

# RUTGERS

New Jersey Agricultural  
Experiment Station



## Pollinator Gardens for the Homeowner

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# Lawns don't Support Pollinators!

- Over 40 million acres of lawn in U.S.
- Turf grasses are the single largest irrigated “crop” in the country.
- Lawns & non-native ornamental landscape plants support fewer pollinators, beneficial insects, songbirds, than native plants.



# Lawns Don't Support Pollinators!

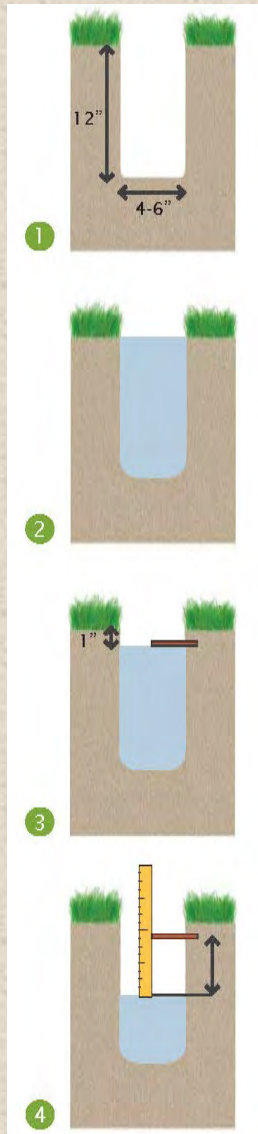
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- A wide-angle photograph of a large, green lawn with prominent diagonal mowing stripes. The lawn is bordered by a dense line of trees in the background. To the right, a portion of a house with light-colored siding is visible, along with a patio area featuring outdoor furniture and umbrellas. The overall scene is a typical suburban landscape.
- Over 40 million acres of lawn in U.S.
  - Turf grasses are the single largest irrigated “crop” in the country.
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## Parts of a Rain Garden





# Rain Garden - Check Your Soil Drainage



## Infiltration/Percolation Test

1. Dig a hole in the proposed rain garden site (12" deep, 4-6" wide).
2. Fill with water to saturate soil and then let stand until all the water has drained into the soil.
3. Once water has drained, refill the empty hole again with water so that the water level is about 1" from the top of the hole.
4. Check depth of water with a ruler every hour for at least 4 hours.
5. Calculate how many inches of water drained per hour.

**Want at least  $\frac{1}{2}$ " per hour percolation (1" if at a school).  
Garden should drain within 24 hours.**

## What is your soil type?

- Sandy – fast percolation
- Loamy – moderate percolation
- Clay – very slow percolation

