

Native Grasses and Forbs for Cattle



Planted Native Warm-Season Grasses and Forbs for Pasture

- Interest in NWSG in MO peaks in Drought Years
- Esp. valuable during drought-10, 20 & 40 yr. cycles
 - Currently in 3rd yr. of 40 yr. drought, may last 4 yr.
 - Production not reduced thru 2nd yr.; 3rd yr.??
- Profitability is not limited to droughts.
- NWSG are a Hard-sell to many producers:
 - Tall Fescue has dumbed-down livestock producers,
 - USDA bails out poor producers,
 - NWSG are not well promoted by Gov. Agencies &
 - they have promoted several myths:
 - Hard to establish.
 - Hard to manage.
 - Monocultures in the 50s-70s; Mixtures more recently.

Principle of Three*

- Grasses
- Legumes
- Broadleaves



Plant Species Complexity and Diversity are Critical to Building Positive Compounding and Cascading Benefits for Optimum Livestock Gain [& Health], Healthy Soils, Abundant Insects incl. Pollinators, and Grassland Wildlife.

*Allan R. Williams, PhD. (MS) Stockman GrassFarmer, July, 2017.

Principle of Three*

Use of Broadcast broadleaf herbicides*:

- Trend toward grass monocultures-- eliminating forbs and legumes.
- Never actually get rid of 'weeds' because of volume of weed seeds in soil (seedbank).
- Results in herbicide resistance.
- Not cost effective, i.e. did not improve gain/ac., gain/hd, nor forage yield.**
- Spot-treat invasive species, e.g ser. lesp.



*Allan R. Williams, PhD. Stockman GrassFarmer, July, 2017.

**Sam Fuhlendorf, Okla. State University, 2004.

NWSG Forage Mixture

- **Big Bluestem** 3
- **Little Bluestem** 2
- **Indiangrass** 1
- **Eastern Gamagrass** 2
- **Sideoats Grama** .5
- **Switchgrass** 0-.25
- **Wildryes--CAN., VA, & Early** .5-1.0
 - Junegrass, wedgrass, etc.
- **Forbs*** 1.0
- **\$277/ac.- high for ecotype seeds;**
- **\$177/ac.-cultivars and fewer forbs.**

*Required for Bird-Friendly Beef Program



*Forbs-Livestock, Pollinators and Wildlife

- Ashy Sunflower 1 oz./ac.
- Maximilian Sunflower 1 oz./ac.
- Willowleaf Sunflower Trace \$\$
- Rigid Sunflower Trace
- False Sunflower 1 oz./ac.
- Compassplant & Rosinweed 1+ oz./ac. \$\$
- Rattlesnake Master 1 oz./ac.
- Pitchersage 1 oz./ac.
- Grayhead & Purple Coneflowers “
- Lanceleaf Coreopsis 1 oz./ac.
- Purple Poppy Mallow Trace
- Butterfly, Swamp, Purple Milkweeds 1+ oz./ac.
- Rough and Prairie Blazing Star 1+ oz./ac.
- Wild Quinine Trace to 1 oz.
- Leadplant 1+ oz./ac.
- Illinois Bundleflower 4 oz./ac.
- Purple & White Prairieclovers 1+ oz./ac.
- Tall (White) Indigo 1+oz./ac.
- Roundhead & Slender Lespedezas 1+ oz./ac.
- Asters Spp. 1 oz./ac. \$\$



Forbs for forage, pollinators and wildlife.



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Grazing Native Warm-Season Grass and Forbs



Growth Animals



Cow/Calf

Planted Native Warm-Season Grasses and Forbs for Cow/calf.

- Improve conception rates in spring calving herds. (95% minimum)
- 25-35% of grazing acreage
- Start early June-.



35-50% of Acres for Stockers.

- Improved gain for stockers,
- Especially suited for grass-finished beef.
- Stock earlier; 90-120-day season.

