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Facebook - Rutgers Master Gardeners of Cumberland County

Radio - 99.9, 107.7, and 97.7 FM

Online - <https://cumberland.njaes.rutgers.edu/>

**Rutgers Cooperative Extension
of Cumberland County**
291 Morton Ave.
Millville, NJ 08332

RUTGERS

New Jersey Agricultural
Experiment Station

What's Growing On?

VOLUME 25 ISSUE 1 WINTER 2022 EDITION

GARDEN GAB

Winter is wonderful for many reasons, but in particular, I appreciate it because it offers us time to learn and relearn. During the growing season I find myself far too preoccupied to sit down and read a book or listen to a lecture. However, when it's too dark and cold at 4pm to do much of anything outside, I am inside reading up on garden insects, trying to learn about the soil, and familiarizing myself with our unique environment that we live in here in southern Jersey. I'll also be attending some of the agricultural conferences nearby and watching the numerous webinars that are offered during this time. One of my favorite things to do is start looking for seeds and planning what I will be growing come springtime. There are so many varieties to choose from, it can become a bit overwhelming to pick just one or two! I try to understand who likes to be next to who in the garden and think about how I can succession plant in my little garden plot. Each year provides another opportunity to experiment in the garden. Last year it was cabbages, maybe this year it will be carrots. Or, maybe this year I will experiment with some different gardening methods. I've been curious about straw bale gardening and interested in trying to grow vertically. I wish I had my own land where I could plant some fruits and perennial flowers. But, for now I will do what I can with what I have and have the most fun doing it. What about you?



WREATH MAKING

In December the Master Gardeners held a wreath making workshop where attendees learned to make and design a wreath using natural evergreen cuttings. Even those with little to no experience were able to produce a beautiful piece to take home with them. Hand making wreaths proved to be very easy and fun to do. It can also be done fairly cheap if you have access to some evergreens.

To make your own wreath, you'll need these supplies on hand:

- Wire or grapevine wreath ring
- 26 gauge paddle wire (wire wreath only)
- 22 gauge paddle wire (wire wreath only)
- Pruners
- Wire cutters
- Gloves
- Fresh greens of choice

If you choose to use a grapevine wreath, begin by trimming the greens to a manageable size and inserting them into the grapevine. You can put greens around the entire wreath or only do part of it. Keep in mind where you might want to add any bows or decorations. Play around with it until you're happy and voila!

If you choose to use a wire wreath, the first thing you will do is make bundles of greens. Wrap the thinner, 26 gauge wire around the stems at the bottom. Once you have a handful of bundles, begin placing them on the wire wreath. Take the thicker, 22 gauge wire and wrap it around the bundles and wire wreath. Work your way around the entire wreath. When you finish, cut the wire and secure it by twisting or knotting it. Using a variety of greens can really make your wreath stand out. We used Holly, Magnolia, Boxwood, Running Cedar, Eastern Red Cedar, Blue Spruce, Concolor Fir, White Pine, and Norway Spruce.



FOOD FORESTS

A food forest is a type of garden that draws inspiration from permaculture and agroforestry. It seeks to mimic natural ecosystems and reduce environmental degradation caused by growing food. A diverse mix of mainly edible plants grow up, down, and all around in this kind of garden. Traditionally there are 7 layers: over-story trees, under-story trees, shrubs, herbaceous plants, roots, ground covers, and vines. Some may include another layer: mushrooms. Food forests can benefit the land by improving biodiversity, water retention, carbon storage, and nutrient cycling. With their design being inspired by the natural world, these gardens usually have a strong emphasis on native, perennial plants that require minimal maintenance. They are free of pesticides and synthetic fertilizers, and don't require weeding or tilling.

Food forests, like permaculture, have gained a lot of popularity recently. However, it is important to note that these are not entirely new concepts. They have simply just made their way into mainstream western culture. For millennia indigenous peoples around the world cultivated food forests and utilized permaculture techniques. In the Pacific Northwest researchers have found these islands of biodiversity, comprised of fruit and nut trees, amongst the regions largely coniferous forests. Unsurprisingly, these ancient food forests were places of indigenous settlement hundreds of years in the past. A similar story is told in central and south America where indigenous peoples have been cultivating edible plants in the Amazonian forest for at least 8,000 years.