pH

Nutrients

**Fertilizing – little or none needed when using native plants**

**Adding organic matter to improve soil**

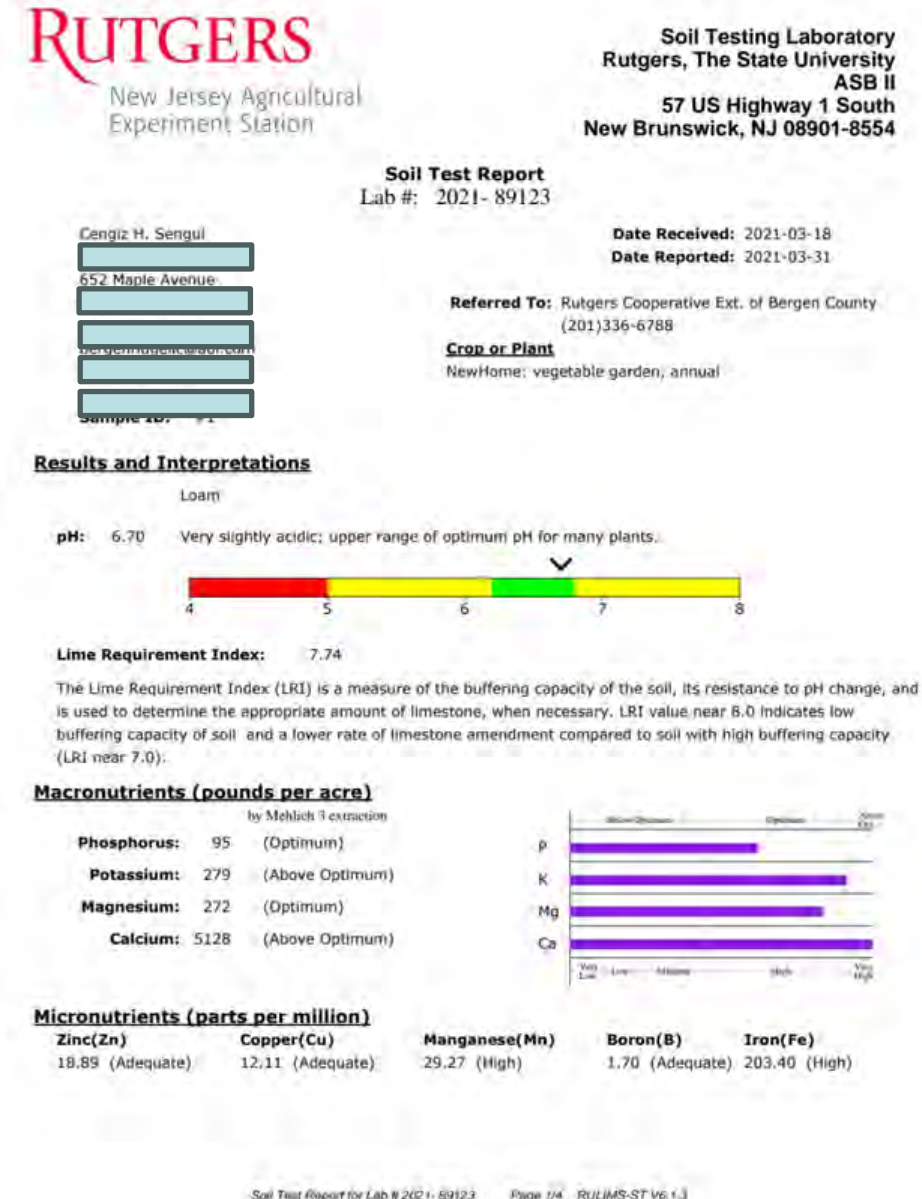
- **Soil Texture Test**

Roll soil into a ball in hand and see how it forms

- Hard ball – Clay/Silt soil
- Soft ball – Loamy soil
- No ball – Sandy soil

- Sample the soil and send to the ***Rutgers Soil Testing Lab*** for:

- Nutrient analysis/ recommendations (\$20)
- pH analysis/ recommendations
- Percent sand/ silt/ clay (\$30)





