

Managing Regrowth and Drought Recovery

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Beaver, OK

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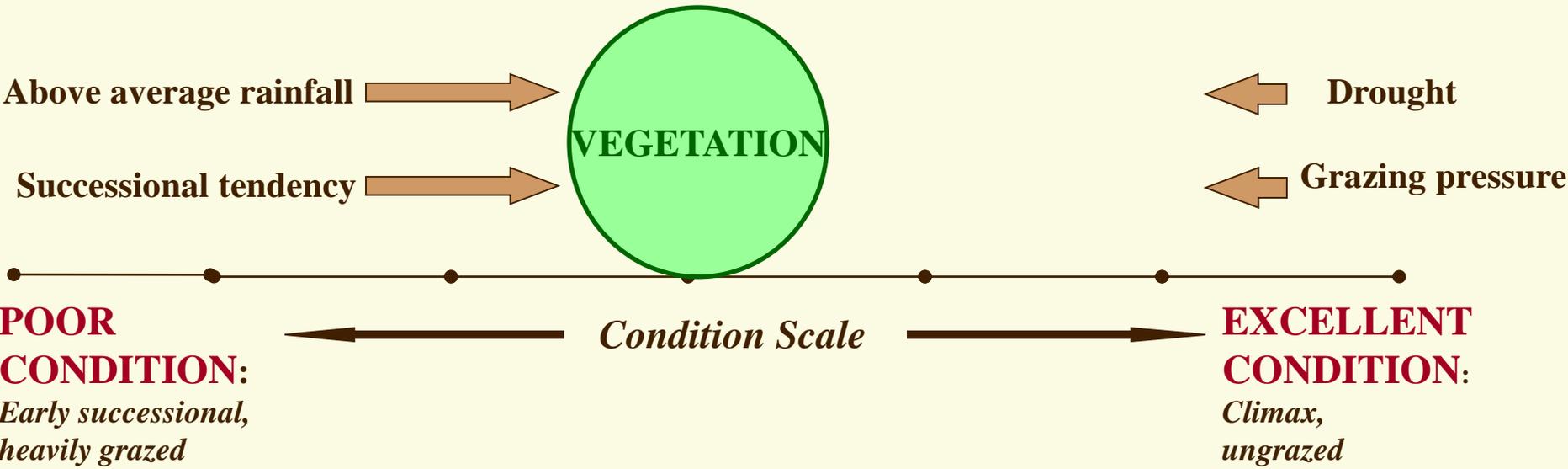
Oklahoma Panhandle State University

It's Rained...

is everything better now?

- Resist the temptation to restock to pre-drought levels no matter how "green" the range appears.
- The year following drought should be devoted as much as possible to improving plant vigor and restoring protective residual vegetation and plant litter.

General Scheme of Range Succession



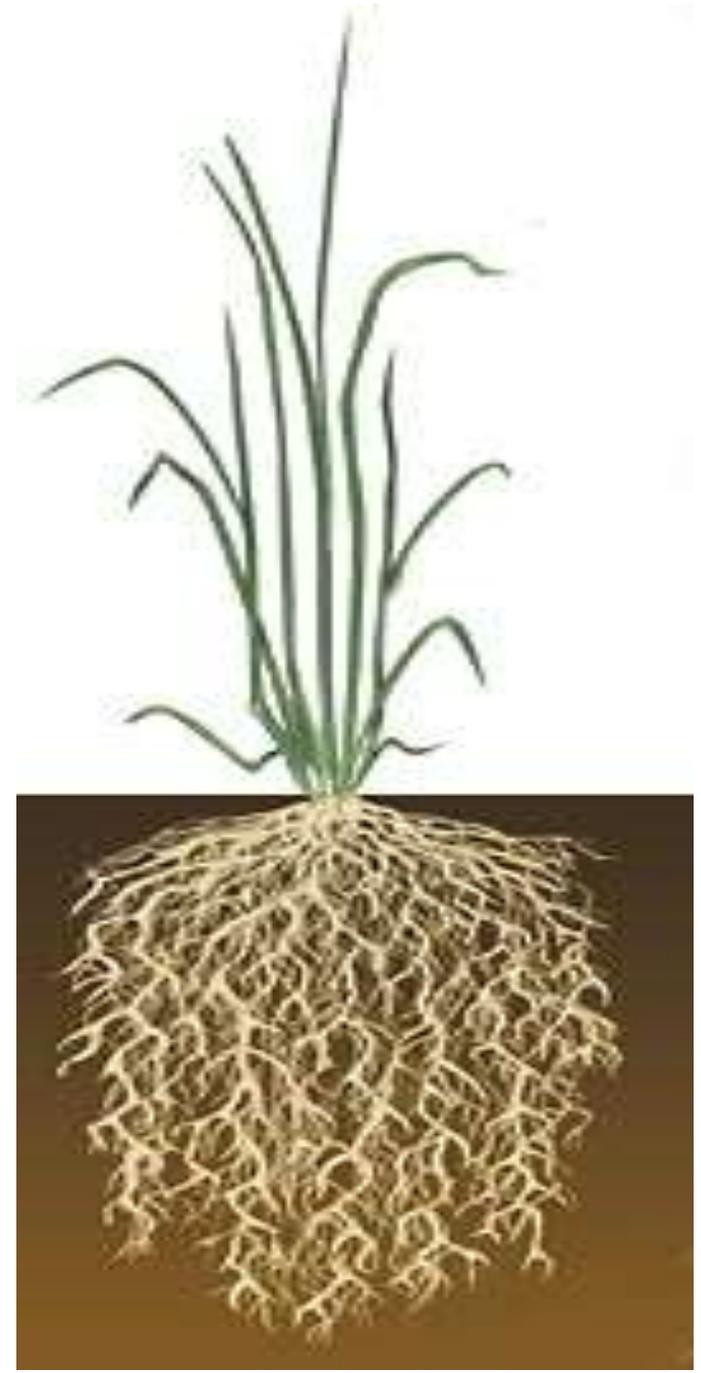
Should rancher immediately graze green regrowth following drought?

