

Comparing Grass Performance in a Roadside Landscape in Northern Colorado

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Roadside landscapes in Northern Colorado face harsh conditions year-round, including hot asphalt and concrete, road salts, and snow piles. Installing plant material that can tolerate these conditions improves the appearance of the landscaping and helps reduce maintenance costs. We conducted a trial comparing the performance of several landscape grasses installed at the intersection of two major roads to determine which species may be best suited for this location.



The trial took place at the Chapungu Sculpture Park, part of the master-planned Centerra community in Loveland, CO. We installed 13 species of commonly used landscape grasses at the intersection of two major roads. Each grass was installed using one or two methods (seed, sod, plugs, divisions), making a total of 20 plots (Table 1). The High Plains Environmental Center (a Loveland non-profit organization that manages the entire park) maintained the plots under typical landscape maintenance practices, using appropriate irrigation and mowing schedules for each species.

A photo was taken of each plot every 3-10 days during the study period (Jun 2020 – April 2022). Each photograph was then categorized based on the amount of grass coverage in the test plot. Grass cover was split into five categories: 0% (0% cover), 25% (1% to 25% cover), 50% (26% to 50% cover), 75% (51% to 75% cover), and 100% (76% to 100% cover).



December 30, 2020 May 18, 2021 January 12, 2021
One side of the grass test plots at Chapungu Sculpture Park at various times during the trial. Photo credit: Sabrina Kershman

We compared establishment time (i.e. days to reach 100% cover; Table 1) and cover consistency (i.e. number of times the plot was ranked in each category, both overall and over time; Figures 1 and 2) to evaluate performance.

Kentucky bluegrass and tall fescue sod were the fastest to establish, followed by Dog Tuff™ grass and saltgrass (native) plugs (Table 1). While many CO native species were slower to establish, most reached 100% cover by the end of the trial (Figure 2).

Buffalograss (native), Dog Tuff™ grass, Kentucky bluegrass, and tall fescue were the most consistent over time, with only a few photos not in the 100% category (Figure 1). Blue grama (native) and little bluestem (native) were the most inconsistent, with many photos ranked in very category.

Conclusion

The species that performed best (i.e. fastest and most consistent establishment) in this trial were buffalograss (native), Dog Tuff™ grass, Kentucky bluegrass sod, saltgrass (native), and tall fescue. However, most species reached and maintained 100% cover by the end of the trial, showing a high tolerance to harsh roadside conditions. Grasses of varied color, aesthetic, height, water requirements, growing season, and native status performed well in this trial, providing many options for roadside landscapes.

Table 1. General characteristics of grass species and trial establishment times.

Scientific Name	Common Name	Growth Habit	Native ¹ Status	Min. precip. (in)	Drought Tolerance	Installation method ²	Days to reach first 100% rank
<i>Bouteloua dactyloides</i>	Buffalograss	Sod	Native	10	High	PLG, SEED	99, 131
<i>Bouteloua gracilis</i>	Blue grama	Bunch	Native	12	High	SEED (x2)	99
<i>Calamagrostis x acutiflora</i> 'Karl Foerster'	Feather reed grass	Bunch	Introduced	----- ----	High	DIV	123
<i>Cynodon hybrid</i> ('PWIN04S')	Dog Tuff™ grass	Sod	Introduced	18	High	PLG (x2)	60
<i>Distichlis spicata</i>	Salt grass	Sod	Native	12	High	PLG	75
<i>Elymus lanceolatus</i> ssp. <i>lanceolatus</i>	Streambank wheatgrass	Sod	Native	10	High	SEED	168
<i>Elymus trachycaulus</i>	Slender wheatgrass	Bunch	Native	12	Moderate	SEED	136
<i>Festuca arundinacea</i>	Tall fescue	Bunch	Introduced	16	Low	SOD, SEED	28, 99
<i>Pascopyrum smithii</i>	Western wheatgrass	Sod	Native	14	Moderate	SEED	136
<i>Pennisetum alopecuroides</i> 'Hameln'	Hameln fountain grass	Bunch	Introduced	----- ----	Moderate	DIV	99
<i>Poa pratensis</i>	Kentucky bluegrass	Sod	Introduced	18	Moderate	SOD, SEED	28, 136
<i>Schizachyrium scoparium</i>	Little bluestem	Bunch	Native	15	Moderate	DIV, SEED	147, --
<i>Sporobolus airoides</i>	Alkaline sacation	Bunch	Native	10	High	PLG, SEED	99, 123

Key:
¹ Native to Colorado
² DIV = divisions, PLG = plugs, SEED = seed, SOD = sod

Figure 1. Histogram of cover ranks split by species and installation method.

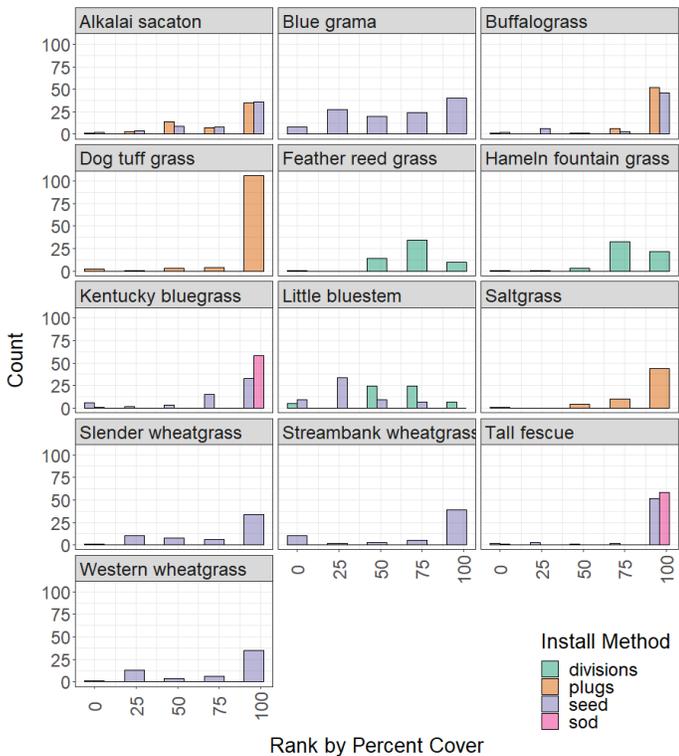


Figure 2. Plot of cover rank over time for each species.