You can design your own food forest beginning with a patch of your lawn, or at least 100 square feet of land. Remove any sod and add a layer of compost or leaf mulch if necessary. Plan out where you will put your various plants and how you might irrigate them as they get established. Leave room for a walkway and give the plants proper spacing. You can grow hundreds of varieties in your food forest, but only if you provide enough space for them. Plant the tallest species facing north and get smaller as you plant south, to avoid shading out the other plants. Below are some suggestions for what to plant, with an emphasis on native plants:

Over-story: persimmon, apples, pears, eastern red cedar, red mulberry, black walnut

Under-story: figs, pawpaw, mulberry, peaches, service berry, elderberry, beach plum

Shrubs: blueberries, gooseberries, currants, raspberries, witch hazel, Chickasaw plum

Herbaceous: lavender, mint, rosemary, rhubarb, asparagus, chives, sumac, amaranth

Underground: ginger, spring beauty, onions, horseradish, peanut

Ground Cover: strawberry, nasturtiums, watercress, sorrel, prickly pear, tea-berry

Vines: grape, passion fruit, melons, cucumber, cranberry

Many books and online resources exist to help you better understand the ecological importance of food forests and their history. Feel free to email me at laurenfo@co.cumberland.nj.us for more information. You might also want to check out some local food forests that exist in Philly and throughout New York.

HYDROPONICS

Hydroponics is becoming a popular way to grow plants, with many greenhouses popping up all over the country to grow this way.

In hydroponic systems, plants are grown in a soilless media, like Rockwool or Jiffy, and derive their nutrients directly from a nutrient solution. These systems often operate inside of controlled greenhouses, but can also be outside. There are many types of hydroponic system, like Deep-Water-Culture (DWC), Nutrient Film Technique, and Drip. In addition, there are many ways that you can design a hydroponic system- big or small; Some even include using fish (aquaponics). But, why not just grow in the soil? What are some of the advantages and disadvantages of this method of growing?

Growing plants without soil can be beneficial in urban areas where access to arable soils and land is becoming increasingly difficult. Using controlled greenhouses, means fewer pests and diseases. It also means you can grow year-round, anywhere. It uses less water than in-the-ground growing. Plants can be grown closer together, making use of vertical space, which can mean higher yields per area.



However, indoor hydroponic systems have a very high start-up cost. Common crops used in these system are often of low food value (lettuce, herbs). Growing in a controlled and circulating environment presents its own pest and disease issues. Lastly, it requires very technical knowledge to build and maintain these systems on a large scale.

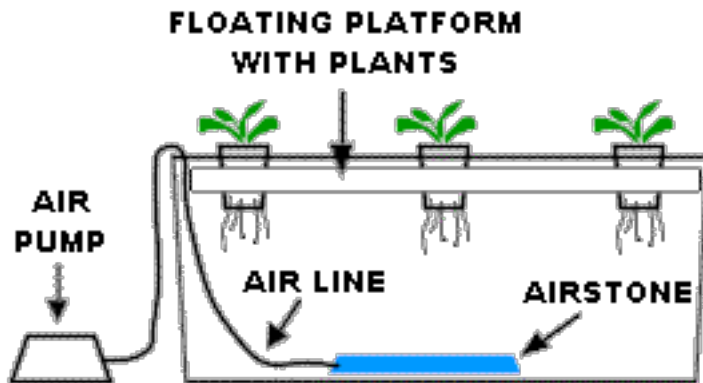
Hydroponics may have some advantages over traditional soil-based growing, but how sustainable one is over the other is still unknown. There are many factors that influence how sustainable an agricultural operation is and they vary greatly from farm to farm. An efficient organic farm might be just as sustainable as a conventional hydroponic farm- it all depends how it is done.

Did you know that there are several hydroponic farms in southern New Jersey? Mill Creek Urban Farm in Bridgeton grows a variety of crops hydroponically! In the photo on the left of this page, you can see an example of DWC hydroponics at their farm.

