

HOW TO IMPROVE LAWN MANAGEMENT

Reducing Fertilizer and Water Use in the Home Lawn

By Sarah Browning, Nebraska Extension Educator




- Grow the roots
- Mow it tall
- Water-wise irrigation
- Frugal fertilization

Aeration & Compacted Soils

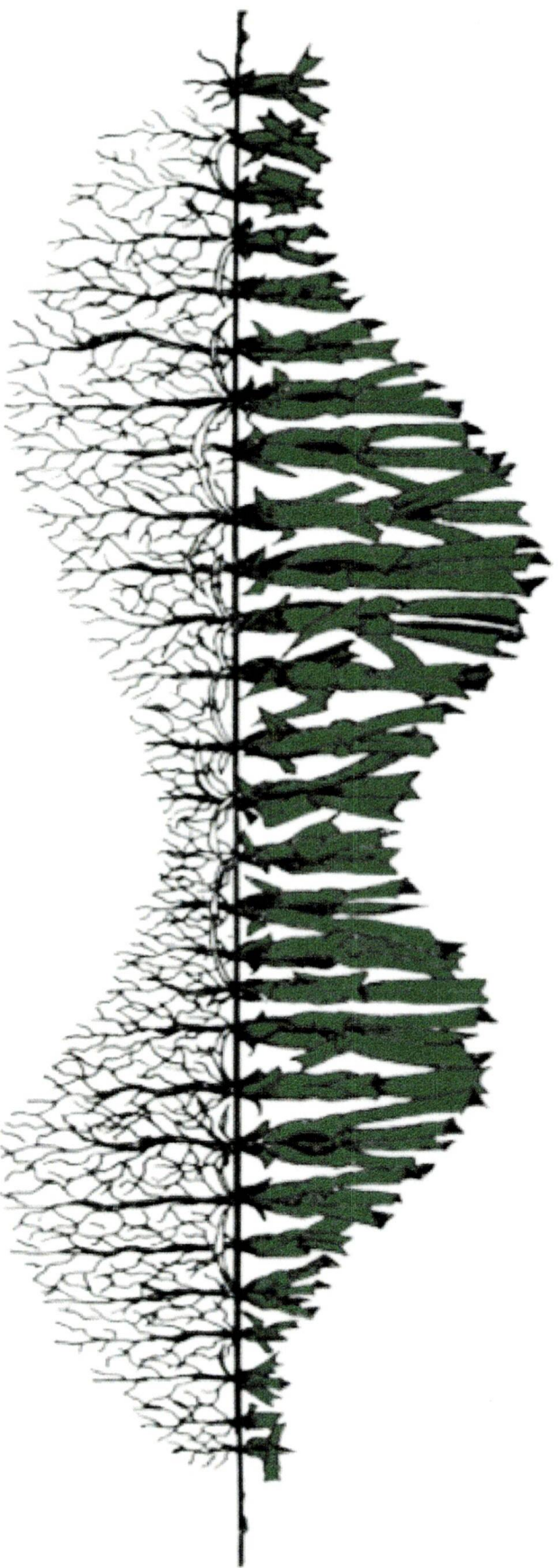
- Reduced Thatch
- Better Rooting
- Less Compaction
- Reduced Runoff
- Better Water Uptake
- Improved Fertilizer Use



An aerial photograph of a lush green agricultural field. A dashed white line is drawn across the field, roughly parallel to the top edge, defining a specific area. The field is densely packed with crops, showing a vibrant green color. The dashed line is composed of small white squares.