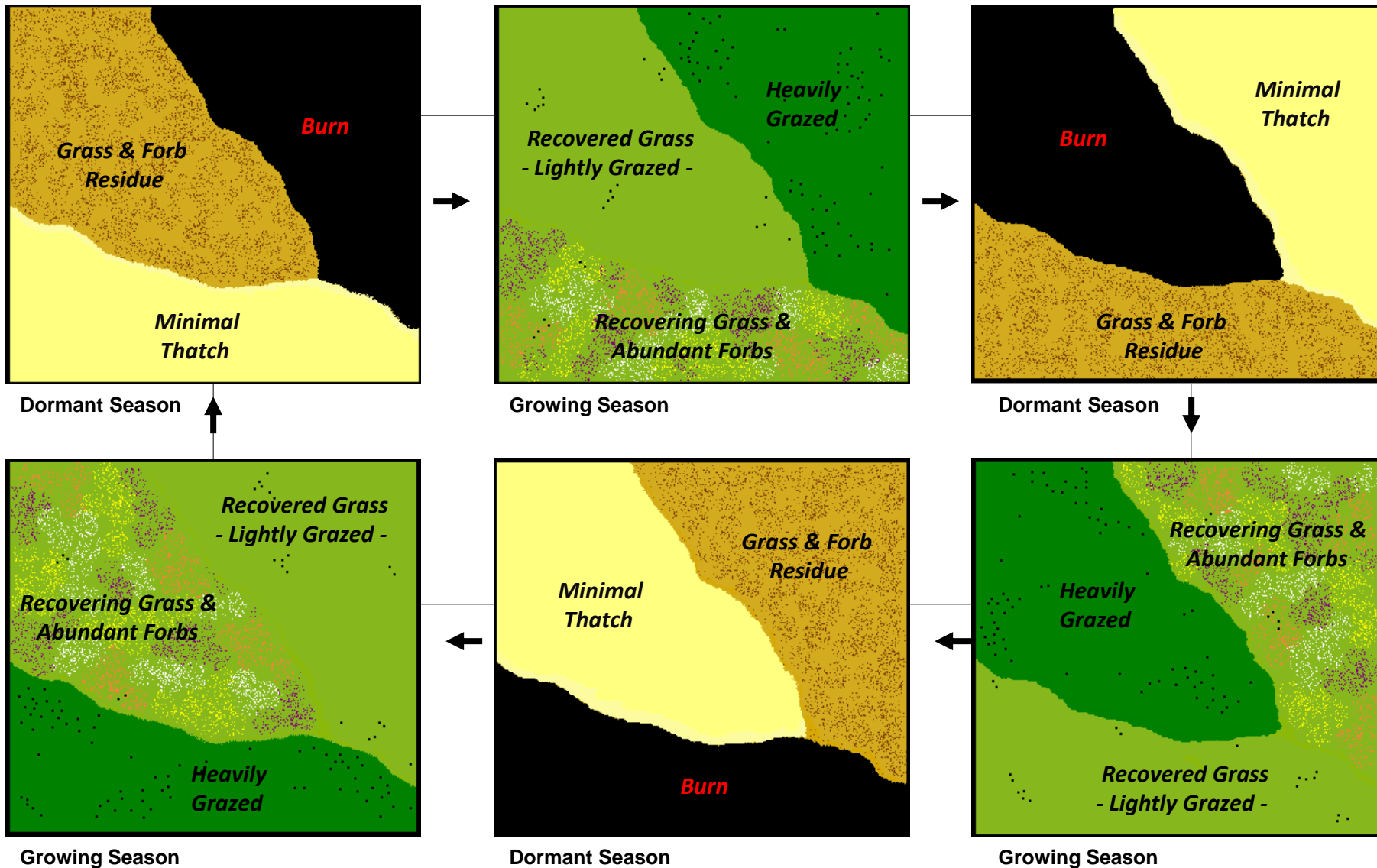


NWSG Grazing Options

- Season-Long NWSG Grazing- 120 days (May thru August)
- Early-Intensive Grazing 75-90 days @ 2X (EIG), May thru July; is hard on forbs & wildlife.
- Patch-Burn Grazing-either SL or EIG, 10-12% greater gain, better for forbs & wildlife.
- Open-Gate Rotation w/o fire- 3 or 4 paddocks.
- Simple 3 or 4 Paddock Rotation, 2x0-120 days.