HYDROPONICS

If you are interested in experimenting with your own hydroponic system at home, here are some ideas and tips to get you going. There are many resources available online and many folks around the world creating their own DIY systems, so I encourage you to explore what is out there.

Setting up your own hydroponic system at home can be easy and fairly cheap. The system I will explain is called Deep-Water-Culture (DWC) and is the simplest way to grow hydroponically. In this system plant roots are suspended in an oxygenated nutrient solution. Common crops that are grown using this method are leafy greens and herbs. To begin, you will need a container, container lid or styrofoam, air pump system, nutrient solution, mesh pots, and a growing medium. Assemble the system, using the photos below for reference. The water level should touch the bottom of the growing medium or roots, and should be checked frequently. You should also periodically test the pH of the solution, ensuring it is between 5.5-6.0. Be sure to clean and refill the container once a month. Sanitizing materials between crops is crucial for minimizing disease. Please send in photos if you have tried or do try this at home!



VEGETABLE OF THE MONTH: POTATOES

A few years ago I worked on an organic farm that grew several varieties of potatoes. The whole experience was eye-opening, especially when I realized that there were thousands of potato varieties. On cold winter days I sometimes reminisce digging for them in the hot sun. We grew purple, red, and white potatoes of all different shapes and sizes. One year we had a bumper crop (abnormally high yields) of potatoes and I ended up with nearly 50 pounds of them. They lasted me through the early summer of the following year. In an effort to eat as local as I can year-round, I've gotten in the habit of stockpiling storage crops in the fall. I don't take on 50 pounds of potatoes anymore, but I do get as many as I can store in a cool, dark place. Onions, cabbage, and winter squash are also some that I try to buy before the farmers markets and farm stands close up for the winter. Doing this forces you to get a bit creative. How many different ways can you prepare a potato? That seems to be the question I'm trying to figure out. It's easy to dress them up or down and they'll always fill you up. Potatoes are an excellent source of vitamin C, potassium, and vitamin B6. They are also full of compounds that may lower your blood pressure.

My favorite way to eat potatoes is roasted in a cast iron skillet with some garlic, salt, and paprika. When prepared this way they go great with eggs for breakfast or some broccoli for dinner. What is your favorite way to eat potatoes? Do you grow them in your garden?

Skillet Roasted Potatoes Recipes

- Potatoes
- Garlic powder or minced cloves
- Paprika
- Salt and pepper
- Olive oil or butter
- Chives or parsley

Add all ingredients to a skillet over low-medium heat. Let the potatoes cook for at least 5 minutes before stirring so that they can crisp up. Some folks prefer to slightly boil their potatoes before roasting them so that they get creamy inside and crunchy outside. However you do it, I am sure they will be delicious!



Cumberland County Garden Education Series 2022*

Expand and grow your knowledge of horticulture.

February – May

Classes meet Wednesdays from 6:30 - 8:30 PM.

Topics include but are not limited to:

Botany, soils, entomology, composting, vegetable gardening, small fruit, tree fruit, woody plants and trees, herbaceous plants, turf, plant pathology, pesticides and pruning.

All classes will be recorded and available for later viewing by registrants.

Course Includes:

15 live online classes taught by experts

5 pre-recorded webinars

Weekly online discussions with local horticulturists

Program Cost:

\$200

***This series may be offered by other counties in NJ. Contact the Rutgers Cooperative Extension in your county to see what they offer.**



Note: This series is a pre-requisite to the Rutgers Master Gardener Program in Cumberland County.



Need more information?

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Cooperating Agencies: Rutgers, The State University of New Jersey, U.S. Department of Agriculture, and Boards of County Commissioners. Rutgers Cooperative Extension, a unit of the Rutgers New Jersey Agricultural Experiment Station, is an equal opportunity program provider and employer.