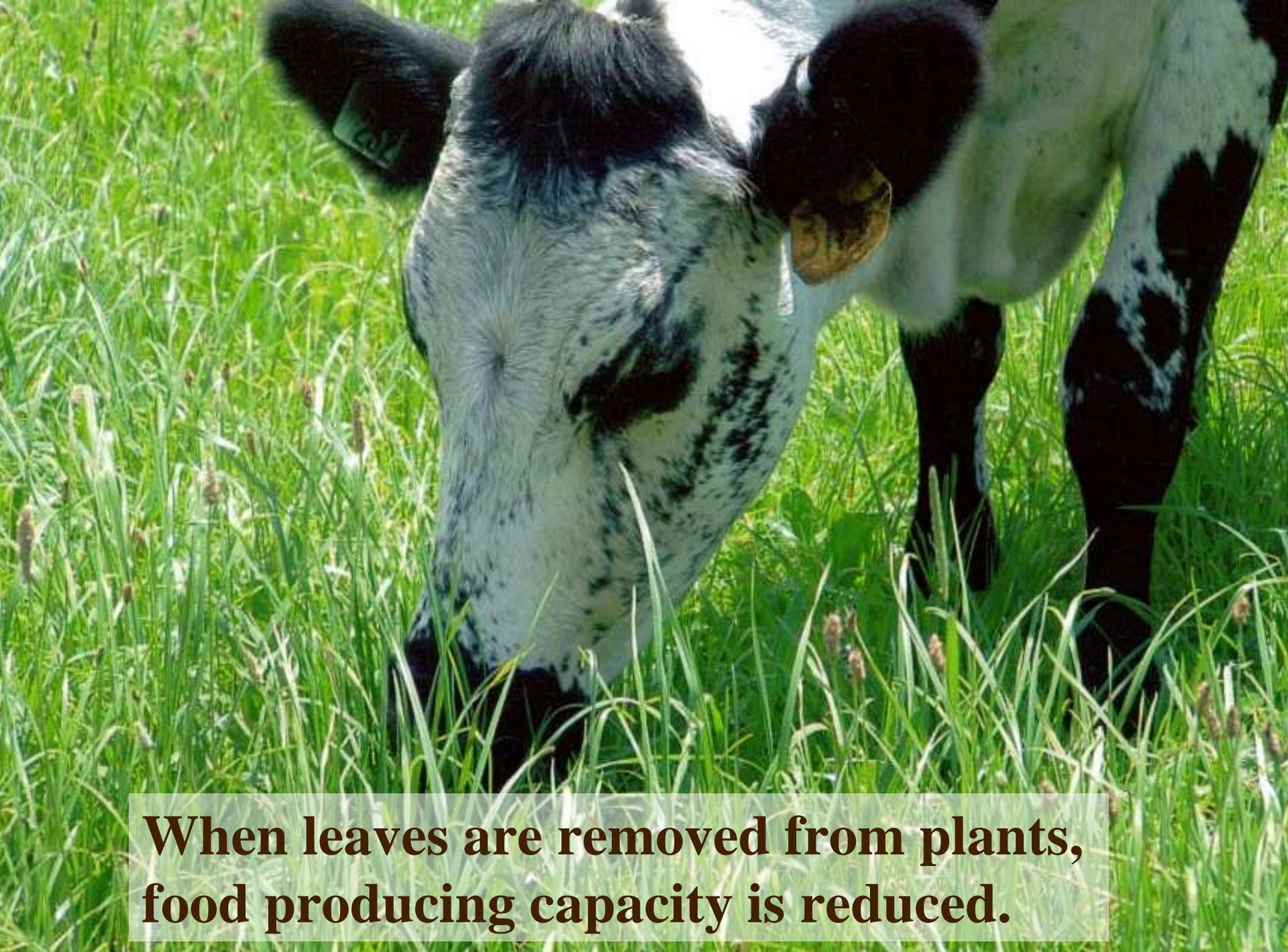




Where do plants get their food?

- Plants do NOT get their “food” from the soil.
- Plants obtain only *raw materials* needed for photosynthesis and food formation.
- Green plants are entirely dependent on green leaf tissue for their survival.



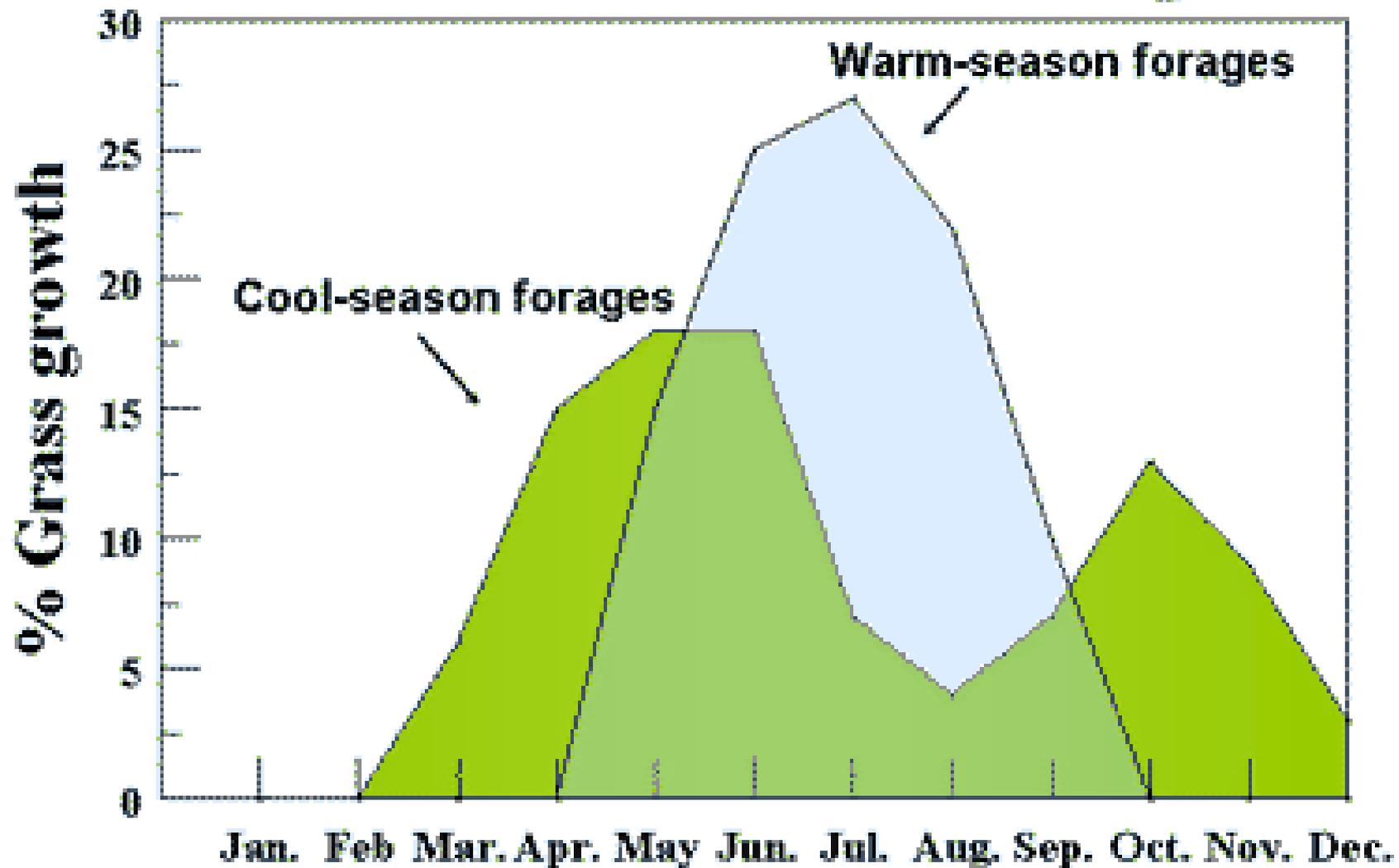


When leaves are removed from plants, food producing capacity is reduced.

