Selection and Management of Native Grasses for Lawns and Naturalized Landscapes in Oklahoma

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Dennis Martin
Turfgrass Specialist
Oklahoma State University

www.turf.okstate.edu

- Presentation will be available as a pdf format document downloadable from this site in a few days

- Mixture of buffalograss bluegrama and side oats grama in summer (non-mowed)


Seeded buffalograss (non-mowed)

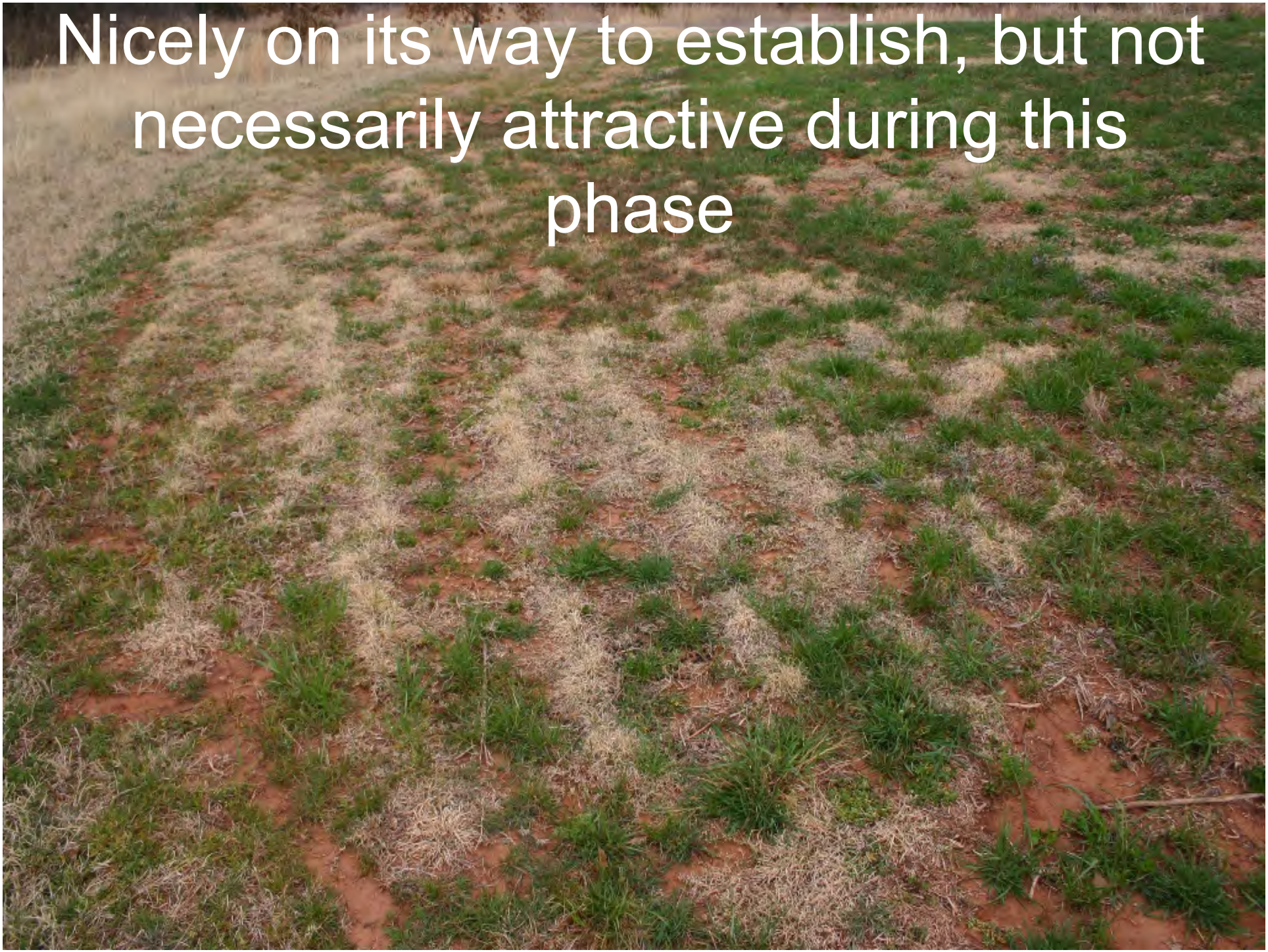

A buffalograss non-mowed

Features of Native Lawns

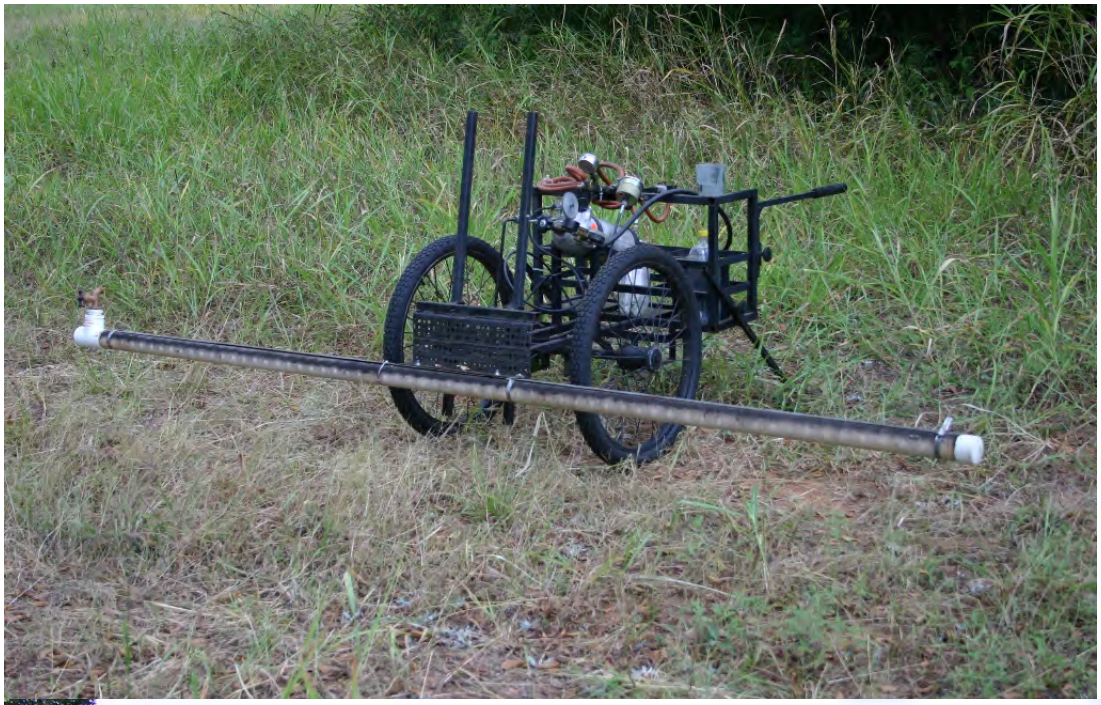
- Romance of native plant materials
- Non-invasive to other species
- Benefits to wildlife
- Attractive
- Can be lower maintenance if properly planned. Reduced mowing, water and fertility if:
  - 1. properly planned and executed
  - 2. performance expectations are adjusted/aligned
  - 3. pesticide use may not be less than introduced species under certain circumstances

Challenges of Native Lawns

- Slower to establish
- Planning and phasing of fallowing and installation is critically important
- Initial purchase price of plant material is often more expensive that exotic lawn grasses
- May be plagued with invasive species that are very difficult to remove
- Warm-season grasses left tall in winter can provide a fuel load to wildfires


Nicely on its way to establish, but not necessarily attractive during this phase

Common bermudagrass top two plants, buffalograss at the bottom



Removing johnsongrass from native grasses with a glyphosate wiper bar

Buffalograss

- Principally dioecious, occasionally monoecious – meaning male and female flowers are on separate plants but occasionally occur on the same plant
- Native North American warm-season stoloniferous (above-ground runners) perennial grass
- 4 ploidy levels found in nature
  - Diploid (2x sets of chromosomes) – southern range
  - Tetraploid (4x) – southern through middle plains
  - Hexaploid (6x) – southern through middle and northern range
  - Pentaploids (5x) have been found in nature also
- Along with bluegrama, hairygrama, sideoats grama and sheep fescue, the only major turf species of the US that was native to North America

Buffalograss

- Seed contained in burs
- Burs are not spiny as the name implies
- 1-5 seed often present in the bur

