

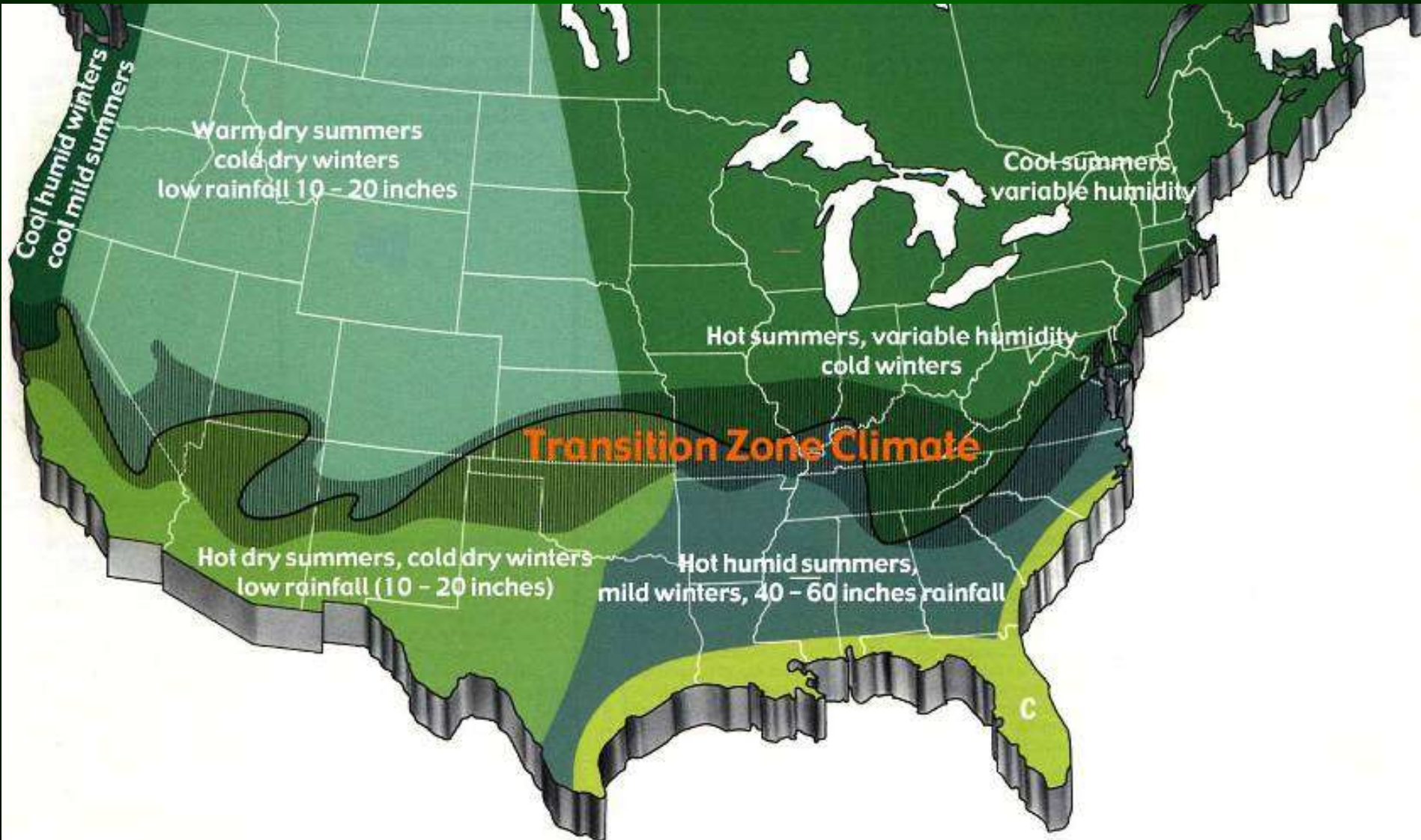
Home Lawns: Selection, Establishing, and Maintaining

**Adam Nichols
Research Manager
Hampton Roads AREC
Virginia Tech**

I just want
green grass!!