Important Native Grasses of Southern High Plains

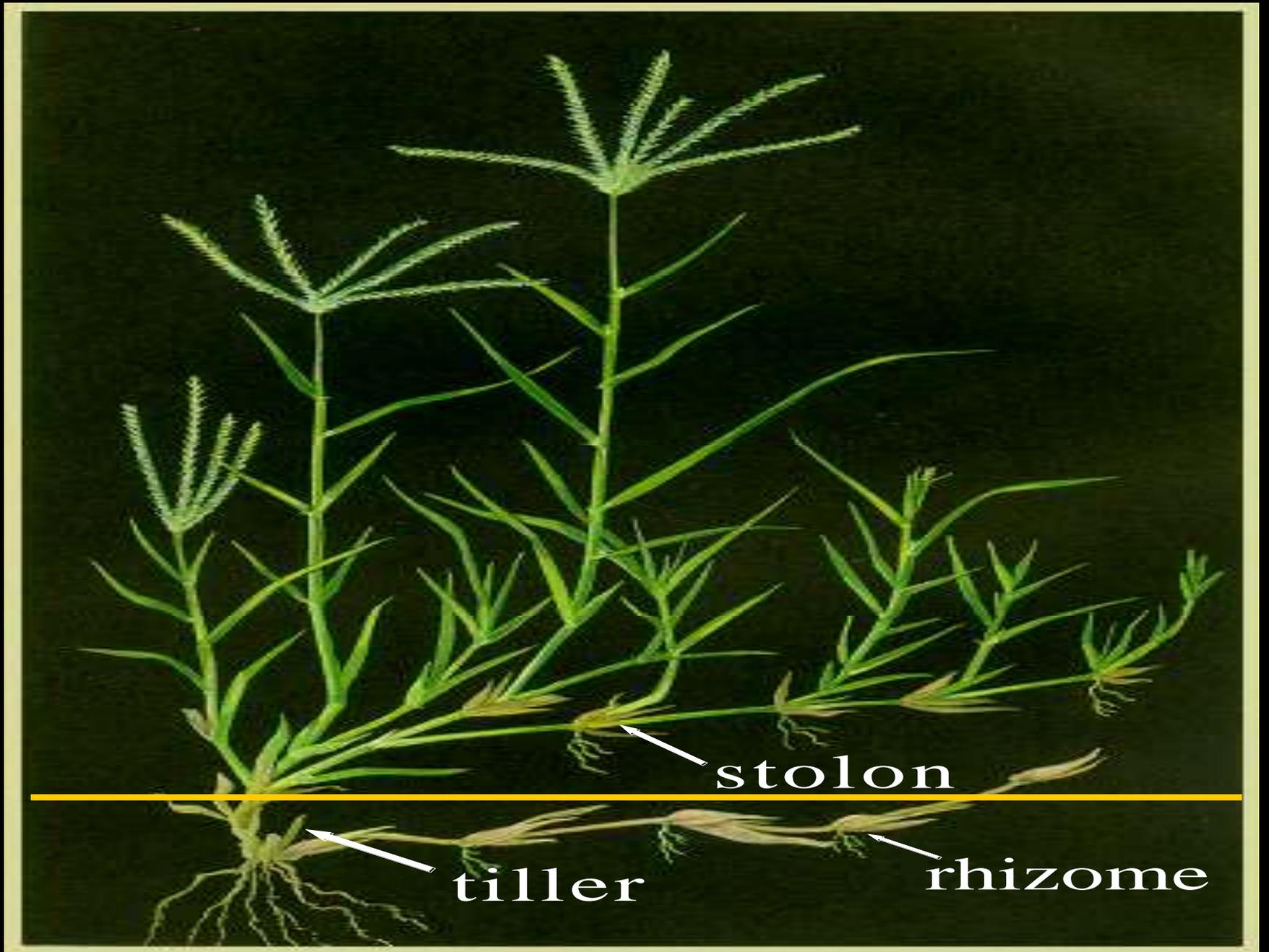
- ✓ **Buffalograss**
- ✓ **Blue grama**
- ✓ **Sideoats grama**
- ✓ **Western wheatgrass**
- ✓ **Little bluestem**
- ✓ **Dropseed spp.**
- ✓ **numerous others**

Complementary Growth Patterns of Cool- and Warm-Season Forages



How Does Grass “Fill In” the Bare Spots?





