

# **Planting in a Septic Drain Field**







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## **Potential Problems**

- 1) Roots clog drain lines
- 2) Gardening activities reduce function:
  - Watering plants
  - Adding fertilizers
  - Mulching
  - Digging/tilling too deep
    - Lines may be as shallow as 6"!











## Why Have Plants at All?

- Use moisture
- Use nutrients
- Reduce soil erosion
- Make use of available space
- Improve appearance
- Provide pollinator and wildlife habitat
- Protect drain field by limiting traffic









## **Best Options: Turf**

- Need full sun at least fours hours/day
  - Tall fescue (tolerates some shade)
  - Zoysia (tolerates some shade)
  - Bermuda (full sun)
- Require frequent fertilization
- Don't irrigate septic drain field
- Keep vehicles off!





## Sustainable Lawns and Lawn Alternatives Workshop

**Tues., April 30, 2019** 10:00 – 12:00pm **Wed., April 26, 2019** 6:30 – 8:30pm

chatham.ces.ncsu.edu











## **Best Options: Perennials**

- Return year after year from the same roots
- Herbaceous root systems
- Choose varieties adapted to site



Chatham Mills Pollinator Paradise NC Cooperative Extension



Debbie Roos Sustainable Agriculture Agent



#### **Ornamental Grasses**





**River Oats** Chasmanthium latofolium Muhly Grass Muhlenbergia capillaris



#### **Shade-Part Shade Flowering Perennials**



Blue Star Amsonia tabernaemontana



**Cardinal Flower** Lobelia cardinalis



Wild Columbine Aquilegia candaensis



### **Sun Flowering Perennials**







False Indigo Baptisia spp.

Blazing Star Liatris spicata

Brown-Eyed Susan Rudbeckia triloba



## **Worst Option: Trees**

- Woody root systems
- Roots grow where there is air, water and nutrients
- Invade drain lines and clog









## **How Far Away?**

- <u>Minimum</u> = at least distance of mature height of tree
- Example: Red maple grows
  ~ 50' tall, plant minimum 50'
  from edge of drain









#### **Tree Roots Extend Beyond the 'Drip Line'**



### NC COOPERATIVE

## **Small Trees**

- Spread of root system directly proportional to size of tree
- Smaller trees (mature < 25') have less extensive root systems = better option
- Minimum distance = 25-30'









#### http://plants.ces.ncsu.edu NC State Extension Plants Database

Plants		Grow Plants Buy Plants
Annuals	Poisonous Plants	
Carnivorous Plants	Roses	
Edible Plants	Shrubs	
Ferns	Spring Bulbs	
Groundcover	Summer Bulbs	
Herbs	Trees	
Native Plants	Vines	
Ornamental Grass	Water Garden	status -
Perennial Bulbs	Wildflowers	
Perennials	All Plants	



## What About Existing Trees?

- Best to remove trees in the drain field
  - Installation damages roots, harms tree
  - Increases potential for uprooting
- Recommended to remove trees growing within 30' of drain field



**Dieback** - Classic symptom of root damage









#### The Worst and the Least Bad Trees

#### **Avoid NEAR drain fields**

- Beech, Fagus spp.
- Birch, Betula spp.
- Elm, Ulmus spp.
- Poplar, Populus spp.
- Red Maple, Acer rubrum
- Silver Maple, Acer saccharinum
- Bald cypress, Taxodium distichum
- Willow, Salix spp.
- Willow Oak, Quercus phellos

Better Choices NEAR drain fields

- Cherry, *Prunus spp.*
- Crabapple, Malus spp.
- Dogwood, Cornus spp.
- Sourwood, Oxydendron arboretum
- Oaks (some), Quercus spp.
- Pines, Pinus spp.







### **Shrubs**

- Better option than trees
- Woody roots but less extensive
- Never plant over lines
- Recommend at least 10' away from drain field

Blueberries do not tolerate high pH or excess nutrients



### NC COOPERATIVE EXTENSION

## **Root Barriers**

- Geotextiles embedded with herbicides
- Installed between trees and drain field
- Buried vertically from soil surface to 2-3 feet deep, length of drain field
- At least 5' from drain field + 5' from tree
- Roots may grow under
- \$\$\$









## What About Vegetables?

- NOT recommended!
- Potential for bacterial contamination
- Require fertilization, irrigation, soil cultivation
- NO raised beds over drain field









### If You Must . . .

#### **Avoid root crops**

- Potato, radish, carrot, beet, turnips, onions
- May be contaminated with harmful bacteria









### If You Must . . .

#### Avoid crops with soil contact

#### - Foliage crops:

• Lettuce, spinach, cabbage, "greens"

#### – Fruiting crops:

- squash, zucchini
- Melons, cucumbers --- only if trellis





#### **Vegetables – Best Options**

#### Fruiting crops that grow up!

- Warm season: Beans, corn, eggplant, okra, pepper, tomato (cage)
- Cool Season: Broccoli, garden peas, collards/kale – avoid lower leaves









## **Planting on Septic Drain Fields**

#### **Best:**

- Low growing, low maintenance, low water use
- Perennials, turf

#### Worst:

Woody plants: trees and shrubs

#### **Vegetables:**

• Possible but not recommended









## **Soil Testing in North Carolina**

- NCDA Agronomic Services Division
- Analysis is *free* for NC residents
  - Free: Apr.-Nov.
  - \$4/sample: Dec-Mar
- Funded by fertilizer tax
- Determines fertilizer and lime needs
- Chatham EMGVs deliver to Raleigh Apr.-Nov.!







Master Gardener | Chatham County

EMGVs are trained to find researchbased information and provide nonbiased advice on behalf of Extension

Interested? Training begins 2019! <u>https://chatham.ces.ncsu.edu/</u>



Plant Clinic MW: 1-4pm F: 9-12am 919-545-2715 chathamemgv@gmail.com



### **Chatham Gardener List**

- Garden Tips and Updates
- Monthly newsletter returning this fall!
- Upcoming classes and events

#### To subscribe:

http://go.ncsu.edu/subscribecg



#### **Resources on Container Gardening**

#### **NC State Extension Gardener Handbook**

- Chapter 18 Plants Grown in Containers
- Chapter 16 Vegetable Gardening
- Chapter 17 Organic Gardening
- FREE online!
- <u>https://content.ces.ncsu.edu/extension-</u> <u>gardener-handbook</u>



Color Hardback (700+ pages) from UNC Press (\$60)