Core cultivated
(30 min after irrigation)

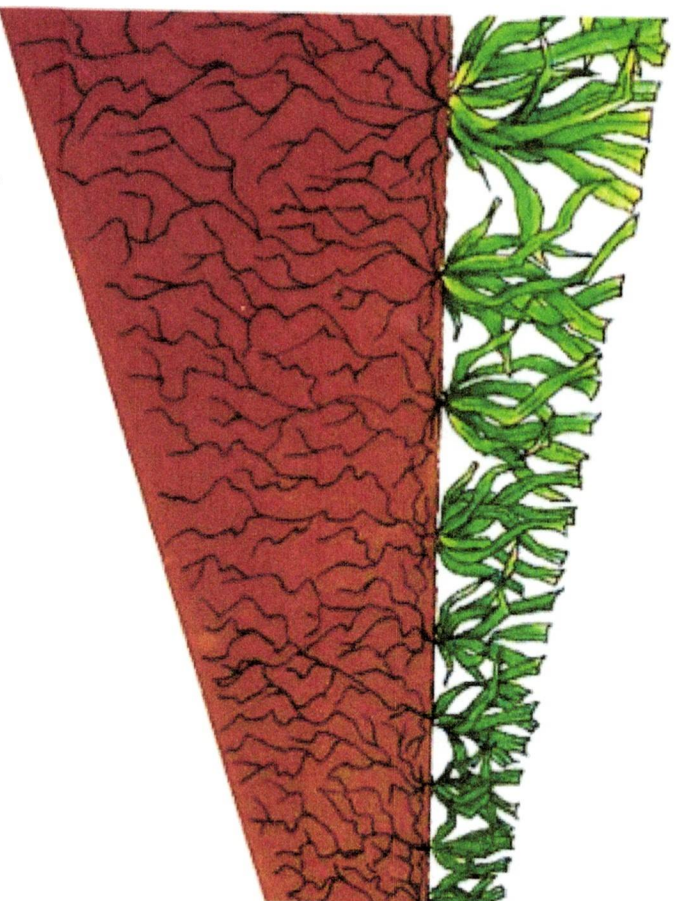
Aeration Timing



MAR APR MAY JUN JUL AUG SEPT OCT NOV

Graphic from A. Turgeon

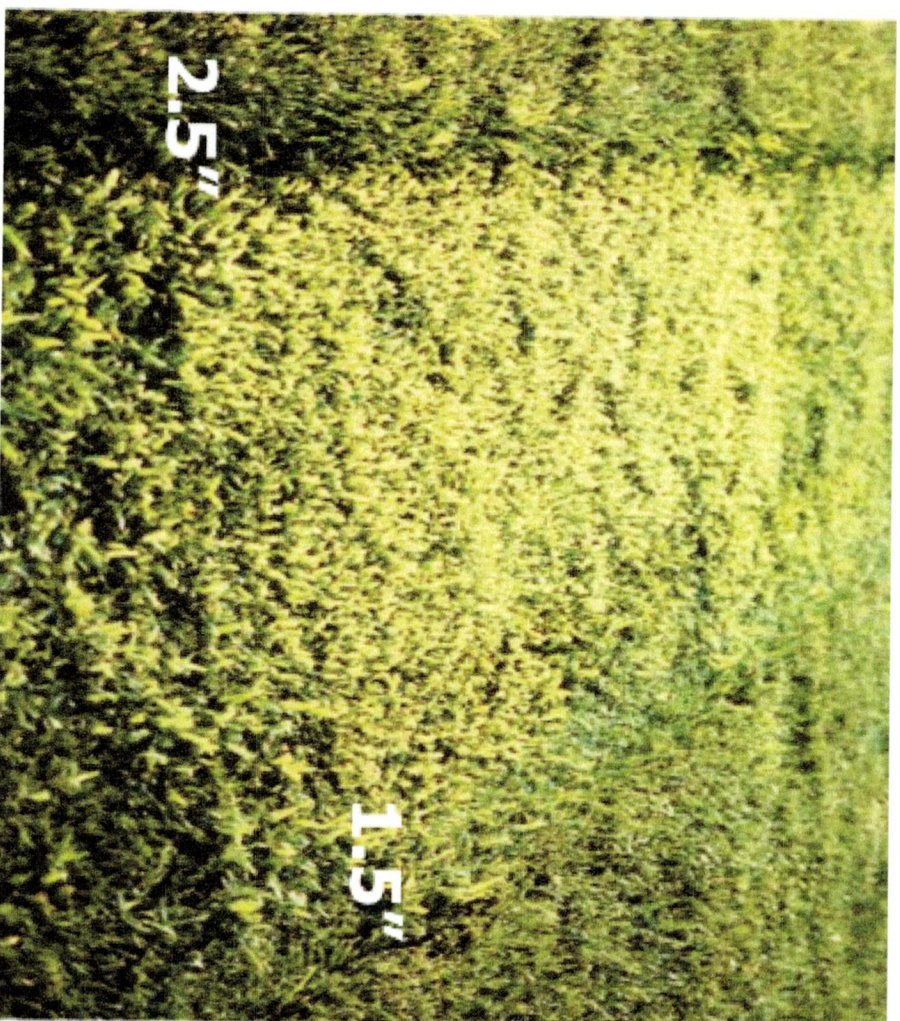
Mow it Tall



As mowing height decreases, rooting depth also decreases and maintenance increases.

Species	Mowing Height <i>All Season</i>
Kentucky bluegrass	3-3.5"
Tall fescue	3-3.5"
Buffalograss	3-4"
Zoysiagrass	2.5-3"

Mowing Height Effects on Weed Pressure



Mowing Height	1.5"	2.5"	4'
Species	Weed Infestation %		
Kentucky bluegrass	55	25	7
Tall fescue	45	23	2