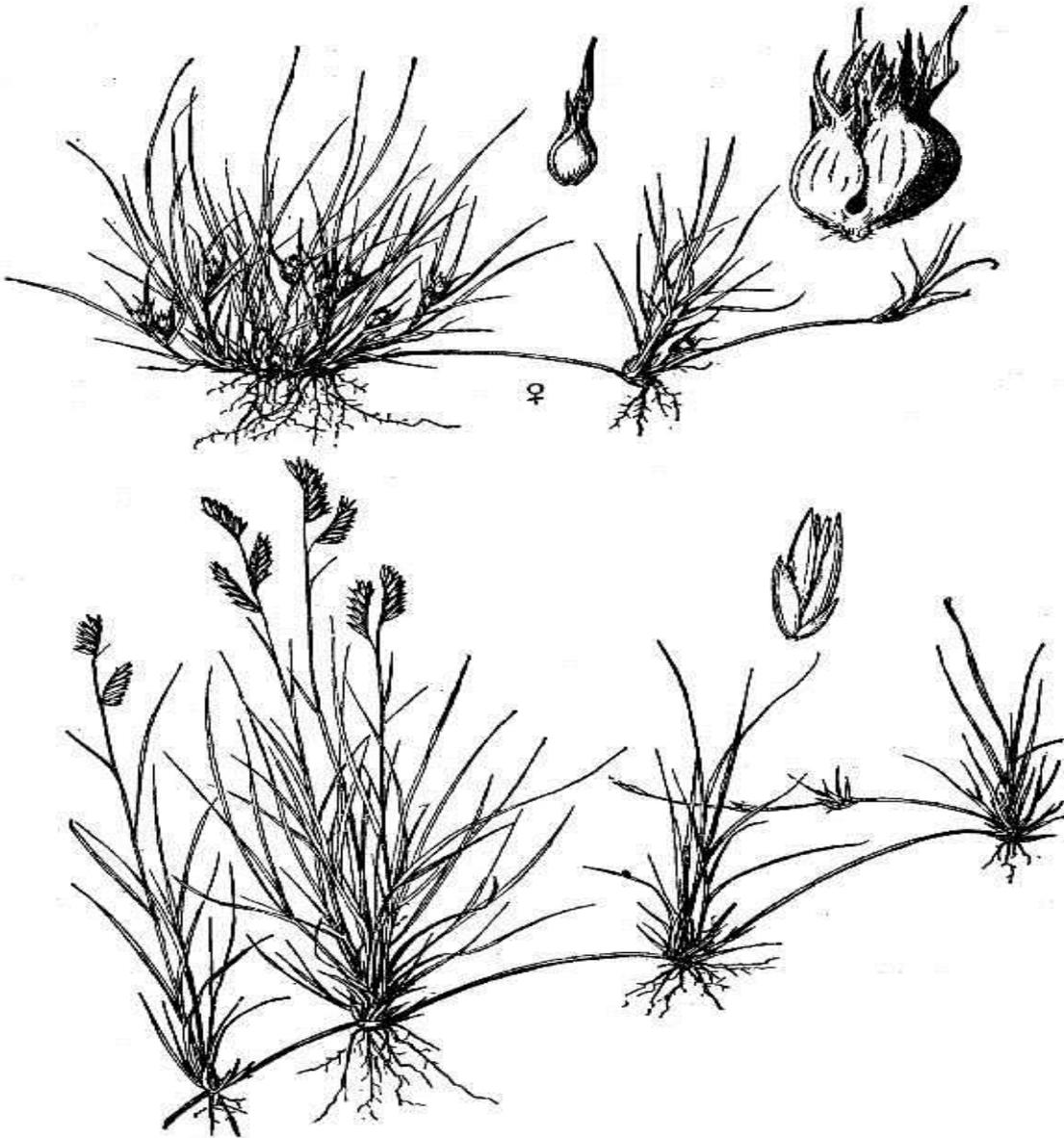
stolon

tiller

rhizome

BUFFALOGRASS

(Buchloe dactyloides)



- Dominant grass species of the shortgrass prairie
- Sod-forming with wiry stolons

BLUE GRAMA

(Bouteloua gracilis)



- Warm season perennial bunchgrass; also one of the dominant species of shortgrass prairie.
- The plant base is curved at the base where it connects into the bunch.
- Seedheads resemble a lady's glue on eyelash.

Sideoats Grama

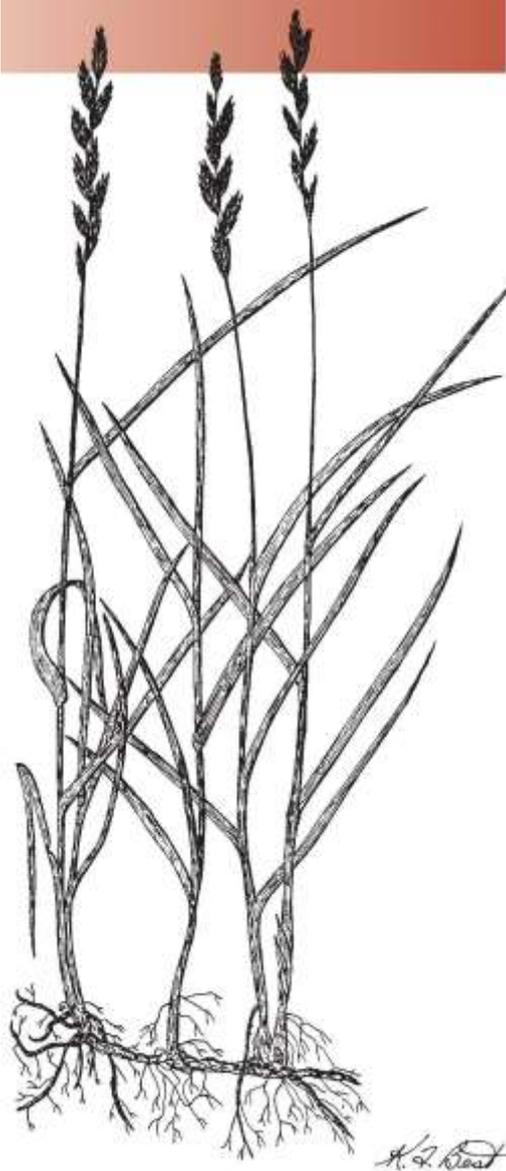
(Bouteloua curtipendula)



- ✓ Medium height, native, warm-season bunchgrass
- ✓ Numerous spikelets drooping downward from one side of the stem ("sideoats")

Western Wheatgrass

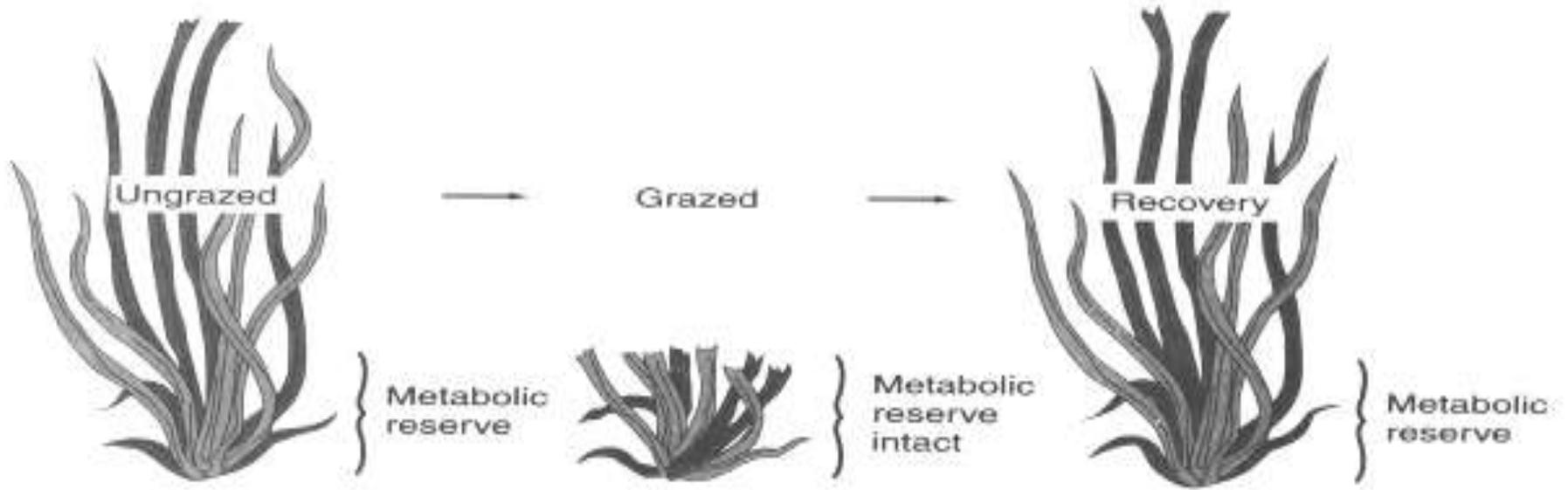
(*Pascopyron smithii*)