Buffalograss: female flowers

photo credit: Richard Old, XID Services

Buffalograss: male flowers

photo credit: Richard Old, XID Services

Buffalograss: Non-mowed and mowed at 3 inches

Common Confusion

- Sometimes buffalograss is confused with blue or hairy grama or with sideoats grama because of a similar appearance to the foliage
- Flowers are notably different
- Most importantly, buffalograss at maturity has profuse stolons, the above three species are not known to produce stolons

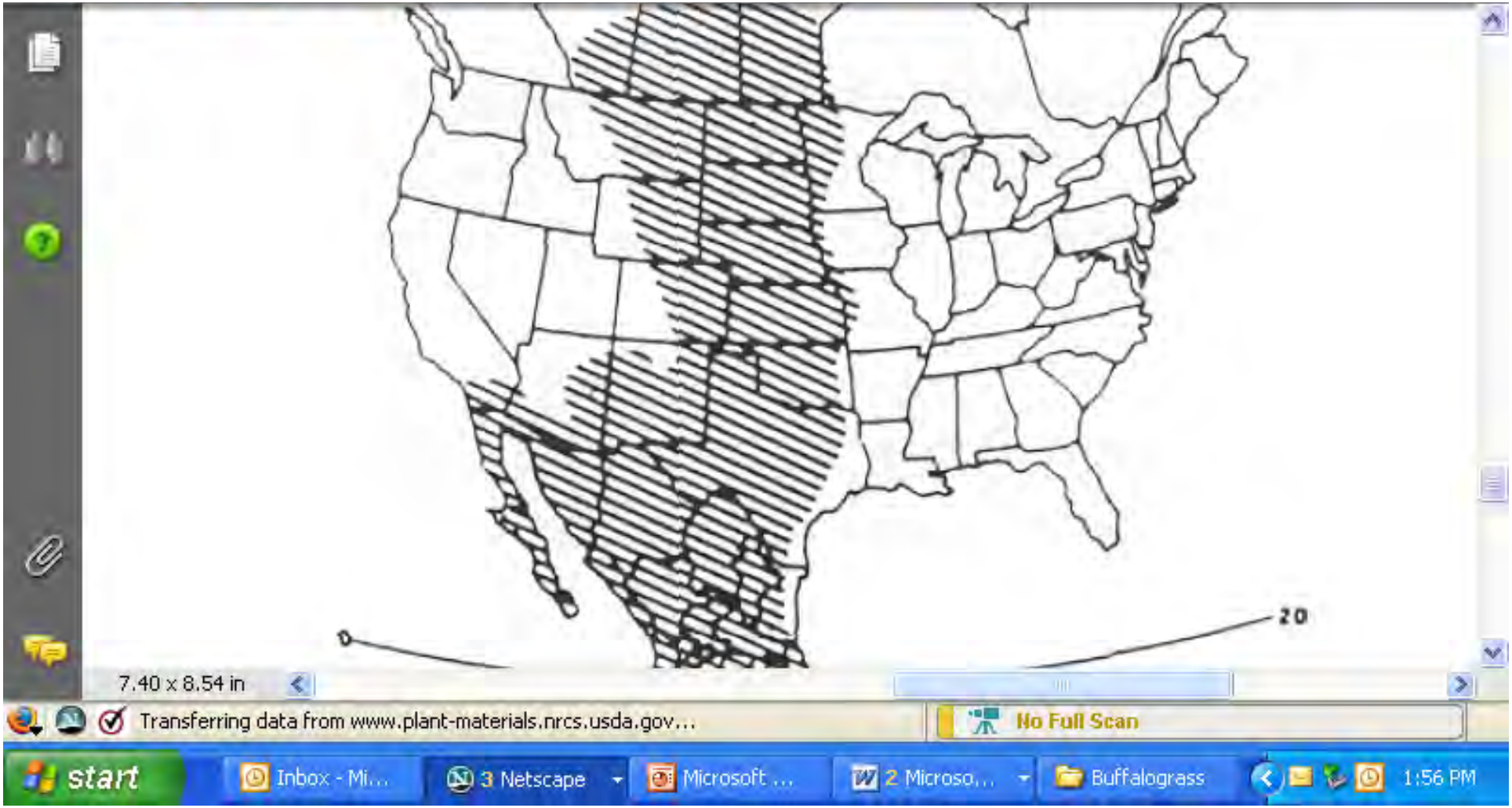
Bluegrama


