

Southeastern Colorado Water Conservancy District Xeriscape Demonstration Garden

Experimental Grass Plots

The purpose of the Experimental Grass Plots is to demonstrate how different types of turf grasses succeed when given different amounts of irrigation. There are ten different species of grasses; each species is given three different amounts of irrigation.

ROW ONE is irrigated the most and is a High Water Zone. The High Water Zone is irrigated three times a week and a ½” of water is applied each time. During a 20-week irrigation season, approximately eighteen to twenty gallons or 30” of water is used per square foot.

ROW TWO is considered to be the Moderate Water Zone and ¾” of water is applied once a week. Approximately ten gallons of water is used per square foot and 16” of water is applied over an irrigation season.

ROW THREE is the Low Water Zone and ½” of water is applied every other week. Approximately three gallons or 4 ½” of water per square feet is applied during an irrigation season.

DESCRIPTIONS OF GRASS SPECIES

COLUMN ONE – BUFFALO GRASS, *Buchloe dactyloides* ‘Legacy’

A low-maintenance, low-water-need grass. It is slow to sprout and fill in, but it spreads rapidly by surface runners once established. It makes a matted, reasonably dense turf. It looks fairly good with very little summer water. It is a gray green color from late spring to hard frost, straw colored through fall and winter. When given minimum water, it grows to 4” tall and requires little or no mowing. More water means higher growth and some mowing. When sowing seed use 2 lbs./1,000 sq. ft. Water 10 to 15 mins., 3 times daily during germination. After germination water once every other day for 4 days and then every third day for 6 days. After 10 days water once per week for a month, then every other week. Establishment takes one to two years. Once established water ½ “ every two weeks in rainless weather. Fertilize with care using a ½ lb./1,000 sq. ft., once in the fall. Buffalo Grass can be mowed at 1½ to 2 inches, or left to grow to height of 4 to 6 inches.

<u>Advantages</u>	<u>Disadvantages</u>
Heat and drought resistant	Poor to fair shade tolerance
Cold tolerance	Poor traffic tolerance
Native species	Weeds can be a problem
Few insect and disease problems	Dormant most of the year
Sod former	Will invade other areas
Low fertilization required	Not recommended over 6500'
Infrequent mowing	Fair salt tolerance

COLUMN TWO – BLUE GRAMA : *Bouteloua gracilis* ‘Hachita’

A pasture grass used for low-maintenance, low-water-use lawns in sunny, semi-arid, alkaline regions of the Rocky Mountains and high plains. It is hardy throughout our area. A bunching grass rather than sod forming, it nevertheless makes a fair lawn if seed is sown at 2 lb./ 1,000 sq. ft. Newly sown lawns require the same watering regime as Buffalo Grass (Page 1). Establishment takes one to two years. Once established Blue Grama can get along with virtually no irrigation if desired, but for a more lush lawn water ½” every two weeks in rainless weather. Fertilize and mow the same as Buffalo Grass.

<u>Advantages</u>	<u>Disadvantages</u>
Cold, heat, & drought tolerant	Traffic intolerant
Low fertilization requirement	Shade intolerant
Few insect & disease problems	Not a sod former
Infrequent mowing	Yellowing at first frost
Rapid germination & establishment	High cost & difficult to seed

COLUMN THREE – NATIVE WESTERN WHEATGRASS, *Agropyron smithii*

COLUMN FOUR – CRESTED WHEATGRASS, *Agropyron cristatum* ‘Ephraim’

COLUMN FIVE – CRESTED WHEATGRASS, *Agropyron cristatum* ‘Fairway’

Wheatgrass is a pasture grass that is native to the U.S. It has bluish-green, coarse leaves and makes a reasonably attractive lawn. At its best, this lawn is indistinguishable from Kentucky Bluegrass. Unlike Bluegrass, this grass recovers very well from extended periods of drought, but without irrigation, it often produces a thin lawn. The variety, ‘Fairway’, was developed to create a more even turf than Native Crested Wheatgrass. Sow seed at 5 lbs. per 1,000 sq. ft.. The care for a newly seeded lawn is the same as Kentucky Bluegrass (Page 4). After one to two years when established, water ¾” per-week in hot, rainless weather. Fertilize lightly in the spring and fall. Wheatgrass can be mowed like Kentucky Bluegrass, but it will be deeper rooted and more drought tolerant if mowed higher.