- Cool-season, native perennial grass; highly palatable and preferred by cattle. Tends to grow in draws and valleys.
- Stiff, blue-green, leaves with ridges on top of leaf.
- Dense, narrow seedhead; spikelets overlapping

IT TAKE GRASS TO MAKE GRASS

Grazing rule-of-thumb is "Take half, leave half"



Grazing Rule-of-Thumb

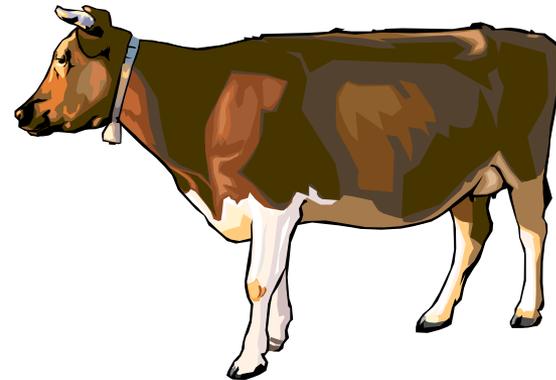
“Take $\frac{1}{2}$ and leave $\frac{1}{2}$ ”



tallgrass



shortgrass



Leave $\frac{1}{2}$ for continued plant photosynthesis and plant health.

~ 2 inch stubble height – shortgrass

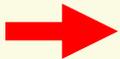
~ 6 inch stubble height – midgrass



Grazing Enclosure

General Guidelines for Minimum Stubble Height:

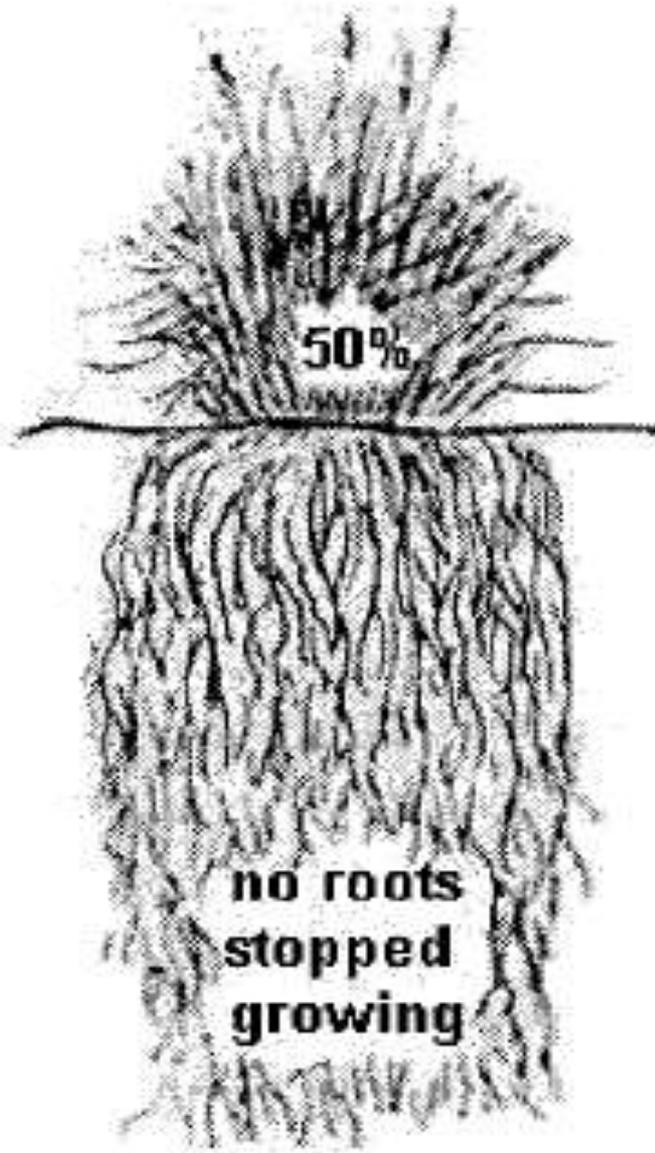
	<u>Stubble Height Guide</u>			% Use of Forage by Weight
	Shortgrasses	Midgrasses	Tallgrasses	
	----- Inches -----			%
Light use to nonuse	2.5+	9+	16+	0-30
Conservative	2.0 – 2.5	8 – 9	14 – 16	31-40
Moderate	1.5 – 2.0	6 – 8	12 – 14	41-50
Heavy	1.0 – 1.5	4 – 6	10 – 12	51-60
Severe	<1.0	<4	<10	>60





*If your "Cow-pies" stack-up taller
than your grass
you may have too high stocking rate !!*

