Native and Adapted Species Sod Production for the Intermountain West

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Introduction

- Periodic droughts and rapidly increasing population in the Intermountain West has increased the need for water conservation in urban landscapes.
- Previous research at Utah State has identified several native and adapted grasses can provide an acceptable and aesthetically pleasing turf, reduce irrigation needs and provide a "sense of place" or uniquely western feel.


Methods

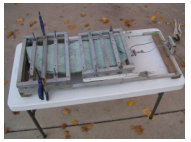
- We evaluated 18 combinations of warm and cool season grasses, netting and no-netting, and two seeding times (of some mixtures) in two locations in Utah.
- Two locations: Utah Botanical Center in Kaysville, UT and at Biograss Sod Farm in Bluffdale, UT.
- Some mixtures were studied as established from two seeding times:
  - ➢All components seeded all in the spring.
  - ➢ Warm season grasses seeded in the spring, cool season grasses overseeded in fall.
- All seed mixtures and seeding times were replicated a total of six times at each location, with three reps with sod netting and three without.
- Mowing height was 3.5 inches and mowed weekly.
- Water (approx. 80 percent ET) and fertilizers (3 lb of N per 1000 sq. ft.) were applied at sod production levels so these were not limiting factors.
- Visual quality estimates and percent cover evaluations were taken periodically throughout the growing season.
- The sod was harvested twice from each plot using a sod cutter at twelve and sixteen months and then transplanted on site.
- Sod strength was tested using a machine that determines the force needed to pull apart each cut strip.
- Sod was examined two weeks after transplant to see what effect cutting may have had on the mixes.

Purpose

- We explored sod production characteristics of these grasses, specifically sod strength, to provide consumers with an easier way to establish these grasses and to provide sod producers with another high value product.
- Netting was used to add sod strength and enable the harvest of more grass species.
- Seeding strategies were tried in some mixes to help give an advantage to less aggressive warm season grasses.


Mixtures of Grasses Used
buffalograss / Canada bluegrass[1]
buffalograss / sandberg bluegrass / muttongrass[1]
buffalograss / streambank wheatgrass[1]
blue grama / Canada bluegrass[1]
blue grama / sandberg bluegrass / muttongrass[1]
blue grama / streambank wheatgrass[1]
blue grama / sheep fescue
streambank wheatgrass / sandberg bluegrass / muttongrass
western wheatgrass / sandberg bluegrass / muttongrass
streambank wheatgrass / western wheatgrass / sheep fescue
crested wheatgrass / sheep fescue
Kentucky bluegrass

[1] Seed was planted in two mixes, one with all grasses planted in the spring and one with warm season grasses planted in the spring and cool season grasses overseeded in the fall.



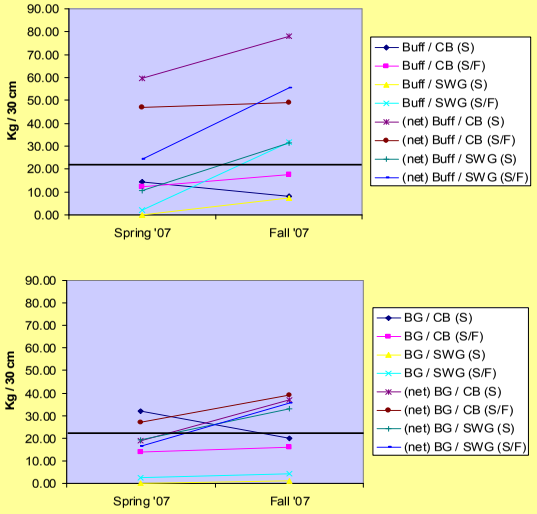


Fig. 1. Sod strength of select buffalograss and blue grama mixes in Bluffdale, UT. Minimum acceptable sod strength is 22 Kg / 30 cm.

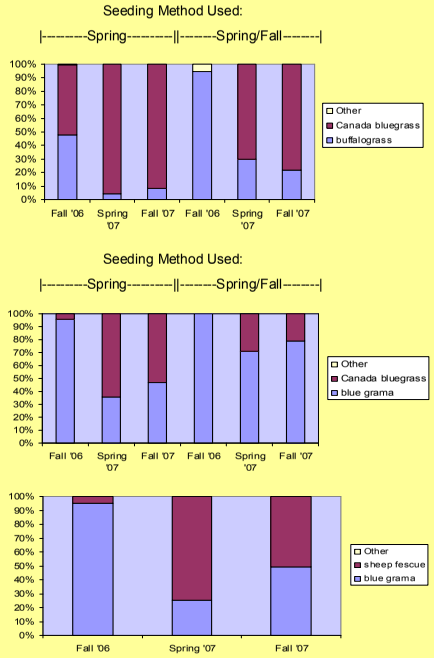


Fig. 2. Percent composition of select buffalograss and blue grama mixes in Kaysville, UT.

Results

- Best sod strength was achieved with mixes using Canada bluegrass or sheep fescue (Figure 1) but they were very aggressive and tended to out compete other species of grass in the same mix (Figure 2).
- Sod strength, as expected, was universally increased with netting. This enables the use of a greater variety of grasses such as blue grama and streambank wheatgrass.
- Seeding the warm season grasses in the spring and then overseeding with the cool season grass in the fall gave better results in some situations (Figure 2).
- Canada bluegrass, sheep fescue and buffalograss had recovered their original color were and growing roots into the soil two weeks after transplant.

Acknowledgements

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