-Frustrated Homeowner

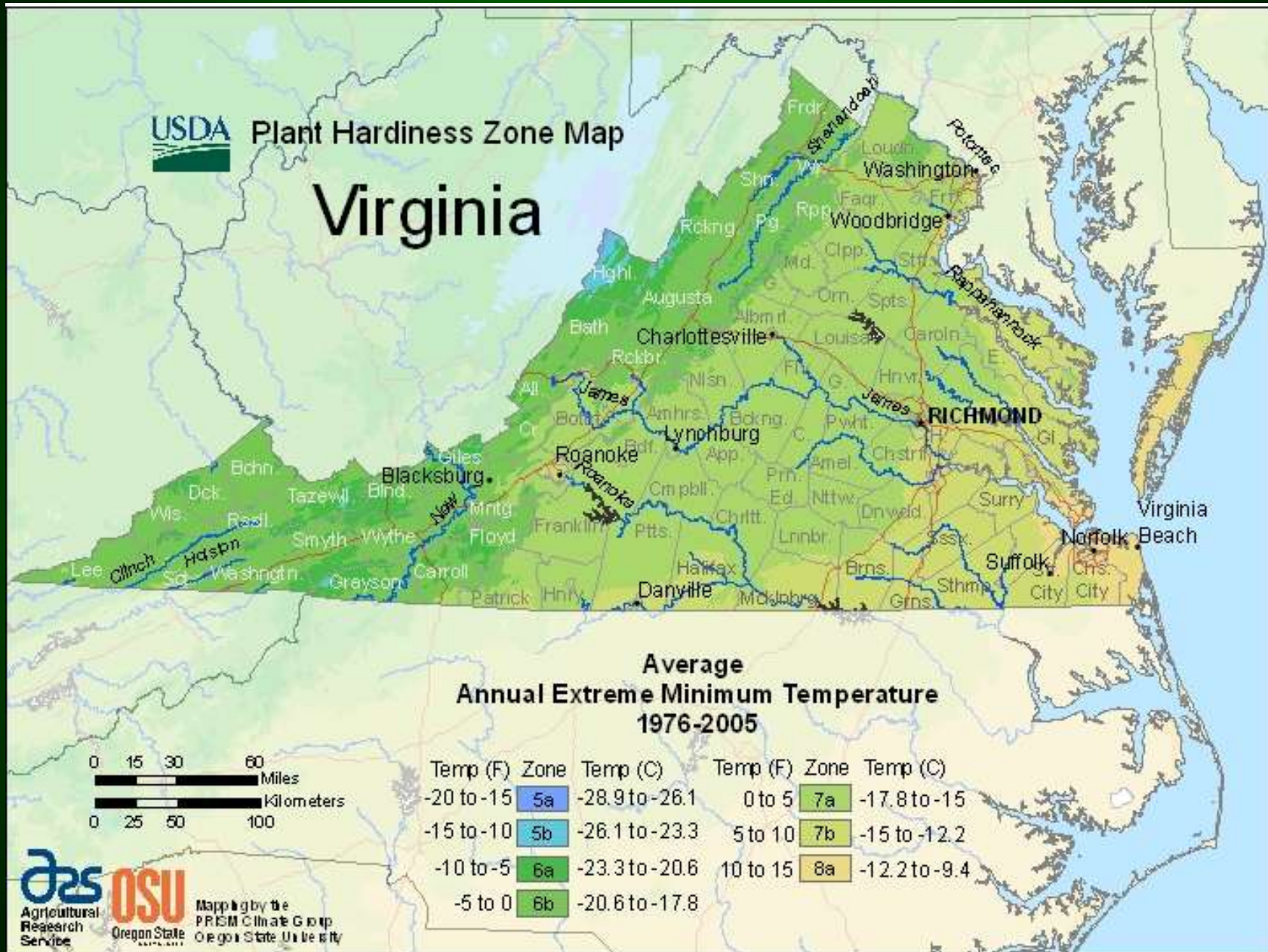
Transition Zone



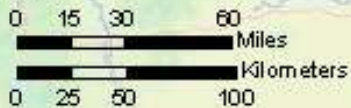


Plant Hardiness Zone Map

Virginia



Average Annual Extreme Minimum Temperature 1976-2005



Temp (F)	Zone	Temp (C)	Temp (F)	Zone	Temp (C)
-20 to -15	5a	-28.9 to -26.1	0 to 5	7a	-17.8 to -15
-15 to -10	5b	-26.1 to -23.3	5 to 10	7b	-15 to -12.2
-10 to -5	6a	-23.3 to -20.6	10 to 15	8a	-12.2 to -9.4
-5 to 0	6b	-20.6 to -17.8			



Mapping by the
PRISM Climate Group
Oregon State University

Year-Long Cycles

Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
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Cool-season grasses green-up quickly, rapidly grow. Warm-season grasses slowly green-up.

Cool-season grasses resume rapid growth. Warm-season grasses slow down growth, and enter dormancy.

All grasses go into some form of dormancy as continued frost occur

Warm-season grasses begin rapid growth. Cool-season grasses slow down growth, and struggle with heat and drought.