Sideoats grama


Flower stalks (inflorescenes) of
Sideoats grama (top) and
bluegrama bottom

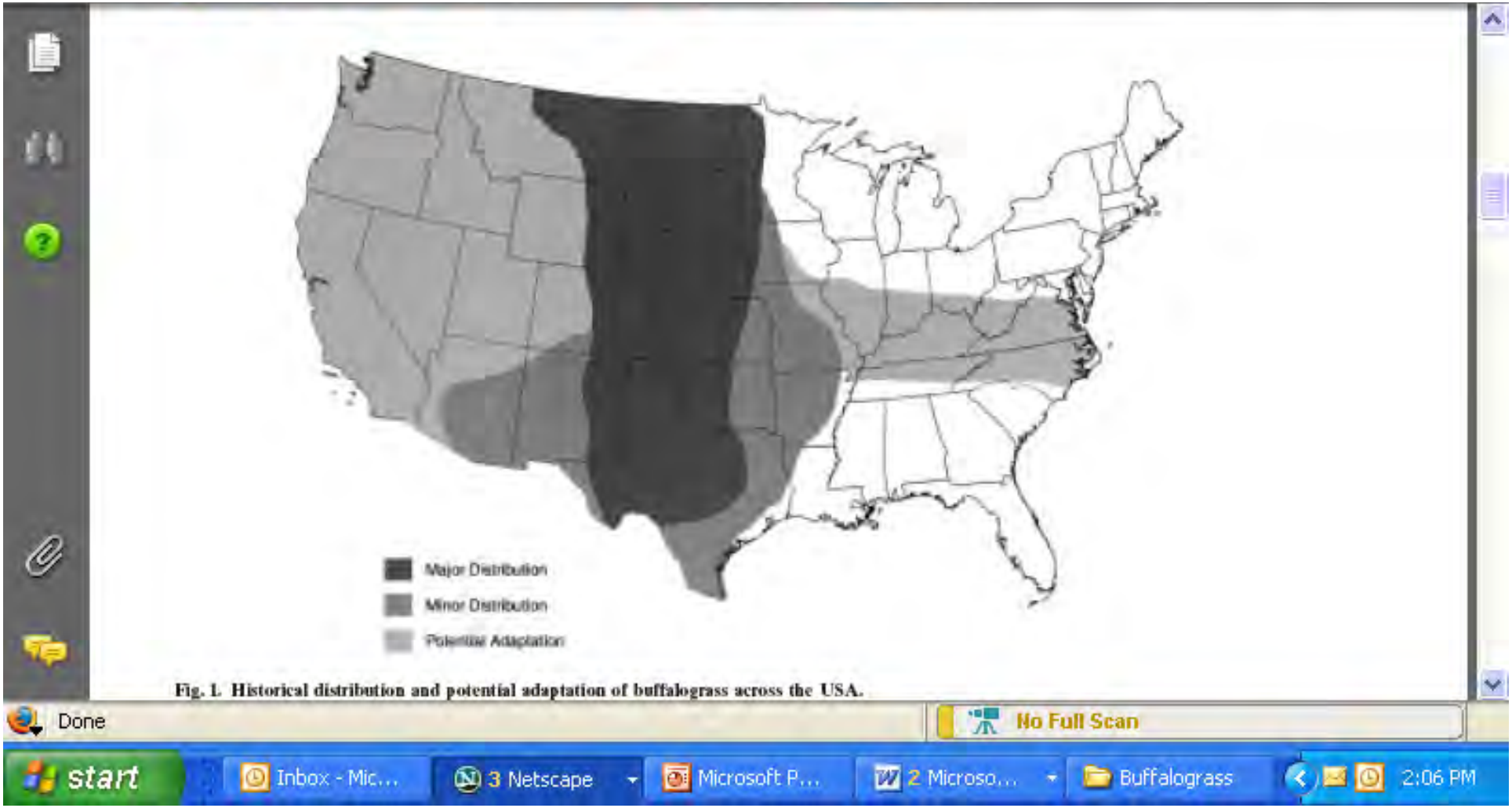
Native range of buffalograss

from North American Range Plants, 3rd Ed. Copyright 1986.



Major distribution (dark), minor (medium) distribution and potential adaptation of buffalograss

Johnson et al. 2001 Crop Science Journal



Generally you can take a northern provenance buffalograss south but it may not be wise to take a southern provenance buffalograss north due to increased risk of Winter-kill!