## CALL BEFORE YOU DIG "811"

**LOCATE YOUR UTILITY LINES!**

*Call BEFORE You Dig!*

*NJ One Call  
1-800-272-1000*

*The different colors of the markout flags represent specific utilities.*

	ELECTRIC
	GAS, OIL, STEAM
	COMMUNICATIONS, CATV
	WATER
	SEWER

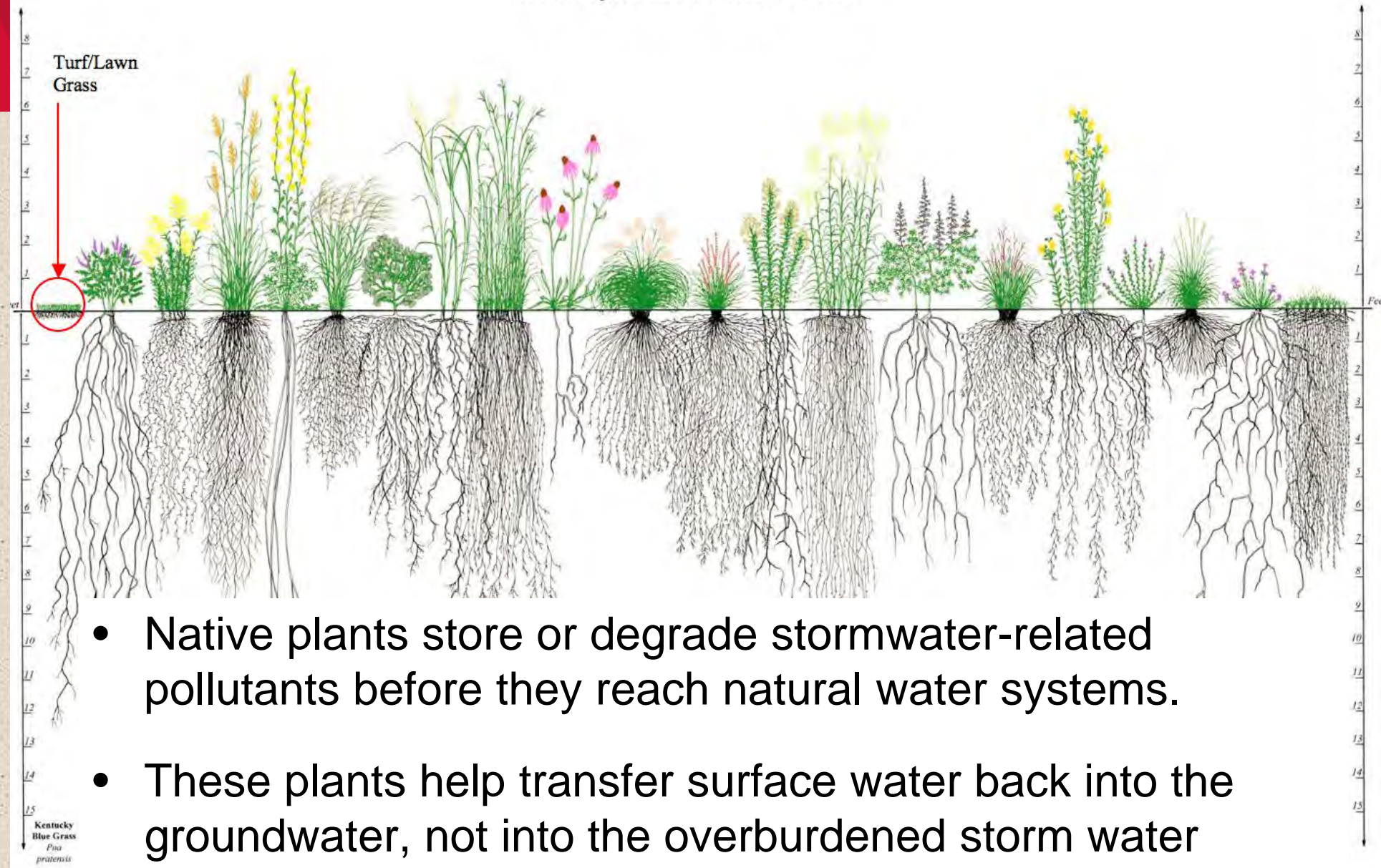
- **NJ One Call: 1-800-272-1000**
- Free mark-out of underground gas, water, sewer, cable, telephone, and electric utility lines
- Call at least 3 full working days, but not more than 10 days, prior to planned installation date
- Do not place rain garden within 5' horizontally and 1' vertically from any utilities



## Plants for the Garden

- Use native plants
- Deep roots
- Pollinators evolved with them.
- More disease resistant.
- Little or no fertilizer.

### Root Systems of Native Plants



- Native plants store or degrade stormwater-related pollutants before they reach natural water systems.
- These plants help transfer surface water back into the groundwater, not into the overburdened storm water drainage systems or highly impacted stream systems.