Water Use vs. Drought Tolerance

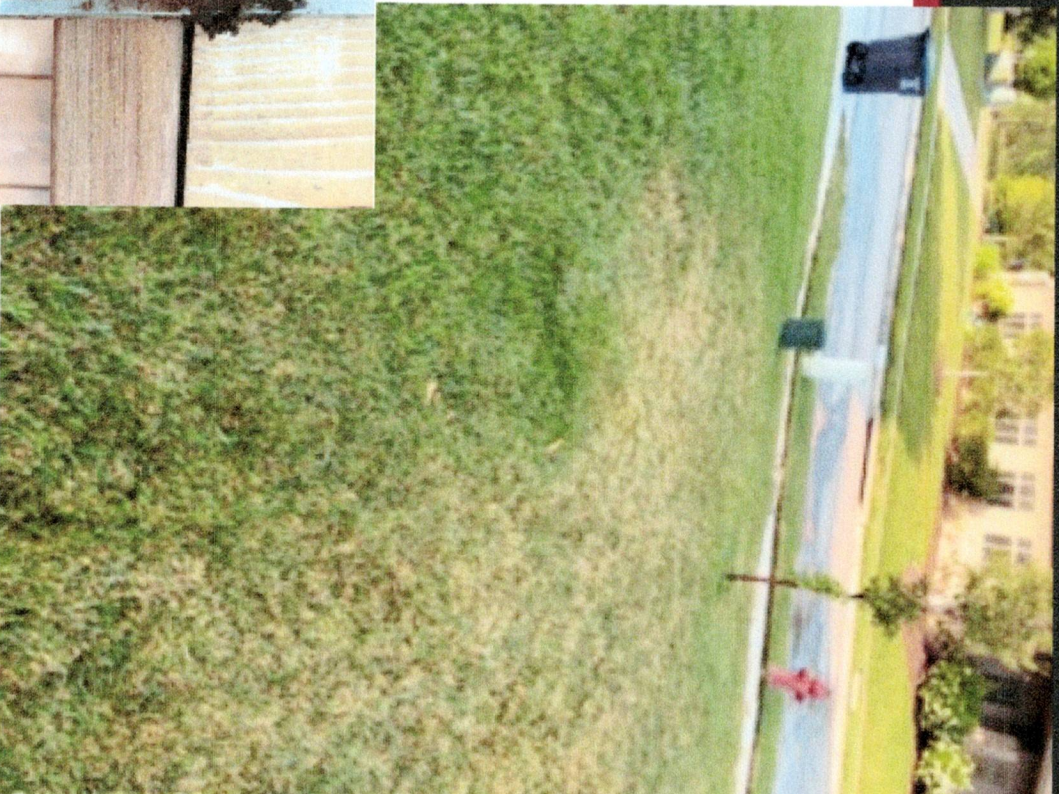
Drought Tolerance

Buffalograss	
Zoysiagrass	
Tall Fescue	
Kentucky bluegrass	
Perennial ryegrass	Least

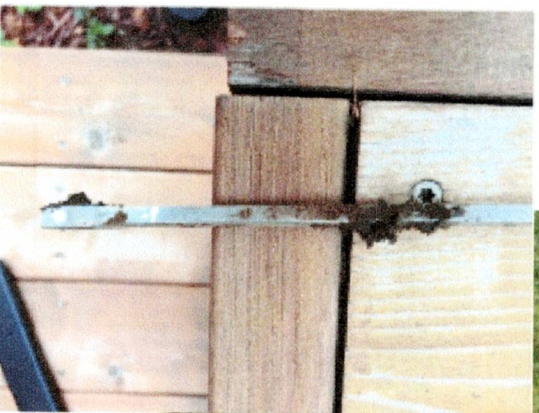
Water Use

	Mm/day	Inches/week
Kentucky bluegrass	4-6	1.0-2.0
Buffalograss	5-8	1.3-2.0
Zoysiagrass	5-8	1.3-2.0
Perennial rye	6-11	1.5-3.0
Tall fescue	7-13	2.0-4.0

