actually simplifies the process of determining when activities and crops are covered by the water testing requirements. Instead of differentiating between irrigation methods or other qualifiers, crops are covered by water testing requirements any time water is directly applied to the harvestable portion of the crop, either as irrigation or crop sprays.

In summary, these are the questions to ask in determining when crops are covered by the water testing requirement:

1. Is my farm covered by the produce rule?
2. Is this particular crop covered by the produce rule?
3. Will I be applying water, as irrigation or crop sprays, to the harvestable part of the crop?

If you can answer "yes" to all three questions, then in your particular situation you are covered under the water testing requirements of the produce rule.

If you have any questions regarding FSMA Produce Rule coverage, please feel free to contact me at (812) 886-0198 or jsmonroe@purdue.edu

Bacterial Canker of Tomato

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

Recently, this disease was observed in a greenhouse in Indiana. This article will serve as a review of this important disease.

Figure 1: Necrotic and chlorotic margins of tomato leaves caused by bacterial canker of tomato.

The symptoms of bacterial canker vary considerably. In most cases, the edges of the leaves may turn yellow and/or brown. That is, the margins of the leaves may become chlorotic and/or necrotic (Figure 1). This symptom, which is sometimes known as 'firing', may be more common in a field situation than in a greenhouse. Tomato plants may wilt as a result of bacterial canker. The inside of the stem of affected plants may be discolored brown (Figure 2). The fruit may have bird's-eye spots- this symptoms is more common in field outbreaks. In the

greenhouse where this disease was recently observed, adventitious root development was observed on the stems of affected plants. That is, the stems may develop a 'bumpy' appearance where extra roots are starting to develop. However, this symptom may also develop from stresses other than bacterial canker (Figure 3).

Figure 2: Bacterial canker may cause a discoloration of the interior of the stem.

The bacterium which causes bacterial canker of tomato may survive in seed, crop debris, volunteer tomatoes and equipment such as wooden stakes. The pathogen may spread from plant to plant by splashing. This is most likely during transplant production in the greenhouse. Once infected, tomato plants may continue to develop symptoms, which may give the appearance of spread in the field.

Figure 3: Occasionally, bacterial canker may cause a adventitious roots that appear as a 'bumpiness' on the stem of the tomato plant.

The most important factor in managing bacterial canker of tomato is to avoid seed contaminated with the pathogen or transplants that have symptoms. Heat treatment of seed to reduce contamination is possible; see the Midwest Vegetable Production Guide for Commercial Growers 2016. Use only new or sterilized planting stakes, transplant trays and other planting equipment. The use of copper and mancozeb products for management of bacterial canker of tomato is more effective in greenhouse transplant production than in the field.

Bacterial canker of tomato can become a very serious disease. If you believe that your tomatoes may suffer from bacterial canker, be sure to get an official diagnosis.

Understanding High Temperature Effects on Fruit Set of Tomatoes

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

Maintaining temperature in the ideal range is very important for tomato fruit set. The optimum temperatures are 60-75°F (night) and 60-90°F (day). Studies showed that exposing plants to 3-h periods of temperatures above 104°F on two successive days may caused fruit set failure. Not only is the maximal temperature critical for fruit set, maintaining night temperature in the ideal range is also essential. Effects of high temperature on fruit set are primarily on the stage of pollen development, which occurs about nine days before flowers open. High temperatures also affects flower structure by causing stigma exertion that prevents pollen from successfully landing on the stigma (Figure 1). After pollination, pollen germination can be severely reduced at temperatures above 100°F.

Preventing temperatures from reaching the extremely high level is important in high tunnel tomato production. Since biomass production and flower numbers are less likely to be affected by high temperatures compared to fruit set, maintaining ideal temperature could be overlooked until it is too late. As the temperatures continue rising in the season, it is critical for high tunnel growers to timely vent their high tunnels to prevent temperatures reaching extremely high levels.

Figure 1. Note stigma of tomato flower on the left was more extended compared to flower on the right. In addition to temperatures, genetic factors, nutritional status and light might cause stigma exertion.

Researchers Looking for Spinach and Lettuce from NW Indiana

(Lindsay Gielda, lgielda@pnw.edu)

Do you grow spinach or lettuce in Northwest Indiana? Drs. Lindsay

Gielda and Scott Bates in the Dept. of Biological Sciences at Purdue University Northwest would like to collect a few samples from your farm. They are studying how the endosymbiotic fungi that naturally live on spinach and lettuce might inhibit the growth of pathogenic *E. coli* strains on these plants. They need samples from a variety of farms (large and small) in order to gain a better understanding of the diversity of endosymbiotic fungi that occur in this area. If your farm is within 60 miles of Westville, Indiana and you would be willing to allow them to collect a sample sometime between 05-01-2016 and 07-31-2016, please call or email Dr. Gielda at (773) 655-6217 or lgielda@pnw.edu.

Upcoming Events

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

High Tunnel Tour at SWPAC

Location: Southwest Purdue Agricultural Center, 4369 North Purdue Road, Vincennes, IN 47591

Date: May 9, 2016, 3:00 PM to 5:00 PM EST

Please join us for a high tunnel tour at Southwest Purdue Agricultural Center. You will see state-of-the-art high tunnels, learn about season extension of strawberry production under high tunnels and early season frost protection by using row covers. We will also discuss the potential of grafted tomatoes and cucumbers grown in high tunnels. The tour is free, to register please call (812) 886-0198. For more information please contact Wenjing Guan at guan40@purdue.edu.

USDA-AMS webinar: Standards for the Growing, Harvesting, Packing and Holding of Produce for Human Consumption, i.e., the Produce Safety Regulation

Date: April 21, 2:00-3:00 EST

For more information, please visit https://amsfv.webex.com/amsfv/onstage/g.php?MTID=eeb487e80d56a3c58d4b6f4a242bd75ae

Beginning Farmer Tours

Location: South Circle Farm in Indianapolis

Date: May 26, 2016. 10:45 AM to 4:00 PM EST

Learn about key farm tools for small, intensively managed acres while touring this urban farm that produces fresh, healthy foods using organic practices. Lunch will be served. The tour is free, but registration is required. Please sign up at https://www.edustore.purdue.edu/wk_rules.asp?itemID=22361

Location: Silverthorn Farm, near Rossville, Indiana

Date: June 25, 2016 time has not been finalized

The farm uses organic practices to produce a wide variety of fruits and vegetables and pastured pork. The tour will include a session on working with restaurants. A meal will be served. The tour is free, but registration is required. Please sign up at https://www.edustore.purdue.edu/wk_rules.asp?itemID=22362

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Editor: Wenjing Guan - 4369 N. Purdue Road Vincennes, IN 47591 | (812) 886-0198 | guan40@purdue.edu