Patch-Burn Grazing: A Shifting Mosaic

Rotational Grazing Without Cross Fencing



Patch-Burn Grazing NWSG

- Current year burned patch (1/3) is grazed shorter all summer receiving 2/3 of grazing time.



- Previously year burned 1/3 and next year's burned 1/3 are grazed 1/3 of time = 1/6 of time on each 1/3 unburned.



Beginning Grazing Date Will Affect Look

Grazing began May 5;
Photo July 27, 2016



Burned Patch

Unburned Patch

When Grazing Begins Will Affect Cover

Grazing began May 13; Photo July 27, 2016.



Burned Patch



Unburned Patch

Growth Animal Performance (stockers).

- 2 lb. in April on CSG/Legumes
- 4 lb. in May & 3 lb. in June-NWSG/Forbs
- 2 lb. in July and 1 lb. in August.
- Average 1.7-2.8 lb./hd./day May-August



Patch Burn Grazing NWSG

Need Fewer Water Sources

15 acres is probably the minimum (10 ac. unburned for secure nesting cover.)

Begin when grasses are well established, 4-7 years old.



Why Burn

- 10-12% Greater Gain on Burned NWSG.
- Greater Root Development
- Does Not Reduce Soil Organic Matter.
- Eastern Red Cedar Control



Supplement and Water--CSG vs. NWSG

- Mineral-eat less; NWSG-Forbs high in minerals.
- Water-drink 1/3-2/3 less.
- Salt-no difference.
- Horn Flies & Face Flies
 - 1-3% Granular Garlic in Mineral & Granular Salt
 - Tree Swallow Boxes
- Barn Owl Boxes for Rodents.