<u>Advantages</u>	<u>Disadvantages</u>
Good heat, cold & drought tolerance	Goes dormant quickly in drought
Low fertilization requirements	Does not form a tight sod
Fast recovery of drought dormancy	Light green or blue-green color

COLUMN SIX – Smooth Broome, *Bromus inermis* ‘Lincoln’

This native grass grows principally during the summer months. It has not been established as a turf-grass. We are currently experimenting with this grass.

<u>Advantages</u>	<u>Disadvantages</u>
Good heat, cold & drought tolerance	Turf lacks density
Low fertilization requirement	Leaves are coarse
Sod former	Susceptible to leaf spot
Persists under neglect	Can be invasive

COLUMN SEVEN – TALL FESCUE, *Festuca arundinacea* ‘Bonanza II’

A coarse, clumping pasture grass which is used for erosion control and low-water-use lawns. It has tough blades and is tolerant of compacted soils. Fescue grasses have the capability of developing very deep roots. This enables it to recover very well from dry conditions. It forms no runners, so plants must be close together to make a dense turf; sow 8-10 lbs. of seed per 1,000 sq. ft. The care for a newly seeded grass is the same as Kentucky Bluegrass (Page 4). It usually establishes itself after one year. At that time water ¾” per week in hot, rainless weather. Water deeply and infrequently to encourage deep rooting. Fertilize lightly, monthly in summer, once during fall. Mow when 2”-3” tall. When

unmowed, it makes an excellent deep-rooted erosion control on slopes and banks.

<u>Advantages</u>	<u>Disadvantages</u>
Establishes quickly	Slow recuperating from damage
Drought resistant	Sod availability is limited
Heat & cold tolerant	More frequent mowing
Few disease and insect problems	Leaf shredding (dulls mower blade)
Slow thatch former	Tender when young
Does well in shade	Rooting maybe restricted by poor soil
Low nitrogen requirement	May require heavy irrigation

COLUMN EIGHT- Scott’s “Thermal Blue” Bluegrass hybrid

A cool season grass, but is very tolerant of high temperatures and heat. This is a shade tolerant grass that has remarkable wear tolerance.

Seed in early spring or fall; requires 5.5 – 11 pounds per 1,000 sq. ft. of lawn. Water three times daily, do not let the soil dry out. Then water enough to keep the soil moist during hot periods. The time to maturity is one year. Water ¾” per week in hot, rainless weather. Water deeply and infrequently to encourage deep rooting. Fertilize lightly, monthly in summer, once during fall. Mow when 2”-3” tall.

<u>Advantages</u>	<u>Disadvantages</u>
Tolerates high temperatures and heat	May be difficult to find to purchase
Good shade tolerance	
Resistant to brown patch	
Remarkable wear tolerance	

COLUMN NINE – STREAMBANK WHEAT, Elymus lanceolatus

This is a cool season, long-lived sod grass with narrow leaf blades and is mostly blue-green. A natural height is 12”; but mows to 3” high every couple of weeks. This grass will survive on ¼” of water per week, but will give a more uniform lawn look with a little additional water. It is moderately shade tolerant, but prefers full sun. It has a great tolerance in high traffic areas. Seed in early spring or fall; requires 5.5 – 11 pounds per 1,000 sq. ft. of lawn. It will remain green for much of the summer. It greens up earlier in spring than bluegrass. It requires little maintenance. Does best on medium to coarse soils but adapted for seeding on clay soils. Streambank wheat is a great grass for slope stabilization.

<u>Advantages</u>	<u>Disadvantages</u>
Long lived	May need more water in heat

Moderately shade tolerant	
High traffic tolerant	
Low maintenance	
Slope stabilization	

COLUMN TEN – KENTUCKY BLUE GRASS, Drought Tolerant Blend

This sod is derived from a blend of drought resistant Kentucky bluegrass and Tall Fescue grasses. It is cold hardy and remains dark green, if summers are not too hot. On the negative side, it grows fast and requires frequent mowing, is susceptible to diseases and insects. Sod is readily available. Water three times daily, do not let the soil dry out. Then water enough to keep the soil moist during hot periods. The time to maturity is one year. After establishment water ½” three times a week in ordinary summer weather. Fertilize at a rate of 1lb. nitrogen per 1,000 sq. ft. in April, June, August and September. Mow to a height 2” – 3” weekly or biweekly in midseason.

<u>Advantages</u>	<u>Disadvantages</u>
Sod forming	Forms thatch
High recuperative potential	Poor shade tolerance
Soft, easily mowed	Disease prone
High color quality & density	High water & nitrogen required
Readily available in sod farms	Insect problems (grubs, mites)
Excellent heat & cold tolerance	Poor salt tolerance
Good drought resistance	Will invade other areas