Watering Tips

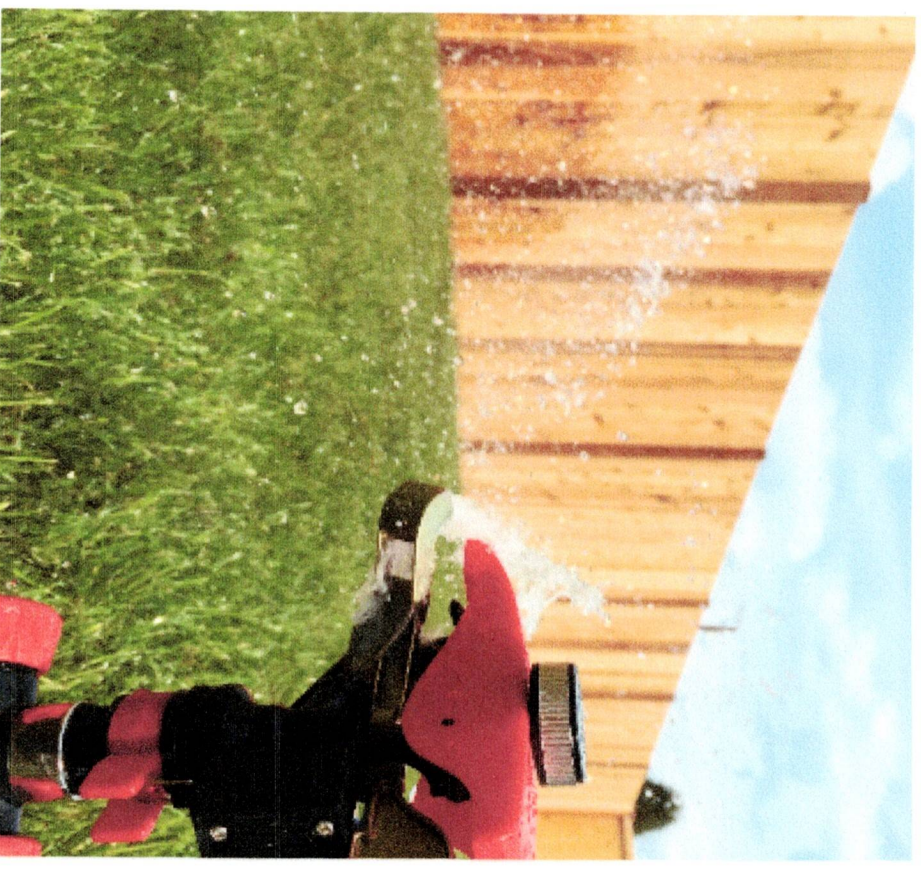


- Look for wilting symptoms
 - Color change
 - Leaf blades don't spring back after foot traffic
- Measure soil moisture level to determine need to water
 - Screwdriver
 - Water deeply and infrequently



Water to the Bottom of the Roots

- Spring & Fall 1” water / week
- Summer
 - Heavy soils- 1.5” water / week
 - Sandy soils- 2” water / week
- For water conservation allow Kentucky bluegrass to go dormant
 - Greater susceptibility to wear damage
 - Disease & insect injury may go undetected



Turfgrass Nitrogen Rates

Species	N required each year (lb./1000 sq.ft.)
