PURDUE UNIVERSITY | Extension - Jay County

ANR NEWSLETTER

EMILY KRING - AGRICULTURE AND NATURAL RESOURCES EXTENSION EDUCATOR

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MARCH 2024

Spring fever? Us too!

Planning for Successful Vegetable Transplant Production

February 23rd, 2024

By: Liz Maynard

Many Indiana vegetable crops begin life as transplants. If lack of nutrients, lack of light, disease, or other problems slow growth during this stage, it may reduce establishment success and/or growth and yield in the field or high tunnel. Good management of the following factors should lead to healthy transplants.

Time

Don't seed transplants too early. Overgrown transplants are difficult to manage. If they get so root-bound and shaded by other plants in the same flat that growth stops, it will take them longer to resume growth in the field. They may become weakened and more susceptible to disease in the transplant tray and field. The ideal time depends on the crop and cell size, as well as the growing temperature. For ease of transplanting, the finished transplant should have a well-developed root system that holds the root ball together, a sturdy stem, and be of a size that minimizes injury during the transplant process.
Typical growing times are:

- Cucumbers, 2-3 weeks
- Squash and watermelon, 3-4 weeks
- Cantaloupe, 4-5 weeks
- Lettuce, 4 weeks
- Cole crops, tomato, and pepper, 5-7 weeks
- Onions, 10-12 weeks.

Cell size

Vegetables are commonly grown in trays with cell diameters of 1/2 inch to 2 inches and sometimes in pots up to 4 inches. Larger cells or pots usually lead to greater early yield in fruiting crops like tomatoes, peppers, and muskmelons. Larger cells are also easier to manage because the greater soil volume holds more water and nutrients. The ideal cell size for a particular operation will depend on space available for transplant production, transplant tools or equipment used, crop harvest schedule, and management available for transplant production.

Growing media

Growing media should be free of plant diseases, have pH in the desired range, and have enough pore space to allow good drainage and aeration. A laboratory test of the media for pH, electrical conductivity, and major nutrients is useful to avoid any unexpected problems, whether the media is purchased or made on the farm. Many commercial labs have a test package specifically for greenhouse media. Take care when flats are filled to avoid packing media into cells because that will reduce the pore space.

Temperature

Maintaining temperature in the growing medium at the optimum for germination means seeds will germinate and emerge quickly, reducing the chance that pathogens will kill the germinating plant. A heat source under plug trays (Figure 2) or a germination chamber that provides both humidity and optimal temperature can promote rapid and uniform germination. During production, air and growing medium temperature can be used to control the speed of crop development, with faster development at higher temperatures up to the optimum for the crop. Avoid chilling temperatures (below 45-50°F) for warm-season crops. Be aware that cold irrigation water reduces the temperature of the growing media and may chill sensitive crops.

Light

Once seeds have emerged, the brightness and duration of light directly influence how quickly the plants develop. Light provides energy to the plant to create the building blocks needed for the plant structure and biochemical machinery. With low light levels, seedlings will develop new leaves slowly, root development will be poor, stems will be thin, and plants will get tall and spindly, or 'stretch.' In a greenhouse, natural light can be maximized by eliminating shade-producing objects in and outside the greenhouse, painting surfaces white to reflect light, minimizing condensation on the glazing, and orienting the roof or sidewall of the house perpendicular to the sun's rays. In a growth room, artificial light sources that provide photosynthetically active light (wavelengths between 400 and 700 nanometers) may be used. A solid bank of cool white fluorescent lights provides an inexpensive light source for transplant production (Figure 3). Lights should be placed as close to the seedlings as possible without injuring them to maximize the light they receive. Artificial light may also be used in a greenhouse but may not be a worthwhile investment for vegetable transplant production.

Water

An annual laboratory test of irrigation water is recommended to document alkalinity, electrical conductivity, pH, and mineral content. Well water characteristics can change yearly, and this information is useful when troubleshooting a production problem or planning a fertilization program. A separate test for microbial quality is also needed for food safety purposes. Watering seedlings is a critical aspect of production. Watering too frequently reduces air available to plant roots and promotes a weak root system. Infrequent watering that leads to crop wilting will over-stress plants, leading to long-term growth reduction. Also, when growing media gets too dry, fertilizer salts can become concentrated enough so that roots are injured and become more susceptible to diseases like pythium root rot. Transplant growth can be managed by judicious watering: keeping plants on the dry side will keep growth in check. Uneven distribution of water translates quickly into uneven growth of transplants. The person in charge of watering should understand the importance of the job, know how to determine when irrigation is needed, and use the proper technique when hand watering to evenly supply water. If an automated system is used, check it for even distribution and plan for touch-up watering in areas that dry out more quickly.

