

# Garden Guidebook

Learn how you can create a carbon sink  
garden for a sustainable future!



# GENERAL

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## **What is a carbon sink garden?**

A carbon sink garden is an area of land that contains plants that absorb high levels of carbon. Plants absorb carbon and release oxygen; some plants absorb more carbon than others. Having these gardens placed throughout a town will allow for a reduced carbon footprint. Carbon sink gardens can also serve as community gardens, bringing the town together for a great cause.

It is our job as residents to make our towns as green as possible. Monmouth County has so far done a great job of caring for the environment. Carbon Roots can help take that mission one step further.

# GROW YOUR GARDEN

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## Find a Location

The first step to creating your own garden is finding a suitable space. If it is a town garden, you need to find empty green space within the town! If it's your own personal garden, your own backyard could work! Make sure this space is big enough for a variety of plants.



## Enrich the Soil

Before starting your garden, you must make sure your soil is healthy enough to support all the plants. To enrich soil nutrients, you can add compost or manure. You should also make sure the soil pH is in an acceptable range; this can be done with a simple pH testing kit!



## Pick Garden Plants

Now that you've prepped your growing space, you should pick the most suitable plants. Each garden is different. You should choose plants based on your soil's capacity. A smaller garden may be able to support smaller plants, while a larger garden can nurture trees!



## Start Planting

If you want trees in your garden, plant those first. Then, plant your shrubs or smaller plants. To keep animals out, you can fence your garden. You could also use mesh covers for your smaller plants.



# PLANT GUIDE

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**Note: All plants listed below are native to New Jersey. They are general suggestions.**



## Trees

- Yellow Poplar Tree
- Silver Maple
- Red Oak
- White Oak
- White Pine
- Willow Oak
- Red Mulberry
- Black Walnut



## Plants

- Sunflowers
- Black-eyed Susan
- Milkweed
- Wild Bergamot
- NJ Tea
- Blue Wild Indigo
- Purple Coneflower
- Desert False Indigo
- Silky Dogwood
- Wild senna
- Goldenrod
- Northern Bayberry



## Grasses

- Switchgrass
- Indiangrass
- Little Bluestem



# PLANT GUIDE

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## Additional Plant Information

Although the plants listed above may seem ordinary, all of them are common in the same way; they all have a deep root system. When plants have a deep root system, they have the potential to absorb significantly more carbon. Not only this, plants with large root systems redistribute nutrients throughout the soil, making the geoenvironment more healthy overall. If you have other deep-rooted plants in mind not listed above, they would be an excellent addition to your garden.

## Planting Deep-Rooted Plants

When planting deep-rooted plants, it is important to have the most suitable depth for your garden; prime garden depth can range from 2-3 feet, depending on what you want to plant (trees need more depth). When planting trees, if there is a root ball, dig a space wider than the root ball, and for depth, a little less than the root ball height. When using plant plugs, use the same process as the tree root ball. If using potted plants, you can just safely transfer them into the soil. Keep in mind, when you have deep rooted plants in a garden, they must be slightly spaced out. If the roots become entangled, they may effect the health of the plant. This is especially important when planting trees.

## Planting Grasses

When planting grasses, there are various methods. However, Carbon Roots will discuss their selected method: simply planting seeds! Within your garden, place the seeds a half inch below the soil. The seeds can be scattered all throughout your garden. For optimal growth, grasses should be planted in the spring.



# TOP TIPS

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## **Start planting in fall or spring.**

Although the best time for planting varies from plant to plant, there is a general understanding of when to start your garden. Spring and fall are the best seasons to begin planting. Trees and grasses can be planted in fall, while flowers are best planted in spring.



## **Get the community involved.**

If this garden is in a public area, or even if it's not, try to get the public involved. An environmental initiative like starting your own garden is something the public should know about. The only way we can help our planet is by teaching others about living green.



## **Don't use pesticides.**

For the wellness of the garden, refrain from using pesticides and insect repellents. Pesticides can be harmful to important pollinators and other organisms in the garden. They can also be harmful to your own health.



## **Fence your garden.**

Starting your garden is a lengthy process. You don't want that effort to go to waste because of New Jersey's infamous deer! Fencing your garden, or even using mesh enclosures, can help keep the critters out.

# ABOUT US

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Carbon Roots was founded by Shivali Sethi, a student at High Technology High School. Shivali discovered her passion for environmental science after conducting research on how microplastic can impact basil, a universal herb. After brainstorming ways to help her community become green, she came to her idea. She wanted to help reduce Monmouth County's carbon footprint.

Carbon Roots aims to make Monmouth County greener, one carbon sink garden at a time. During the gardening process, they hope to advise towns on the best ways to create the garden. Their guidebook was created to help county residents also start their own carbon gardens. Carbon Roots highlights that impact is not only achieved at the town level; one person can also make a difference.

For more information, visit [www.co2roots.org](http://www.co2roots.org) or contact [sethishivali1@gmail.com](mailto:sethishivali1@gmail.com).