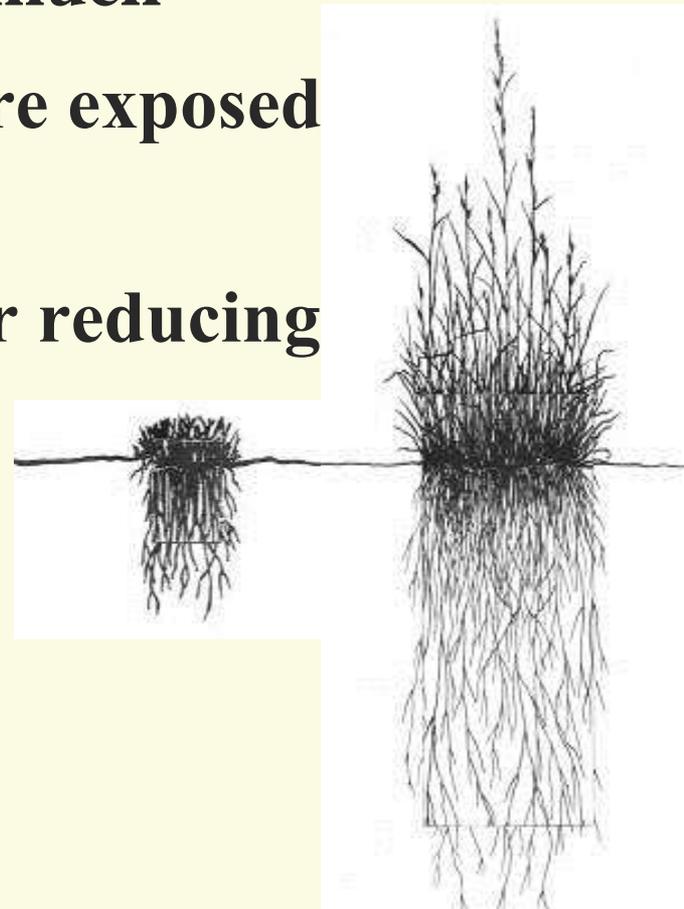
Effect of Grazing on Root Growth



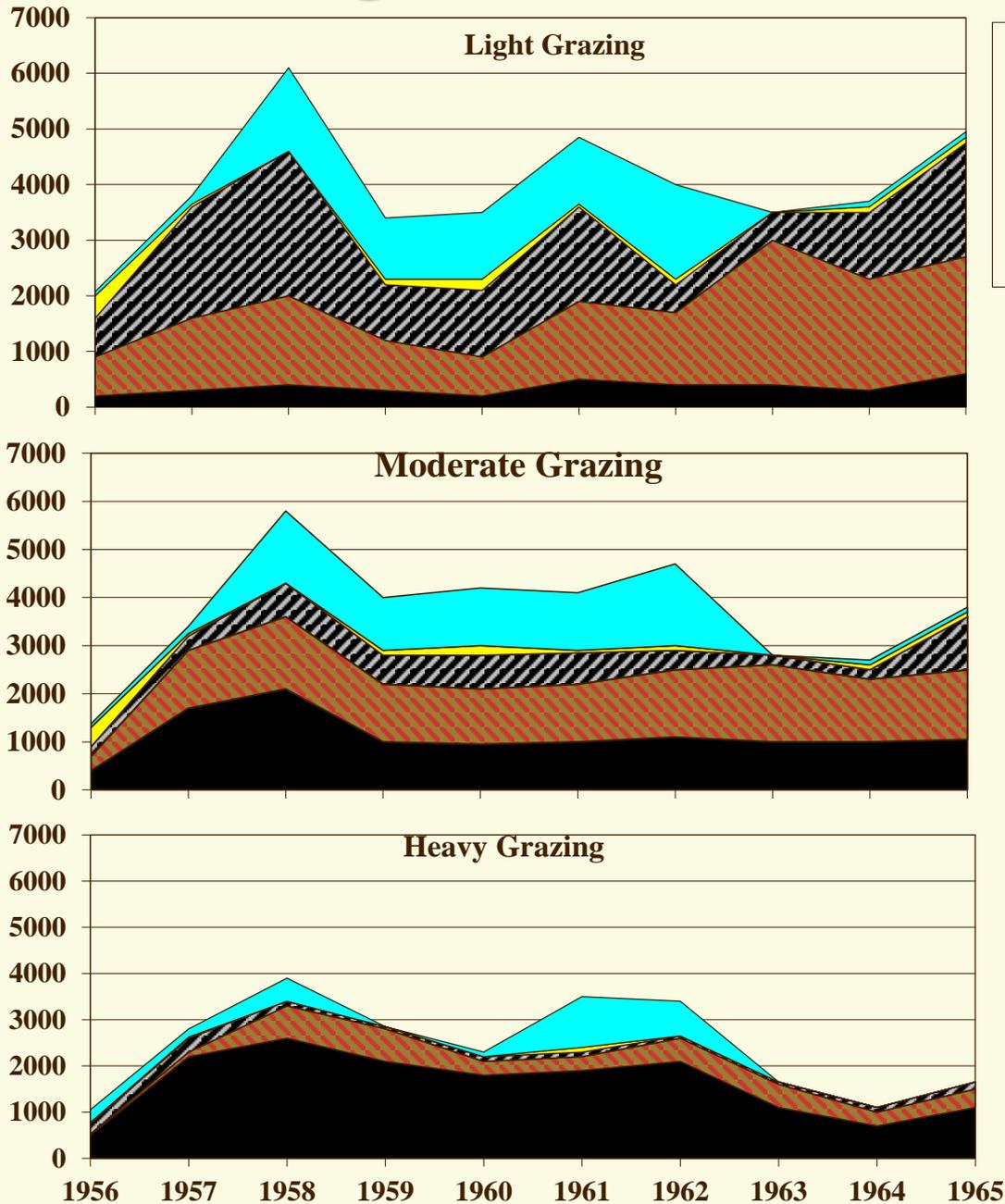
Heavy Grazing Will Prolong the Drought

Heavy grazing intensity :

- ✓ Desirable plants defoliated too much
- ✓ Plant cover reduced... soils more exposed
 - Increases runoff and evaporation
- ✓ Root growth retarded... further reducing water uptake



Stocking Rate Effects on Central Kansas Range



- ✓ As grazing intensity increases, buffalograss increases
- ✓ Other species decrease
- ✓ Total forage production declines

Expect a flush of broadleaf plants after drought breaks

- ✓ Weeds are opportunistic and invade bare areas of ground created by drought.
- ✓ Weeds aggressively compete for water, nutrients and light.
- ✓ “Non-native” weeds are the worst...
 - Kochia, Russian thistle, Palmer amaranth, etc.