INDOOR PROPAGATION TIPS

- Using a soilless media, like Jiffy, can prevent weeds and pathogens from growing with you seedlings.
- If you are reusing pots from prior years, ensure that you properly sanitize them with bleach.
- Invest in a waterproof garden marker to use when labeling varieties.
- Ensure plants have ample light to prevent them from getting “leggy”. This usually requires artificial lights.
- Keep the soil moist for good germination, but allow for drainage to prevent rot and fungus gnats.
- Read the planting depth on the seed packet to avoid planting seeds too deep or shallow.
- Re-pot your seedlings once they have at least 2 sets of true leaves to avoid stressing these young plants.
- Keep a garden journal to record when you started seeds and when they were ready to transplant so you can improve each year.
- Fertilize after your seedlings have emerged and developed true leaves.
- Acclimate your seedlings to the outdoors when the time is right to prevent transplant shock.
- Rotate you seedlings frequently so they grow upright with strong stems.
- Keep it warm (65-75) but not too warm or you risk scorching your seedlings.
- Don’t start too early. You want your seedlings to be ready for transplanting after the risk of frost has passed, but you do not want them to hangout for too long in their pots.
- As you begin to acclimate your seedlings or transplant them outside, be sure to protect them from rabbits and other wildlife that will nibble away your months worth of hard work.

BEECH LEAF DISEASE

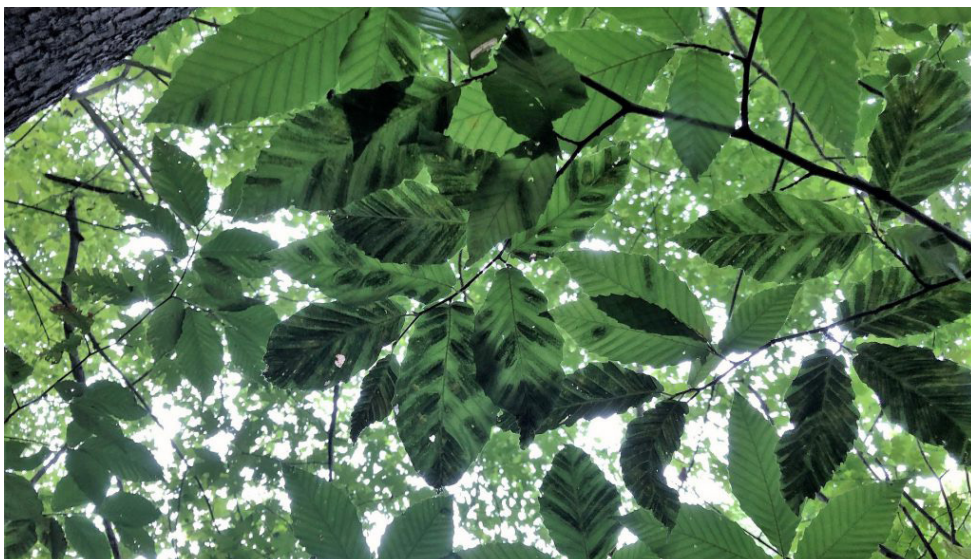
Beech leaf disease (BLD) is a relatively new disease that has been observed on native and ornamental beech trees in the Northeastern US and Canada. It was first identified in Ohio in 2012, and has since spread to nearby states. In 2020 it was identified in New Jersey. Now, 10 counties in NJ have observed the disease. So far none of the sightings have come from the southern half of the state, but that just means that landowners should be on the lookout.

BLD is caused by a foliar nematode species which feeds on the leaves and buds. The nematode overwinters in buds and possibly in leaves on the ground, as well. It moves from the buds to the leaves in the summer and the number of nematodes in infected leaves increases into the fall.

Early symptoms include striping and curling. Dark bands form between the leaf's veins and as symptoms progress the leaves will become leathery, yellow, and reduced in size. Bud and leaf production will decrease in following years. Young trees will die within 2–5 years of infection and large trees within 6–10 years. The disease spreads rapidly and has the potential to destroy much of the Northeast's beech tree forests.

Research to better understand the disease and how it is transmitted is ongoing. Currently no controls exist. Identification of the disease by landowners can be essential in understanding the disease and slowing its spread. If you suspect a tree has BLD you can drop off samples to our extension office or send infected leaves to the Rutgers Plant Diagnostic Laboratory free of charge.