Change from April thru August

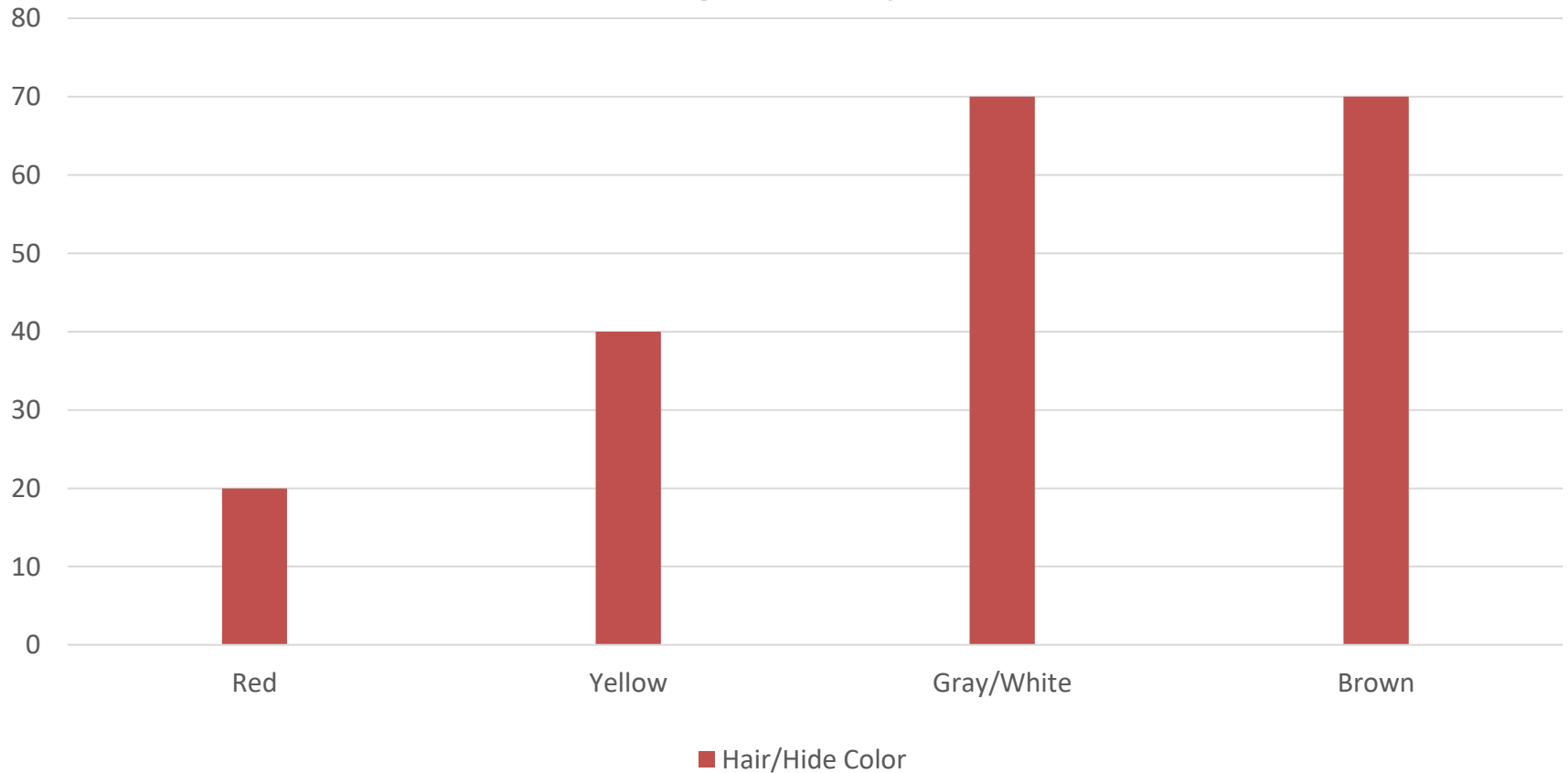


Does Hair/Hide Color Matter?



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Difference in Weight Gain by Color from Black



Profit from NWSG/Forbs

- Gross \$50 to \$155/ac. of NWSG/Forbs 2014-2022
 - Purchased Stockers
 - Custom grazing @ \$1-1.70/hd/day or \$.30-.70/lb. gained.
 - Grass-fed or finished beef, ¼ or ½ , @ + \$.30/lb.
- 2023: \$333+/ac. of NWSG, sold @ sale barn.
- Lower Inputs-Mineral, Fertilizer, Fence, Water
- Little contribution from CSG/Legumes
- Sell or Rotate in Sept. to annual ws or cg diverse forages, not to perennial csg/legumes-not enough energy.

Complex grazing systems

- UMC and NRCS promote MiG or SDG
 - Numerous paddocks,
 - frequent moves,
 - short grazing periods,
 - moderate rest periods.
- Mob-Grazing
 - Very high stocking rates
 - Short grazing periods, daily to half daily moves,
 - Long rest periods.
 - HSD tramples nests and bites off or tramples forbs
 - Return intervals may not allow time for renesting.

NWSG/FORB Grazing

- Light to moderate season-long
1 animal or less/ac.
- Optimum Animal selectivity for
nutrition & performance.
- NWSG gain .4 lb. adg higher than
IWSG
- Critical nesting cover for grassland
wildlife but not complex, multi-
paddock systems.
- Is the easiest habitat mgmt.

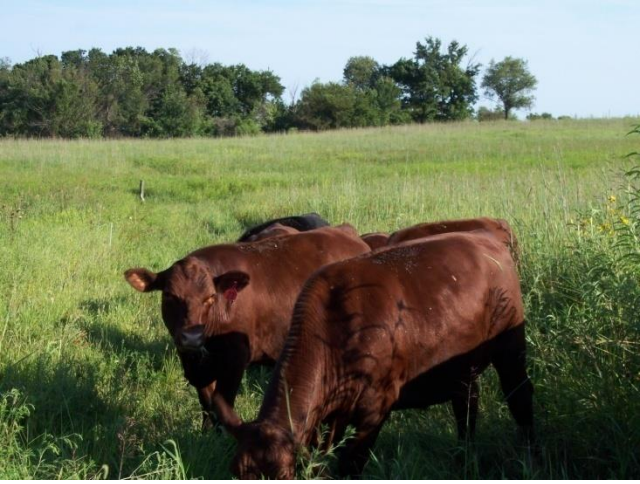


8-45 Rule: 8" residual 45 days before frost:
6-10" by end of August,
on 2/3 ac. for pbg.