Mineral nutrition

The need for fertilization during transplant production depends largely on the nutrient content in the growing media and how long it takes to produce the transplant. In addition, judicious restriction of nutrients, particularly nitrogen and phosphorus, can be used to manage transplant growth. The media soil test recommended above (item 3) will provide information about what nutrients are in the media. Most commercial peat-based or other soilless growing media designed for transplants contain a small amount of 'starter fertilizer' to supply nitrogen (N), phosphorus (P), and potassium (K). Seedlings grown for more than two or three weeks in this media will usually benefit from additional nutrients. Growing media that contains a significant amount of compost may have enough nutrients that no more fertilization is needed during production. A transplant production system should include a plan to supply mineral nutrients that consider nutrients supplied by the growing media and water.

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MARCH 2024

UPCOMING PARP CREDIT OPPORTUNITIES

March 11th: 6:30 pm to 8:30 pm

- Allen County Grabill PARP

March 14th: 9 am to 2:30 pm

- Adams County Going Green for Ag PARP

March 16th: 9 am to 11 am

- Allen County PARP

March 20th: 7 pm to 9 pm

- Allen County PARP

March 21st: 10 am to 12 pm

- Wayne County Conservation PARP

March 26th: 8:30 am to 12 pm

- Fayette-Union County Cover Crop Workshop PARP

If you need a list of continuing credit hours (CCH) for your commercial license, call the Extension office and ask for Emily!

*If you have any questions, call 260-726-4707 and we will give you more information about these events!

PURDUE UNIVERSITY | Extension - Jay County

Farm Safety Program

March 14th, 6:00-8:00 pm Portland Fire Department
1616 N Franklin St. Portland, IN 47371

Is your farm equipment ready to SAFELY withstand the 2024 season? Attend the Farm Safety Program to learn how to prepare your equipment, barns, and property to prevent emergencies and be more comfortable reacting to emergency situations!

Only $10!

-Dinner

Pay at the door!

-Local Firefighter Presentations and Demonstrations

-FOUR Fire Extinguisher Giveaways!

-First Aid kits for each participant

Thank you to our sponsors!

CITADEL SUPPLY

VALENTINE FEED and SUPPLY

2 Guys Pies will be selling pies for purchase to support families who have suffered a farm related loss or injury.

2 GUYS PIES

Best sellers will be available:
Cinnamon Roll Cherry Pie and Peanut Butter Pie

Register by calling Emily Kring at 260-726-4707

For special dietary needs, call Emily by March 11th at 4:30 pm

Purdue is an equal access/opportunity institution.

weed wrangle® Indiana

JOIN US FOR AN INVASIVE SPECIES

WEED WRANGLE

MARCH 16TH @ 10 AM

CEYLON COVERED BRIDGE AT THE LIMBERLOST PARK

9486 COUNTY RD 950 S, GENEVA, IN 46740

DRESS FOR THE WEATHER

-INVASIVE PLANT ID

-HOW INVASIVE SPECIES ON YOUR PROPERTY ARE COSTING YOU MONEY

-BEST PRACTICES FOR INVASIVE SPECIES REMOVAL

CALL JAY COUNTY SOIL AND WATER OFFICE 260-726-4888 OR ADAMS COUNTY SOIL AND WATER OFFICE 260-724-4124 WITH QUESTIONS

AN "INVASIVE" PLANT IS A NON-NATIVE PLANT THAT INFESTS NATURAL AREAS AND CAUSES ENVIRONMENTAL OR ECONOMIC HARM, OR HARM TO HUMAN HEALTH.