Bermudagrass



Zoysiagrass



Kentucky Bluegrass



Tall Fescue



Perennial Ryegrass



Annual Ryegrass

Warm-season Grasses

- Bermudagrass – *Cynodon spp.*
- Zoysiagrass – *Zoysia spp.*
- St. Augustine – *Stenotaphrum secundatum*
- Centipedegrass – *Eremochloa ophiuroides*
- Seashore paspalum – *Paspalum vaginatum*

Cool-season Grasses

- Tall fescue – *Lolium arundinaceum*
- Kentucky bluegrass – *Poa pratensis*
- Perennial ryegrass – *Lolium perenne*
- Fine fescue – *Festuca spp.*

Bermudagrass



Bermudagrass

- Rhizomatous and stoloniferous
 - Excellent wear tolerance
 - Excellent recovery from wear
 - Fast establishment
 - Competitive against weed invasion
- Tolerates low mowing
 - 0.5"-2"
- Excellent salt tolerance...
- Relatively few insect or disease problems



Bermudagrass

"Common" *C. dactylon*

- Can be established from seed
- Characteristics vary greatly based on cultivars
- Typically has less desirable traits



"Hybrid" *C. dactylon x transvaalensis*

- Excellent turf density
- Fine leaf texture
- Dark green color
- Can only be established through vegetative means



Bermudagrass

"Common" *C. dactylon*

- Riviera, Princess-77, Yukon, Sovereign, Blackjack, Veracruz, Sunsport, Gold Glove, Hollywood, NuMex-Sahara

"Hybrid" *C. dactylon x transvaalensis*

- Patriot, Northbridge, Latitude 36, Tifway (419), Tifsport, Tifton 10, Premier, Celebration

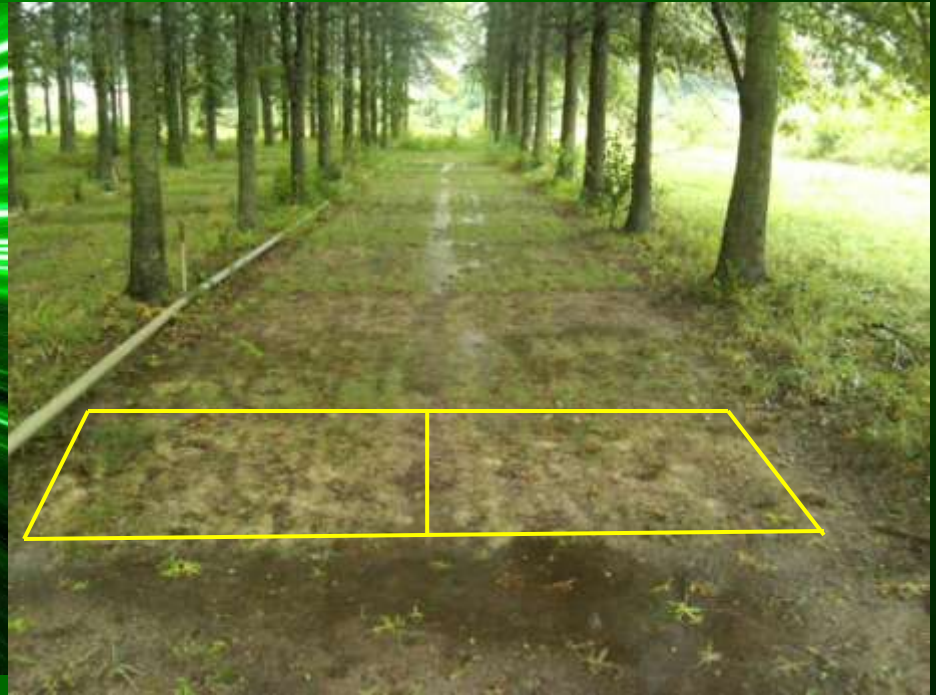


Bermudagrass

- Quick winter dormancy means loss of turf color for 4-5 months
- Questionable cold tolerance, especially for some cultivars
- Invasive – Higher maintenance requirements
- High thatching tendency
- Higher N requirement – 4 - 6 lbs N/1000 ft² annually
- VA: Spring Dead Spot/winterkill concerns



Bermudagrass



Zoysiagrass

- Rhizomatous and stoloniferous
- Low N input – 1.5 lb N/1000 ft² annually
- Less aggressive than bermudagrass
- Better shade tolerance
- Slower growing
- Greatest cold tolerance
- Relatively low mowing heights
– 0.5"-3"
- Seed and vegetatively propagated
- Excellent weed competitiveness
- Multiple species for improved varietal characteristics



Zoysiagrass

- *Zoysia japonica* – Meyer, Palisades, Empire, El Toro, Zenith (s), JaMur
- *Zoysia matrella* – Zeon, Zorro, Diamond, Cavalier
- *Zoysia* hybrid – Emerald



Zoysiagrass

- Slow to establish from seed
- Slow to recover from wear
- High thatching tendency
- Minor pest problems such as large brown patch,
- Lighter green colored compared to bermudagrass and cool-season grasses
- Thick dormant canopy and lack of aggressiveness does not allow for successful winter overseeding



Summer 2008



2 lbs Zoysiagrass Plots
Seeded June 10, 2008
3.5 months after
seeding



Fall 2008

Summer 2008

2 Years after seeding



An environmentally friendly way to achieve 'green'? Turf paint, in this case a product called 'Greenlawnger'.