Conclusion

- NWSG are excellent forage, better than fescue
- Excellent for stocker and grassfed beef
- Grazed continuous, moderate rotation
- Patch-burn graze vs. periodically
- Critical bwq & etal. bird habitat & nesting
- Forbs for pollinators & wildlife.
- NWSG are easy to manage but different from fescue.

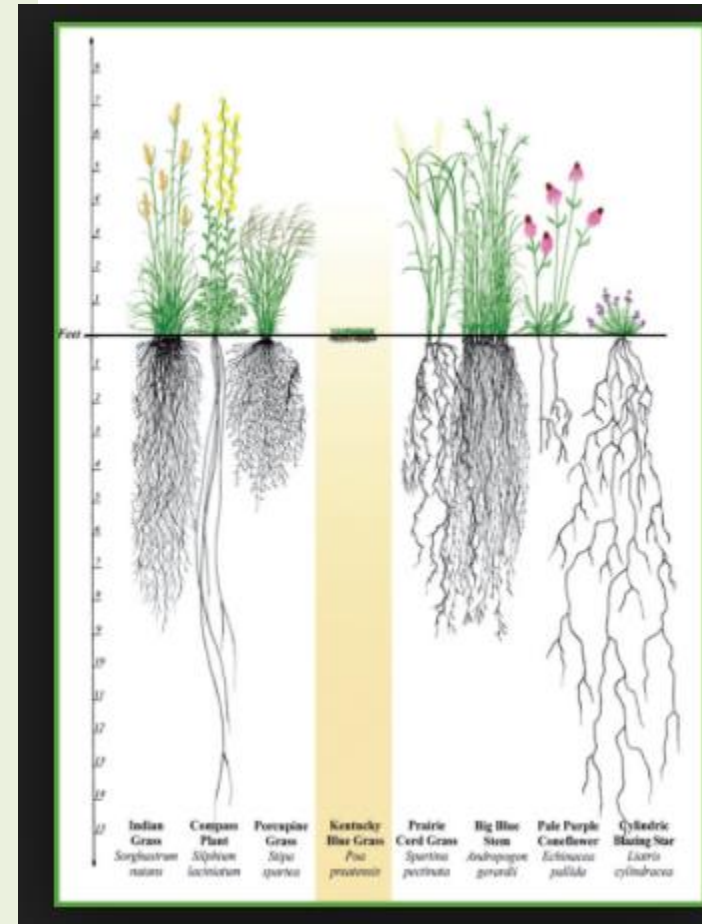


END



Native Grasses & Forbs

- Historically, the repository for carbon sequestration—destruction of N. A. prairie for agriculture released hundreds of thousands of tons of carbon and continues today despite pseudo-Green Movement-vegan diets, green energy, etc.



