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 four 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

Debbie Roos
Sustainable Agriculture Agent
Ornamental Grasses

River Oats
*Chasmanthium latifolium*

Muhly Grass
*Muhlenbergia capillaris*
Shade-Part Shade Flowering Perennials

Blue Star
*Amsonia tabernaemontana*

Cardinal Flower
*Lobelia cardinalis*

Wild Columbine
*Aquilegia canadensis*
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?

• **Minimum** = 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’

- Canopy, 30’
- Dripline
- Root Spread = 90’+
- Depth in feet
- Depth in meters

Root Spread = 90’+
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’

Eastern Redbud
*Cercis canadensis*
http://plants.ces.ncsu.edu
NC State Extension Plants Database
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
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

- Cherry, *Prunus* spp.
- Dogwood, *Cornus* spp.
- Sourwood, *Oxydendron arboretum*
- Oaks (some), *Quercus* 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
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.!
EMGVs are trained to find research-based information and provide non-biased advice on behalf of Extension.

Interested? Training begins 2019!

https://chatham.ces.ncsu.edu/

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!

• https://content.ces.ncsu.edu/extension-gardener-handbook

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