CHAINSAW SAFETY

AREA 7 LADIES NIGHT OUT

APRIL 4, 2024
5:00-8:00 PM

DAVIS PURDUE AG CENTER
6230 ST RD 1, FARMLAND, IN

FOR MORE INFO CONTACT :
HEATHER CALDWELL
765-825-8502
hcaldwel@purdue.edu

PURDUE UNIVERSITY Extension

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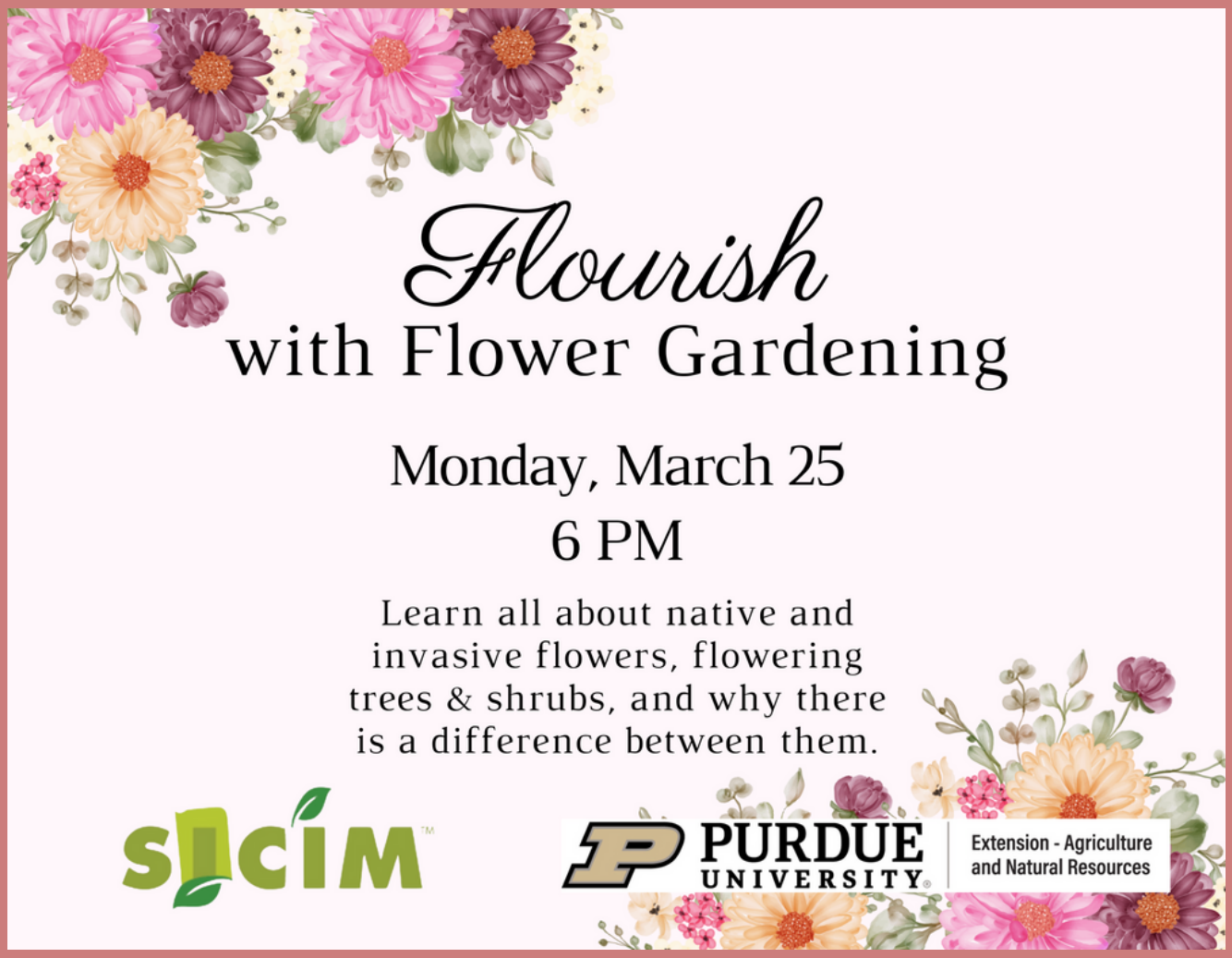
SAVE THE DATE

Farmer's Ag Day Breakfast

March 19th 5 am to 9 am

Jay County Fairgrounds
Bob Schmit Memorial Hall

Contact the Jay County Purdue Extension Office 260-726-4707 for questions or if you'd like to have a booth



PURDUE UNIVERSITY | Extension - Agriculture and Natural Resources

DNR Indiana Department of Natural Resources

TREE ID WORKSHOP

APRIL 6TH, 10 AM TO 1:30 PM

DAVIS PURDUE AGRICULTURAL CENTER
(DPAC) 6230 SR-1 FARMLAND, IN

Learn all about Tree Identification!