Soil Composition Comparison



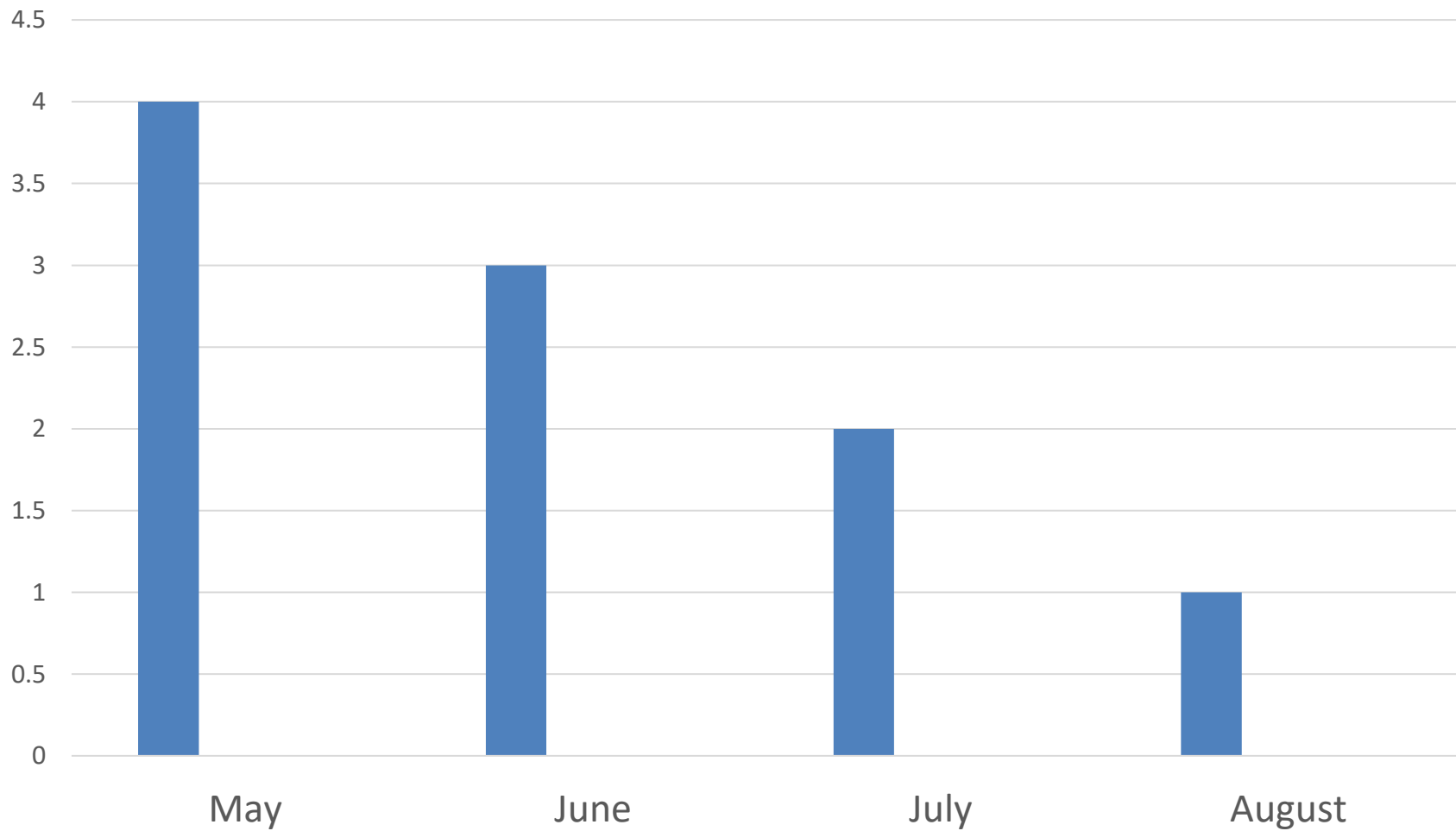
4 Year Prairie

Turfgrass

Mgmt. of Native Warm-Season Grasses and Forbs

- Thrive best with simple grazing system,
- One pasture or 2-4 paddocks or patch-burn grazing-burning 1/3 annually.





Grazing Options Summary

- Complementary-NWSG/Forbs & CSG/Legumes
- Season-Long NWSG Grazing- 90-120 days
- Early-Intensive Grazing 75-90 days @ 2X (EIG)
- Patch-Burn Grazing-either SL or EIG + 10-12%.
- Open-Gate Rotation w/o fire- 3 or 4 paddocks.
- Simple 3 or 4 Paddock, 2XOV Rotation-120 days.
- Ultra High Stock Density or Mob Grazing. May be okay for NWSG but not for Yrlg. Gain, Forbs, or Nesting. 1 animal/ac.= 20% nest loss.
- 10 ac. paddock minimum to prevent predation.