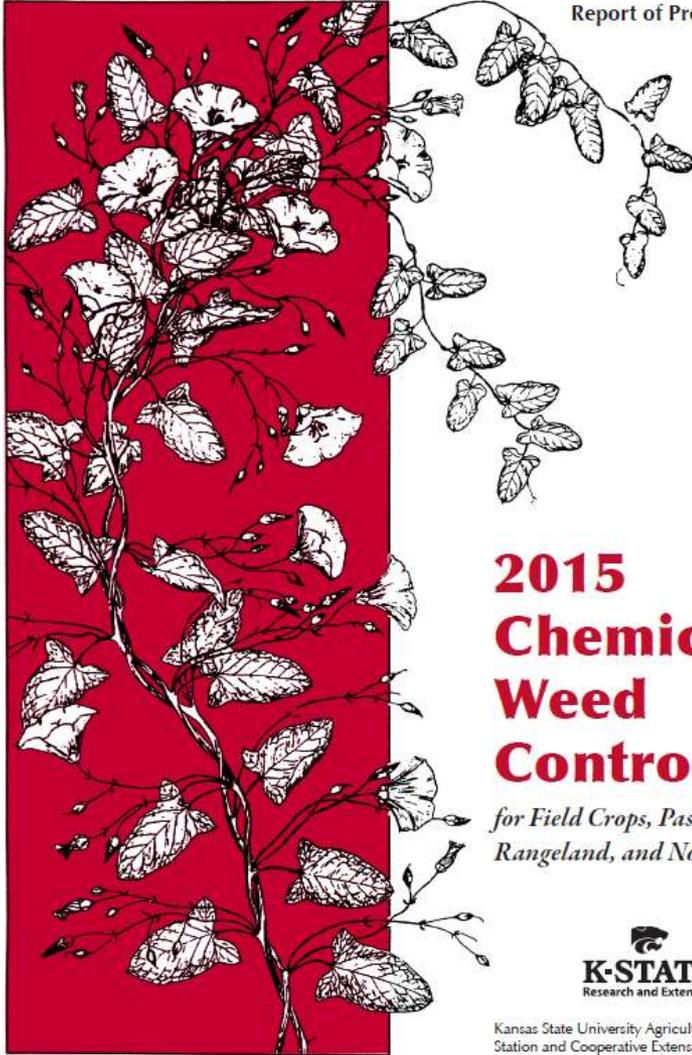


Expect a flush of broadleaf plants after drought breaks (*cont.*)

- Many forbs & native plants are highly nutritious and palatable at early growth stages and are readily eaten by wildlife and livestock and reduce grazing pressure on desirable grass species recovering from drought.
- These plants can also provide for ground cover, soil benefits and be an asset for insects (pollinators), birds, and other wildlife



Report of Progress 1117



2015 Chemical Weed Control

*for Field Crops, Pastures,
Rangeland, and Noncropland*



Kansas State University Agricultural Experiment
Station and Cooperative Extension Service



<http://www.ksre.ksu.edu/library/crpsl2/srp1027.pdf>

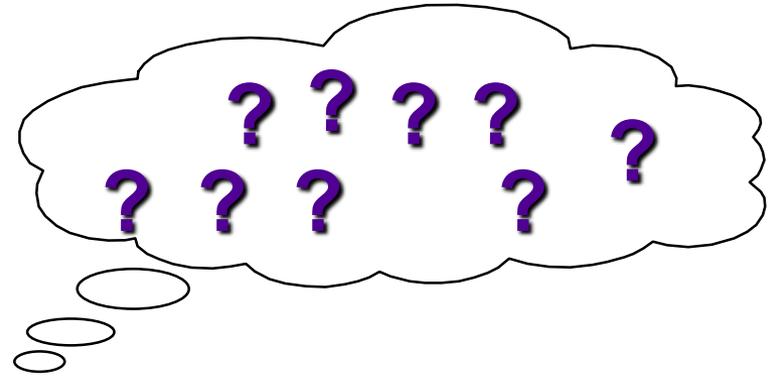
Herbicides for Rangeland Weeds

Weeds	Herbicide and active ingredient needed/acre	Formulated product and amount/acre*	Comments and limitations
For control of noxious weeds, refer to Herbicides for Noxious Weeds table.			
ANNUAL AND BIENNIAL WEEDS			
Annual broomweed Cocklebur Common ragweed Sunflower Thistles	Aminopyralid (4) 0.047 to 0.109 lb	3 to 7 fl oz Milestone	Apply to control broadleaf weeds. Can be tank mixed with other herbicides. Follow label directions and precautions.
	Aminopyralid (4) +2,4-D (4)	1.2 to 2.1 pt ForeFront HL	Apply when broadleaf weeds are actively growing. Follow label directions and precautions.
	Clopyralid (4) + Triclopyr (4) 0.375 to 0.56 lb	Redeem R&P (see label for rates)	Apply when weeds have emerged. Add a surfactant.
	Dicamba (4) + Diflufenzopyr (19)	2 to 8 oz Ovetdrive	Controls a wide range of broadleaf weeds. Can be tank mixed with other herbicides. Follow label directions and precautions.
	Dicamba (4) + 2,4-D (4)	1 to 4 pt Range Stat 0.5 to 3.5 pt Outlaw 0.33 to 2.5 pt Latigo	See label for weed-specific rates and grazing restrictions. Do not use on buffalograss as injury will occur.
	Halosulfuron (2) + Dicamba (4)	4 to 8 oz Yukon	Apply after weed emergence to small, actively growing broadleaves. Can be tank mixed with 2,4-D, dicamba, and picloram. Follow directions and precautions on label.
	Metsulfuron (2)	0.1 to 1 oz Metsulfuron*	Apply when weeds are less than 4 inches tall or in diameter. Can be tank mixed with Clarity, Grazon P+D, 2,4-D, Tordon 22K, or Weed-Master. Include NIS at 0.25 to 0.5% v/v.
	Metsulfuron (2) + Chlorsulfuron (2)	0.125 to 1.25 oz Cimatron Plus	Apply when weeds are less than 4 inches tall or in diameter. Do not apply more than 0.625 oz/acre to buffalograss. See label for tank mix and surfactant recommendations.
	Metsulfuron (2) + Chlorsulfuron (2)	0.5 to 2 oz Cimatron X-tra	Apply when weeds are less than 4 inches tall or in diameter. Do not apply more than 1 oz/acre to buffalograss. See label for tank mix and surfactant recommendations.
	Metsulfuron (2) + 2,4-D amine (4) + Dicamba (4)	Cimatron Max	See label for rates, directions, restrictions, and cautions.
	Picloram (4) + 2,4-D (4)	Grazon P+D (see label for rates)	A restricted use pesticide. Apply according to label directions. Follow directions, grazing limitations, and precautions on label.
	Salfufenacil	1 to 2 fl oz Sharpen	Apply postemergence in-season for broadleaf weed control. Use 1% MSO. Do not use AMS.
	Triasulfuron (2)/ Dicamba (4)	2 to 5 oz Rave	See label for directions, species, and restrictions.
	2,4-D* amine, LVE, or mixed formula- tions (4) 1 to 2 lb		Apply when problem weed has leaves and is growing actively. Do not let dairy animals graze on treated area within 7 days after treatment. Do not cut for hay for 30 days. Use 20 gal or more of solution per acre for ground application. Repeat applications may be necessary. Follow label directions.