Improved Kentucky bluegrass	3-6
Common Kentucky bluegrass	2-4
Perennial ryegrass	3-6
Tall fescue	1-4
Zoysiagrass	1-3
Buffalograss	0-2

Nutrient Value of Clippings

- 6-7% N
- 0.25 – 1% P
- 1 – 4% K

Returning clippings can provide 1 lb.N/1000 sq.ft. over the course of a summer.

Pre 2020 | Fertilizer Application Timing and Rate

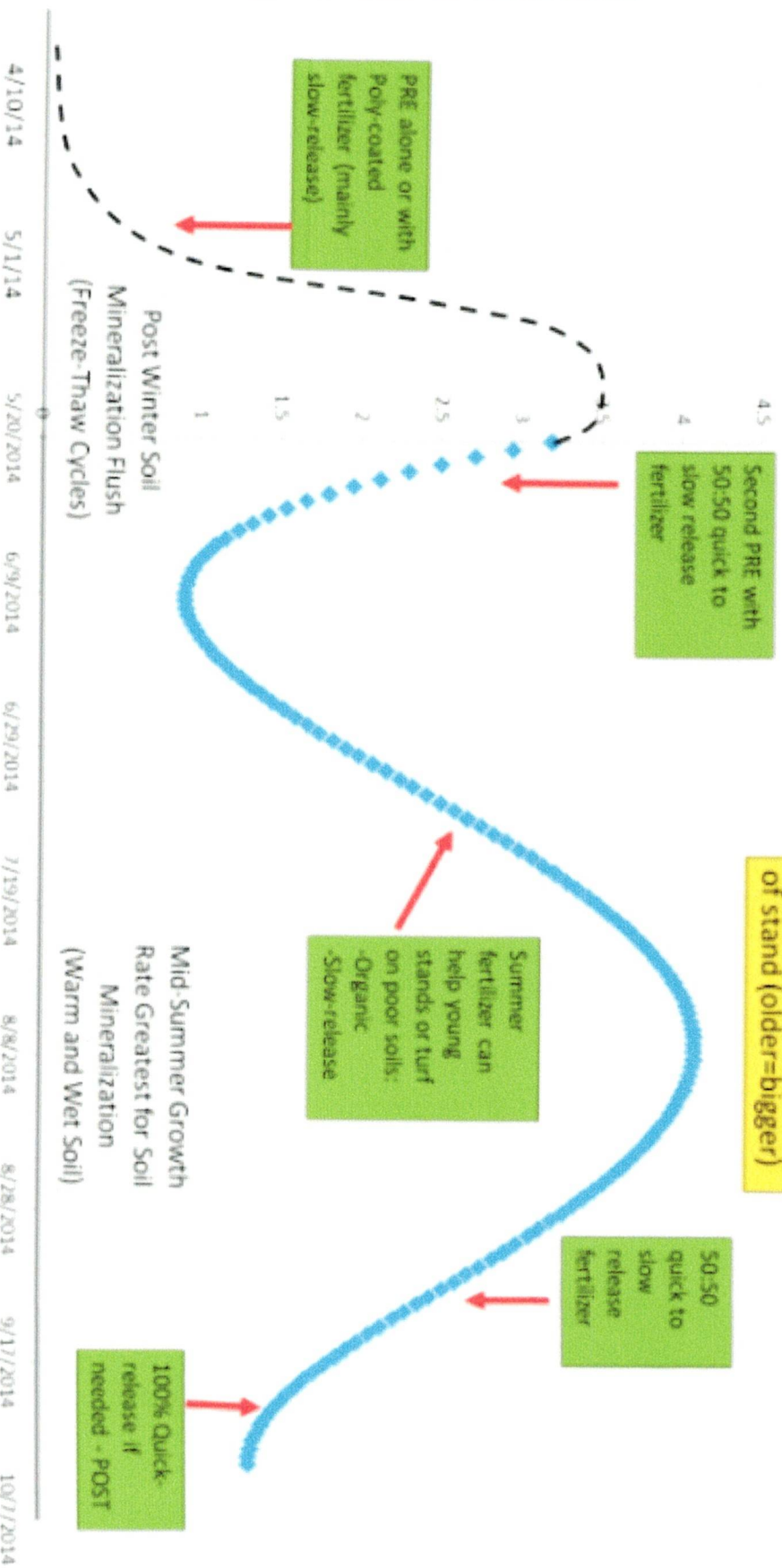
Application	Timing	N / 1000 ft ²	Total N Applied
1	April 20-May 10 Tax Day, April 15	0.5 – 1.0 lb	1/3
2	June 5 – June 15 Memorial Day, May 30	0.75 – 1.0 lb	
3	September 1 – 15 Labor Day, Sept 1	0.75 – 1.0 lb	2/3
4	Oct 15 – Nov 15 Halloween, Oct 30	1.0 – 1.5 lbs	