Seeded Buffalograsses General Purpose Soil Stabilization, Lawn and Grounds

- Texoka – many sources
- Comanche - several
- Bison – Johnston Seed
- Plains – Bamert Seed
- Topgun – Bamert Seed
- Sharp’s Improved – Sharp Brothers

Seeded Buffalograsses Offering Higher Visual Quality

- **Cody#** -Johnston Seed, Stock Seed Farms, Sharp Brothers
- **Bowie #** -Johnston Seed, Stock Seed Farms
- **Buffalo Pals**™*, ŧ – Pennington/Seeds West
- **Sharp's Improved II**, ŧ - Sharp Brothers
- **Sharp Shooter**, ŧ - Sharp Brothers
- # highest quality seeded- type in author's tests
- *a blend
- ŧ Not yet tested by author

Seed Costs

- Buffalograss bur prices range from about $14 to $16 per lb of burs in bulk.
- There is currently a shortage of some varieties due to increased seed demand
- Seed cost of about $28 to $32 to seed 1,000 sq. ft. at 2 lbs of burs per 1,000 sq. ft.

Bowie seeded buffalograss at 6 weeks after planting. 2 lbs of burs per 1,000 sq. ft. 1 lb of N from 10-20-10 at seeding and again at 1 month after seeding. Irrigation to keep soil moist.

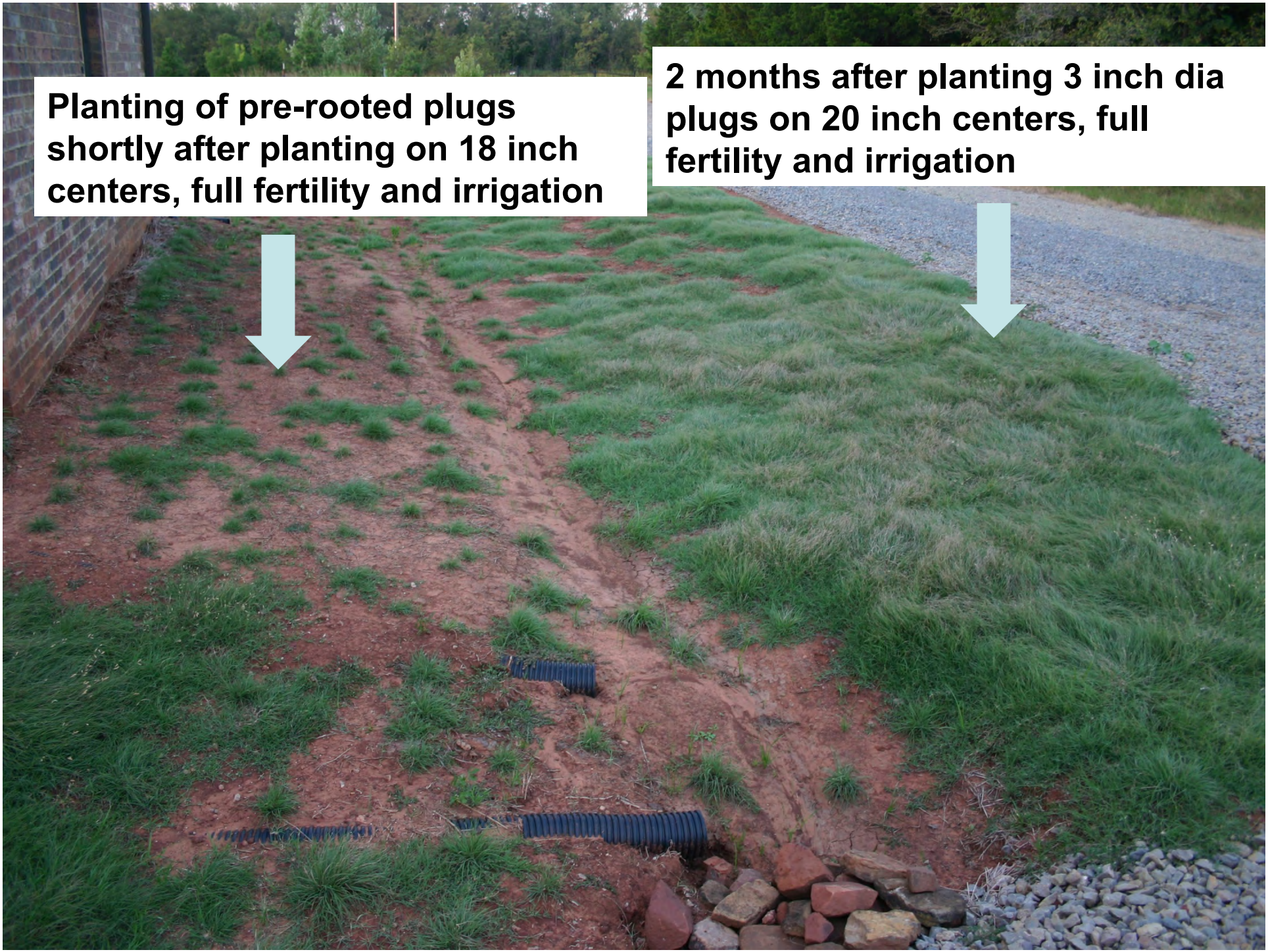
Vegetatively Planted (including but not limited to:

- 609 – female – OK US 412 and south
- Prairie – female – OK and TX
- UC Verde – female – desert southwest in AZ, CA
- Legacy – female – northern and southern use
- MoBuff – female – selected from wild in MO
- Prestige – female, low growing – OK, TX, AR, south
- Frontier Turfallo – male and female, seeded type grow as plugs for sale - TX and OK


Plug flats of Legacy, UC Verde, Prestige and Turffalo buffalograsses
Todd Valley Farms
www.toddvalleyfarms.com
LEGACY
UC Verde
Buffalograss
PRESTIGE
Turffalo
TECH TURF
SHADOW

What would the plugs cost?

- If commercially grown plugs planted on 18 inch centers with a plug flat tray of 98 plugs, cost of $45 per flat, plugs would cost ~$210 per 1,000 sq. ft. are of lawn.


Planting of pre-rooted plugs shortly after planting on 18 inch centers, full fertility and irrigation
2 months after planting 3 inch dia plugs on 20 inch centers, full fertility and irrigation

Planting of Seed in Lawn

- Soil temp of 60F but better if in the 70s or higher
- 1 to 3 lbs of burs per 1,000 sq. ft. in lawn
- Incorporate burs to 0.25 to 0.5 inches deep
- Fertilization required for proper establishment. Optimize phosphorus and potassium (soil test)
- 0.75 lbs N at seeding, 1 lb of N per growing month during establishment phase in a lawn
- pH range of 6 to 11, 6.5 to 7.2 best, don't acidify
- Germination time: 7* - 21 days for treated seed
- Keep soil moist during establishment phase

Planting of Sod

- Proper soil preparation just as essential
- Soil test for pH, P and K, Optimize
- Till to 4 inches, grade, refirm
- Soil amendments
- Sod or plug: plugs on 6, 12, 18 inch centers
- 1 lb of N/1,000 sq. ft. at time of plugging and repeat at monthly intervals until 100% cover
- For sod 0.5 lbs of N per 1,000 sq. ft. at time of sodding
- Irrigate to root in plugs or sod, keep soil moist until established
- Remove bermudagrass by hand/shovel or spot spray with glyphosate at 5% solution as per label

Sod costs

- In a “normal market” buffalograss sod runs $0.24 to $0.30 per sq. ft. or about 1.5 to 2X the cost of common bermudagrass sod.
- Currently, Oklahoma producers are sold out of buffalograss sod due to recent increased demand.

How long will it take?

- Your ability to irrigate to meet water needs and fertility needs will determine the duration of establishment period
- Establishment buffalograss is “front-end loaded” ie most of your work is up-front in a properly designed program. Proper fallow need to kill invasive species first. Heavy irrigation, fertility and weeding during establishment phase.
- 90 to 120 day grow-in is feasible from seed or plugs in a lawn if necessary management is given
- 1 – 5 year grow in likely under low maintenance in soil stabilization projects
- Weed control is essential for success

Non-irrigated and lower fertility (left), more irrigation and fertility (right)

Post-Establishment Maintenance

- Water it if you want quality. 0.5 to 1.0 in/wk in a drought
- Fertility: 0 or 1 – 3 lbs of N per 1,000 sq. ft. per year. Split applications at least into Late April, early June, early Sept
- Mowing: None to 2 times per month, height 3 inches up. Yes, can go lower but why? Lower will lead to more weed pressure.
- Herbicides: Pre and post programs useful. See labels. Some varieties are sensitive. Herbicide programs usually are required

Questions