Grazing Restrictions for Certain Range and Pasture Herbicides¹

Herbicide	Beef and non-lactating animals			Lactating dairy animals	
	Before grazing	Before hay harvest	Removal before slaughter	Before grazing	Before hay harvest
2,4-D	0	30 days	3 days	7 days	30 days
Arsenal	0	7 days	0	0	7 days
Chaparral	0	0	0	0	0
Cimarron Max	0	37 days	30 days	7 days	37 days
Cimarron Plus	0	0	0	0	0
Cimarron X-tra	0	0	0	0	0
Dicamba ²	0	0	30	7 to 40 days	37 to 70 days
Crossbow	0	14 days	3 days	Next growing season	14 days
Escort XP	0	0	0	0	0
ForeFront HL	0	7	0	0	7
Glyphosate	(Check label. Restrictions vary by product, rate, and method of application.)				
Grazon P+D	0	30 days	3 days	7 days	30 days
Journey	0	7 days	0	0	7 days
Milestone	0	0	0	0	0
Overdrive	0	0	0	0	0
Pastora	0	0	0	0	0
PastureGard HL	0	14 days	3 days	Next growing season	14 days
PathFinder II	0 to 14 days	7 to 14 days	3 days	14 days	Next growing season
Plateau	0	7 days	0	0	7 days
Pronone Power Pellets	0	0	0	0	0
Rave	0	0	30 days	7 days	0
Redeem R&P	0	14 days	3 days	Next growing season	Next growing season
Remedy Ultra, Trycera	0	14 days	3 days	Next growing season	14 days
Spike 20P	0	1 year	0	0	1 year
Surmount	0	7 days	3 days	14 days	7 days
Tordon 22K	0	0 to 14 days	3 days	14 days	0 to 14 days
Velpar L ³ , Velossa ⁴	0	0	0	0	0
Yukon	0	37 days	0	0	37 days
Weedmaster/Range Star	0	37 days	30 days	7 days	30 days

Questions???



Has the size and weight of your cows increased over the years?



Have you adjusted your stocking rate to accommodate the bigger cattle?

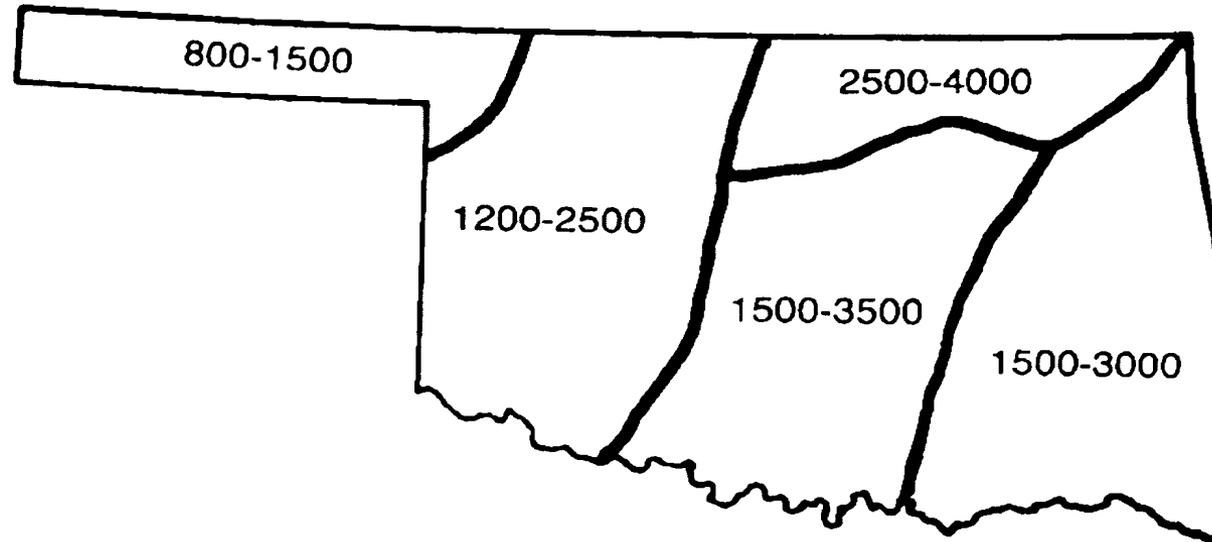


Fig. 1. Average forage production (pounds/acre) on Oklahoma rangelands.

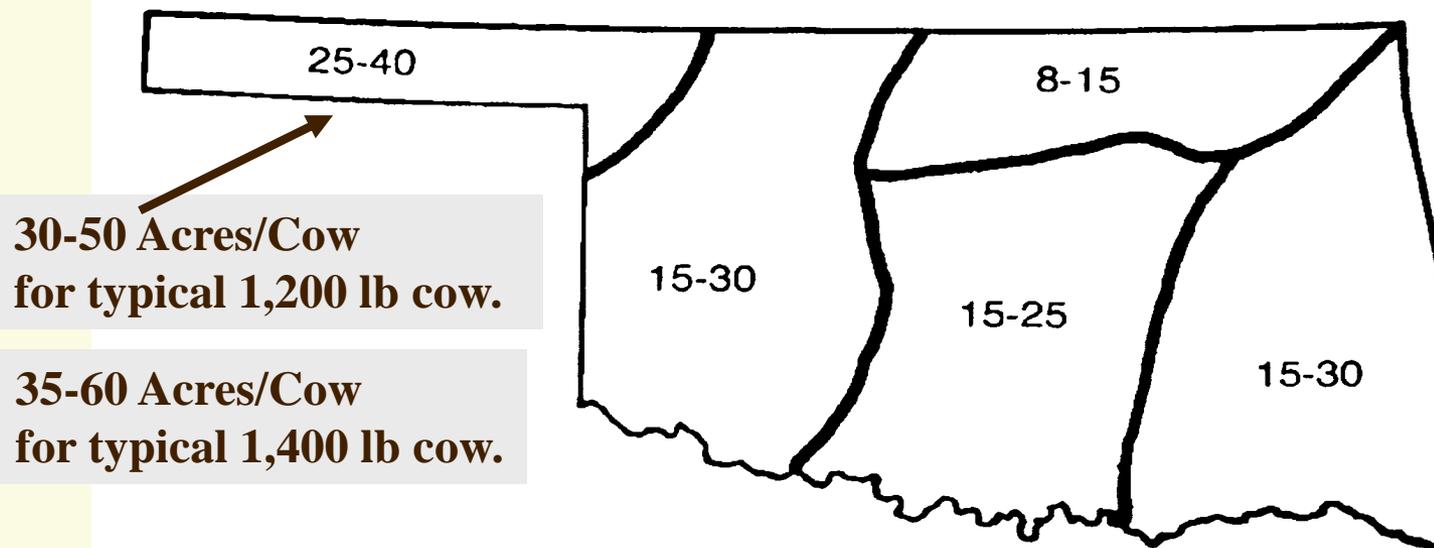


Fig. 2. Average number of acres of rangeland necessary to support one animal unit for one year.

General Scheme of Range Succession