Tall Fescue Clipping Yield – No Fertilizer

Turf growing but few mowing events to measure yield

Clipping yield measured during all the mowing events

Measured Turf Clipping Yield
Tall Fescue in Nebraska



Height of these 2 peaks depends mainly on age of stand (older=bigger)

Kentucky Bluegrass Recommendations – **Current**

Fertilizer Application Timing and Rate

Timing	Turf Age	N / 1000 ft ²	Young Turf Total N	Established Turf Total N
April 15-25	Young	0.5 – 0.75 lb		
Late May – mid June	Young & established	0.75 – 1.0 lb	<ul style="list-style-type: none"> • 2.5 – 3.75 lbs. • Plus clipping return = 4.75 lbs. 	
Late August – early September	Young	0.75 – 1.0 lbs 50% soluble & 50% slow-release		
Mid-September	Established	0.75 – 1.0 lbs 30-50% soluble & 50% slow-release		<ul style="list-style-type: none"> • 1.50-2.0 lbs. • Plus clipping return = 3.0 lbs
Mid-October	Young	0.5-1.0 lbs. Quick release		

Tips to Fertilization Success

- Base applications on lawn color, vigor, density and growth rate
- Use slow-release Nitrogen fertilizers
 - Methylene urea
 - Urea formaldehyde
 - IBDU (isobutylidene diurea)
 - Sulfur-coated urea
 - Polymer-coated fertilizers
 - Osmocote
 - Nutricote
 - Milorganite
- Avoid nitrogen applications during summer heat/stress
 - Improves plant health
 - Avoids encouragement of weed problems
- Absorption greatest with high soil moisture
 - Water thoroughly after application

HOW TO SUPPORT LAWN MANAGEMENT
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Lawn*



Questions?

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