-Classroom portion
-Lunch
-Field Portion
-DPAC Forestry Tour

Sign up by calling Emily at 260-726-4707
For special dietary needs, contact Emily by April 3rd at 4:30 pm

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Randolph County Recycling District

PURDUE UNIVERSITY | Extension - Randolph County

Speak for the Trees & Plant for Free Workshop

When: April 22, 2024 6:30 pm

Where: Randolph County Fairgrounds
1885 S. US 27, Winchester, IN 47394

Thanks to our sponsor

FRANK MILLER LUMBER
QUARTERSAWN HARDWOODS

Session Speakers and Topics:

- Soil - Emily Kring ANR Extension Educator
- Tree Planting - Edward Oehlman, Indiana Society of American Foresters
- Tree Care - Michael Bane, Consulting Forester, Creation Conservation LLC
- Invasive Species - Liz Yetter, East Central Regional Specialist, State of Indiana Cooperative Invasives

Register by going to
https://forms.gle/VmBWNs9jVrX1K3GCA

PURDUE UNIVERSITY | Extension - Agriculture and Natural Resources

FORESTRY FIELD DAY

APRIL 27TH, 9:30 AM TO 2:30 PM

THE HERRMANN RESERVE IN REDKEY, IN

Topics:

Establishing & Managing Young Tree Plantations

- We'll walk through the process of establishing a successful tree planting
- Show & tell of multiple plantings
- Demonstrations of hand and machine planting

Grassland Restoration Process

- We'll explore several NWSG and wildflower plantings and discover ways to increase success

Monitoring & Managing Deer/Rabbit Impact on Forests & New Tree Plantings

- We'll show how and why wildlife can hamper habitat restoration efforts and some methods to mitigate negative impacts

Sign up for FREE by calling Emily at 260-726-4707.
For special dietary needs, call Emily by April 24th

Directions: Turn west off of St. Rd. 67 onto W 700 S, for 1/4 mile to the Herrmann Reserve (gravel drive on the south side of the road).

10821-10273 W 700 S Redkey, IN 47373

Indiana Forestry Educational Foundation

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Become a Certified UAV Pilot

Purdue Extension UAV Technology Program

FAA Part 107 Remote Pilot Test Preparation Course Topics

- FAA Test Preparation
- Flight Instructions
- Camera Settings
- Flight Plans and Record Keeping
- Data Management
- Image Quality & Troubleshooting
- Sensors & Artificial Intelligence
- Emergency Preparation

Hands-on Experience

Endless Applicaons

Location

St. Joseph County Fairgrounds
5117 Ironwood Rd
South Bend, IN 46614

Dates & Time. Must attend both days

October 8 AND 9, 2024
9:00 am - 4:00 pm Eastern

Cost:

$200 per person

Registration Info Coming Soon!

Call 765-494-6794 to reserve a spot. Limited to 20 participants!!! Here is a link to register:

h p:// nyurl.com/StJoeDrone

QUESTIONS?

Contact: Nikky Witkowski
nikky@purdue.edu or 219-465-3555

PURDUE UNIVERSITY Extension

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How many PARP points do you have?

1st Go to oisc.purdue.edu
2nd Click on "My Records" - gold bar across the top
3rd Click on "Applicator Login" - down the left side at the bottom.
4th You will be prompted to enter your first & last name and the last four digits of your social security number. You will be taken to a page with all of your information concerning your license.

*Reminder: every five years you need to earn three points. Once you have your three credits and prior to your license expiring you must reapply by sending in the appropriate form and $20 to activate your license.

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HELLO SPRING

Emily Kring
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The Jay County Ag. Newsletter is an educational service of the Jay County Cooperative Extension Service. Additional information is available from the Jay County Extension Service located at 126 Meridian St., Portland.

If you would like to receive timely updates by email, please contact Emily Kring at 260-726-4707 or email ekring@purdue.edu. Likewise, if you are moving and need to change your address, please contact us so you don't miss any issues.

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If you need a reasonable accommodation to participate in our programs, prior to the meeting, contact Emily Kring at (260) 726- 4707