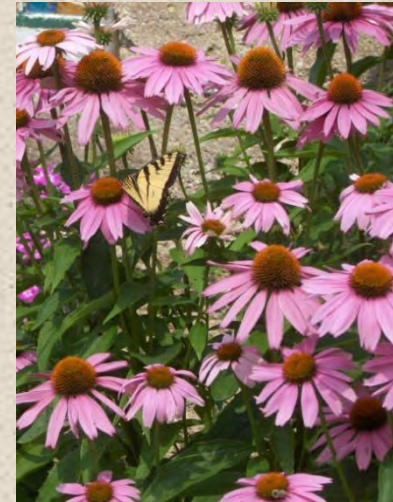




**Lizard's Tail – FACW+**  
*Saururus cernuus*



**Butterfly Weed – UPL**  
*Asclepias tuberosa*



**Purple Cone Flower – UPL**  
*Echinacea purpurea*



**Dense Blazing Star – FAC+**  
*Liatris spicata*



**Downy wood mint - UPL**  
*Blephilia ciliata*



**Black-eyed Susan – FACU**  
*Rudbeckia hirta*



**Wild Bergamot/ Bee Balm –UPL**  
*Monarda punctata*



**Beard Tongue – FAC+**  
*Penstemon hirsutus*





**Blue False Indigo - FAC**  
*Baptisia australis*



**Culvers Root – FAC**  
*Veronicastrum virginicum*



**Lowbush blue berry – FACU-**  
*Vaccinium angustifolium*



**Sneeze weed & Smooth Aster – FAC**  
*Helenium autumnale*  
*Symphyotrichum laeve*



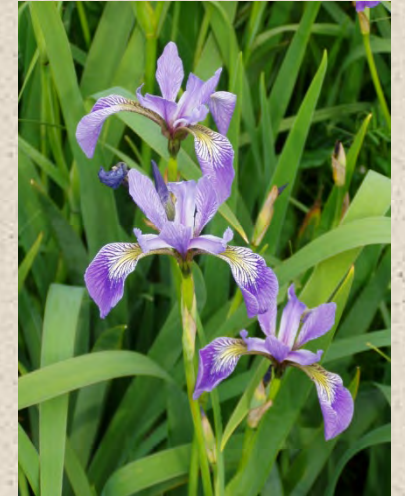
**Golden Alexander - Fac**  
*Zizia aurea*



**Maple leaf viburnum – UPL**  
*Viburnum acerifolium*



**Sage - UPL**  
*Salvia sp.*



**Blue flag iris – OBL+**  
*Iris versicolor*





**Rattlesnake Master – FAU-**  
*Eryngium yuccifolium*



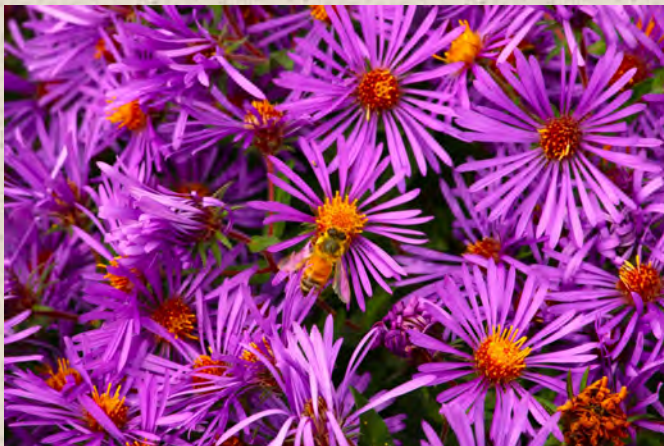
**Sweet pepperbush – FAC+**  
*Clethra alnifolia*



**Meadowsweet – FAC+**  
*Spiraea latifolia*



**Cardinal Flower – FACW+**  
*Lobelia cardinalis*



**New England Aster – FAC+**  
*Symphyotrichum novae-angliae*



**Boneset – FACW+**  
*Eupatorium perfoliatum*



**Purple Joe-pye – FAC**  
*Eupatorium purpureum*



**Spotted horsemint – UPL**  
*Monarda punctata*



## Level the Rain Garden Ponding Area



*Leonard Park, Morris County*

## Prepping a Pollinator Garden



*RCE of Camden County*







## Mulch Around New Plants





## Water! Every other Day First Summer













Homeowner rain garden. Drainage over family room.





June



September



mid-May





# Grow Your Own

## Prairiemoon.com

### Germination Codes

Anise hyssop seed:

