

Why turf dies in Nebraska



Dead turf?



Winter injury

- Temperature
 - Swings
 - Too low
- Moisture
 - Crown hydration
 - Too much
- Specific damage
 - Cell disruption

Dead turf?



Causes of Injury

- Stress
- Management
- Application

Sources of Stress

- Biotic
 - Disease, Insects, Weeds
- Abiotic
 - Temperature, ...



Shade

- Compromised photosynthetic capacity
- Moisture balance
- Adjust Management
- What can we do?

Shade

- Buffalograss

Buffalograss turf grown under shade was thinner and more open than that grown under full sun. Therefore, the turf dry weight was severely reduced.

The results of these shade studies indicate that buffalograss basically is intolerant of shade. However, turf quality differences in shade exist between buffalograss varieties. 'Hilite 24' is a recently selected and vegetatively propagated buffalograss line. Its superior turf performance under shade is attributable to its greater stolon growth rate. Regardless, it appears that even newly developed, aggressive buffalograsses are unable to perform well in more than 50% shade.

Harivandi and Lu, California Turfgrass Culture 45 (1&2), 1995

Shade

- Shade tolerance of 54 buffalograss lines assessed (FS, 30%, 60%)
- Five identified as tolerant
- Promising so designed a new study with 52 entries (FS, 60%)

Shade



Tolerant

Intolerant

Traffic

- Soil Compaction
- Compressing the canopy
- Tearing/shearing

Traffic

- Buffalograss
 - poor traffic tolerance
 - why?
 - evolution of turfgrasses?

Traffic

- Advance Lines IV
- 104 elite entries
- Trafficked weekly from June through October
- 2013 & 2014



Traffic



Traffic

- 88 of the 104 were traffic tolerant

Buffalograss

- Is buffalograss tolerant of shade and/or traffic?

Rating Buffalograss

	Poor		Good
Shade	C	E X	
Traffic	C	E X	
Density	C	E	
Color	C	E	
Heat			CE
Drought			CE
Cold		C E	

Sources of Injury

- Stress
- Management
- Application

Mismanagement

- Fertility
- Pesticide applications
- Maintain appropriate moisture level
- Scalping
- Traffic routing

Mismanagement

- Triple checking?
- Scouting/tracking/reporting

- Mistakes happen

Dead turf?



Dead turf?

- Would you reseed?
- If so, what considerations would you make?

Species selection - Management

Creeping bentgrass	
Perennial ryegrass	
Tall Fescue	
Kentucky bluegrass	
Fine fescue	
Buffalograss	
Zoysiagrass	
Bermudagrass	

Application

- Right turf in the right place
- Considered new cultivars? (think of the buffalograss examples)

Thank you

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