December 17, 2009, Immediately before spraying.



December 17, 2009, Immediately
after spraying.



March 5, 2010



April 4, 2010

Zoysiagrass



0 DAT



99 DAT



St. Augustine

- Stoloniferous
 - Aggressive stolon producer
 - Excellent wear tolerance
- Most shade tolerant warm-season grass
- Highest recommended mowing height among warm-season grasses
 - 2.5"-3.5"
- Low annual N requirement - ~2 lbs N/1000 ft²
- Raleigh, Palmetto, Bitterblue, Classic



St. Augustine

- Vegetatively propagated only
- Very poor cold tolerance
- Susceptible to many diseases
 - SAD
 - Large patch
 - Gray leaf spot
- Chinch bugs
- Light green color
- Thicker leaf-blades
- Limited herbicide usage



Centipedegrass

- Stoliferous
- Minimal fertilizer needs- 1 lbs N/1000 ft² annually
- Finer leaf blades than SA
- Very slow growing
- Mowing height: 1-2.5"
- Prefers acidic soil
- Very responsive to Fe for temporary color
- Established by seed and vegetative means
- "Lazy Man's Grass!"
- Tifblair, Centennial, Oaklawn



Centipedegrass

- Can easily be over managed
- Slow establishment
- Expensive seed price - \$20-25 /lb seed
- Poor cold tolerance
- Limited herbicide usage





Centipedegrass vs. St. Augustine

Seashore paspalum

- Rhizomatous and stoloniferous
 - Aggressive growth habit
 - Bermuda-like density
- Soft, fine leaf texture
- Extremely high salt tolerance
- Tolerates low-mowing heights
 - 0.5" – 2"
- Seed and vegetatively propagated
- Sea Isle 1, Sea Isle 2000, Sea Isle Supreme, Sea Spray, Sea Dwarf, Sea Srar, Aloha



Seashore Paspalum

- Poor cold tolerance
- Poor disease tolerance
- Poor shade tolerance
- High N requirement –
4 lbs N/1000ft²
annually
- Limited herbicide
usage



Tall Fescue

- Drought tolerant
- Heat tolerant
- Mostly propagated from seed
 - Rapid germination
- Dark green color
- Most cultivars available for any turfgrass
- Rhizomatous potential
- Tall mowing requirements
 - 3" – 4"





Tall Fescue



- RHIZOCTONIA!!
- Bunch-type grass
 - Sod
- Thick leaf texture





Better to mow tall fescue at 4 inches than 2.5 inches

Kentucky Bluegrass

- Rhizomatous
- Dark color
 - Darkest green color of any turfgrass
- Med-fine texture
- Good mowing quality
- Cold tolerant
- Good drought tolerance
- Tolerates low mowing
 - 0.75" – 3"



Kentucky Bluegrass

- Slow germination/ establishment
- Poor traffic tolerance
- Med. Heat tolerance
- Shallow rooted: poor drought avoidance
- Med/poor shade tolerance
- Med-high N needs – 3-4 lbs N/1000ft² annually
- Grubs, leaf spot, summer patch, dollar spot, powdery mildew, rust



Perennial Ryegrass

- Fine leaf texture
- Shiny leaf surface
- Excellent mowing quality
- Fastest germination of any turfgrass
 - 5 days
- Tolerates low mowing
 - 0.75" – 4"
- Good traffic tolerance
- Cheap seed
- Excellent for overseeding bermudagrass



Perennial Ryegrass

- Bunch-type grass
- Very disease susceptible
- High N requirements – 4 lbs N/1000ft² annually
- Poor shade tolerance
- Poor heat/drought tolerance



Fine Fescue

- Creeping red fescue – *Festuca rubra*
- Hard fescue - *Festuca longifolia*
- Chewings fescue – *Festuca rubra* L. *spp. commutata*
- Finest leaf texture of any turfgrass
- Excellent shade tolerance
- High Mowing heights
 - 4" - 6"
- Low maintenance needs
 - 4-5 mowings per summer



Fine Fescue

- Most are bunch-type
- Poor mowing quality
- Poor traffic tolerance/recovery
- Poor quality when over-managed
- Lighter green
- Does poorly in high humidity/saturated soil
- Summer patch, brown patch, dollar spot



Questions?