C(30) D

Cold stratify 30 days

Surface sow

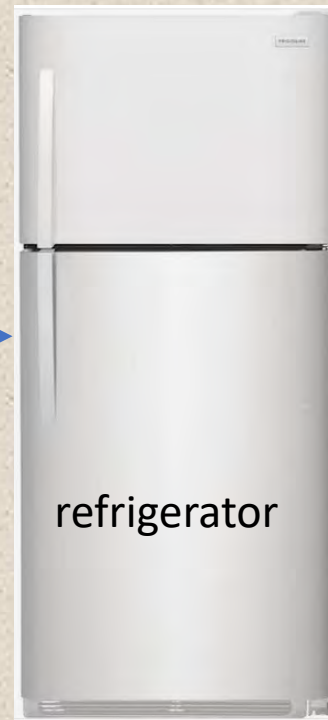
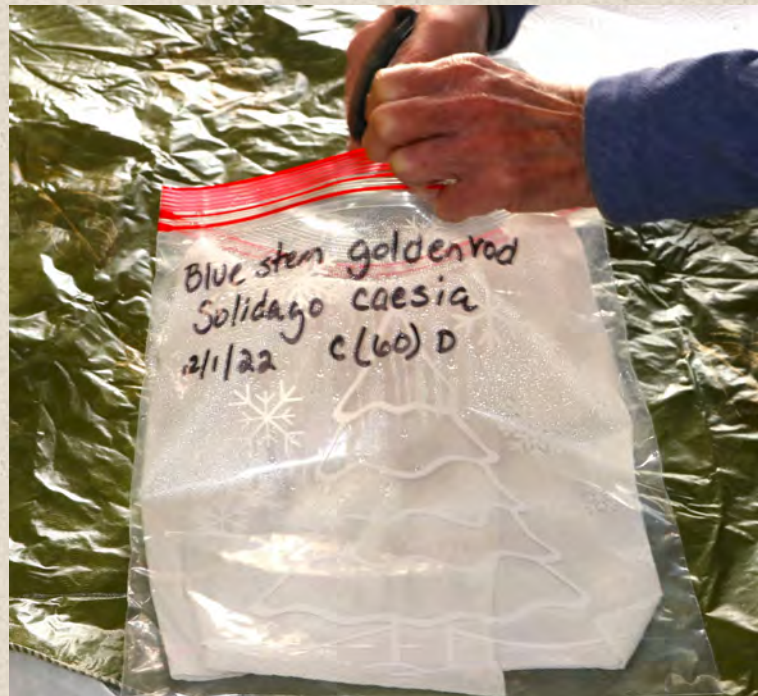


- A** Seeds germinate after sowing in a warm location.
- B** Bring water to a boil; remove from heat. Pour over seed and allow the seed to soak for 24 hours at room temp prior to planting or starting artificial treatment.
- C (M)** Seeds germinate after sitting out over winter or after a period of cold, moist stratification. Sow seeds outdoors in the fall to over-winter naturally and see germination the following spring, or artificially stratify seeds for the number of days in the parenthesis. **For more detailed instructions on artificial stratification, go to prairiemoon.com and type GERMINATION into the search bar.**
- D** Surface sow: Seeds are very small or need light to naturally break dormancy and germinate.
- E** In order to germinate, seeds need a warm, moist period (summer) followed by a cold, moist period (winter). Sow seeds outdoors in spring and expect germination the following spring, one full year later. To artificially mimic this stratification process, mix seeds with damp sand, place in a labeled, sealed plastic bag and store in warm (about 80°F) location for 60–90 days. Then place in refrigerator (33–38°F) for 60–90 days before sowing.
- F** Seeds have double dormancy and need a cold, moist period (winter) followed by a warm, moist period (summer) followed by a 2nd cold, moist period. Sow seeds outdoors in the fall and expect germination after 2 years. Artificially mimic this stratification process by following instructions for code C for 60–90 days, then store in warm (about 80°F) place for 60–90 days, followed by a 2nd cold, moist period for 60–90 days.
- G** Seeds germinate most successfully in cool soil. Sow seeds in late fall (after hard frost) or early spring.
- H** Seeds need scarification: To scarify, lightly rub between two sheets of sandpaper before artificial stratification.
- I** Legume: Rhizobium Inoculum may be added. Most legume species harbor beneficial bacteria called rhizobia on their roots. Genus-specific strains of this bacterium called inoculum can aid in the fixation of atmospheric nitrogen and improve long-term health of native plant communities. Inoculum is naturally-occurring in most soils and additional amendment is usually not needed. However, in low fertility soils, it may be necessary. Genus-specific strains are available at [prairiemoon.com/inoculum](http://prairiemoon.com/inoculum)
- J** We remove the hulls from these legume seeds.
- K** Hemiparasitic species which needs a host plant. Good hosts for many parasitic species include low-growing grasses and sedges.
- L** Plant fresh seed or keep moist
- M** Best planted outdoors in the fall.
- N** Impermeable seed coat. Needs nicking.
- ?** Not sure. Your input would be of interest to us.

NEED MORE DETAILED  
GERMINATION INSTRUCTIONS?  
SEARCH "GERMINATION" AT  
[PRAIRIEMOON.COM](http://PRAIRIEMOON.COM)



# Stratify Seed (just chillin'...)





# Install a Rain Barrel with your Pollinator Garden





Links provided for  
videos about how to  
build, install and paint  
your own rain barrel.