REMEMBER, IT IS NEVER A GOOD IDEA TO MOVE FIREWOOD OUTSIDE OF YOUR IMMEDIATE AREA.



UPCOMING EVENTS

Visit our website for a complete calendar of events. All lectures will be in-person and on Zoom, unless otherwise stated. Feel free to contact us with any suggestions for future lectures/speakers.

February 17, 6pm: Springing into Lawn Fertilization

Dr. Sal Mangiafico, Cumberland County Agent, will discuss the what, where, when, and why of fertilizing for a healthy lawn and a healthy environment. Learn how soil testing, liming, irrigating, and soil properties impact lawn quality. Best practices for fertilizing with an emphasis on minimizing environmental harm, will be shared.

February 24, 11am: Growing Small Fruit at Home

Dr. Dan Ward, Rutgers Asst. Extension Specialist in Pomology, will share how to grow and care for strawberries, raspberries, blueberries, grapes, and more in the home garden. Master Gardeners will share their experiences and knowledge of growing small fruits, as well.

March 8, 12pm: Food Safety

Dr. Wesley Kline, Cumberland County Agent, will review pathogens of concern and what the agricultural industry and federal government is doing to try improving food safety. We will also share how you can practice food safety in the home.

March 24, 6pm: Alternative Water Sources

Dr. Raul Cabrera, Rutgers Asst. Extension Specialist in Nursery Production and Management, will discuss the use of alternative water sources in landscaping.

April 12, 12pm: Fungi in the World Around Us

Dr. Timothy James Waller, Cumberland County Agent, will present a seminar on better understanding the beautiful, all important, and often mysterious world of fungi. We will delve into fungal biology via the structures they form, relationships they foster, and compounds they produce. Their importance in agriculture, wild areas, medicines, industry, and food sources will be covered to demonstrate how prevalent they are in the world around us.

April 21, 6pm; How to Grow the Best Tomatoes

William Rafferty, Cumberland County Master Gardener, will discuss what he has learned in his 30+ years gardening. He will share tips for growing tomatoes and improving quality and yield.

April 30, 1pm; Tour of Greenwich Teaburners Farm

Join the owners of Greenwich Teaburners Tea Farm to learn how tea is grown and prepared on their small farm. We will taste different varieties and learn about the history of tea and the Tea Party in South Jersey. Meet at the farm in Greenwich.

RESOURCES

Food Forests:

<https://projectfoodforest.org/what-is-a-food-forest/>
<https://modernfarmer.com/2017/02/plant-food-forest-winter/>
<https://www.hobbyfarms.com/permaculture-food-forest-farm/>
<https://www.science.org/content/article/pacific-northwest-s-forest-gardens-were-deliberately-planted-indigenous-people>
<https://www.science.org/content/article/hundreds-years-later-plants-domesticated-ancient-civilizations-still-dominate-amazon>
https://extension.usu.edu/permaculture/files/FoodForestInfo_JoshQuigley.pdf

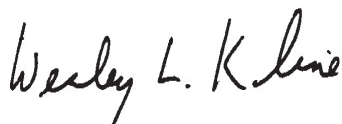
Hydroponics:

<https://extension.psu.edu/simple-hydroponics>
http://www.homehydrosystems.com/hydroponic-systems/water-culture_systems.html
<https://aggie-horticulture.tamu.edu/greenhouse/hydroponics/solutions.html>
<https://extension.okstate.edu/fact-sheets/hydroponics.html>
<https://www.youtube.com/watch?v=i3-9u-HtFG8>

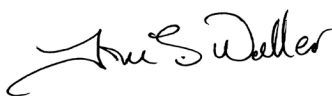
Beech Leaf Disease:

<https://plant-pest-advisory.rutgers.edu/beech-leaf-disease-in-new-jersey/>
<https://www.dec.ny.gov/lands/120589.html>

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Pesticide User Responsibility: Use pesticides safely and follow instructions on labels. The user is responsible for the proper use of pesticides, residues on crops, storage and disposal, as well as damages caused by drift.

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