EXTENSION

Native and Rangeland Pasture Management Strategies to Minimize Drought Impacts

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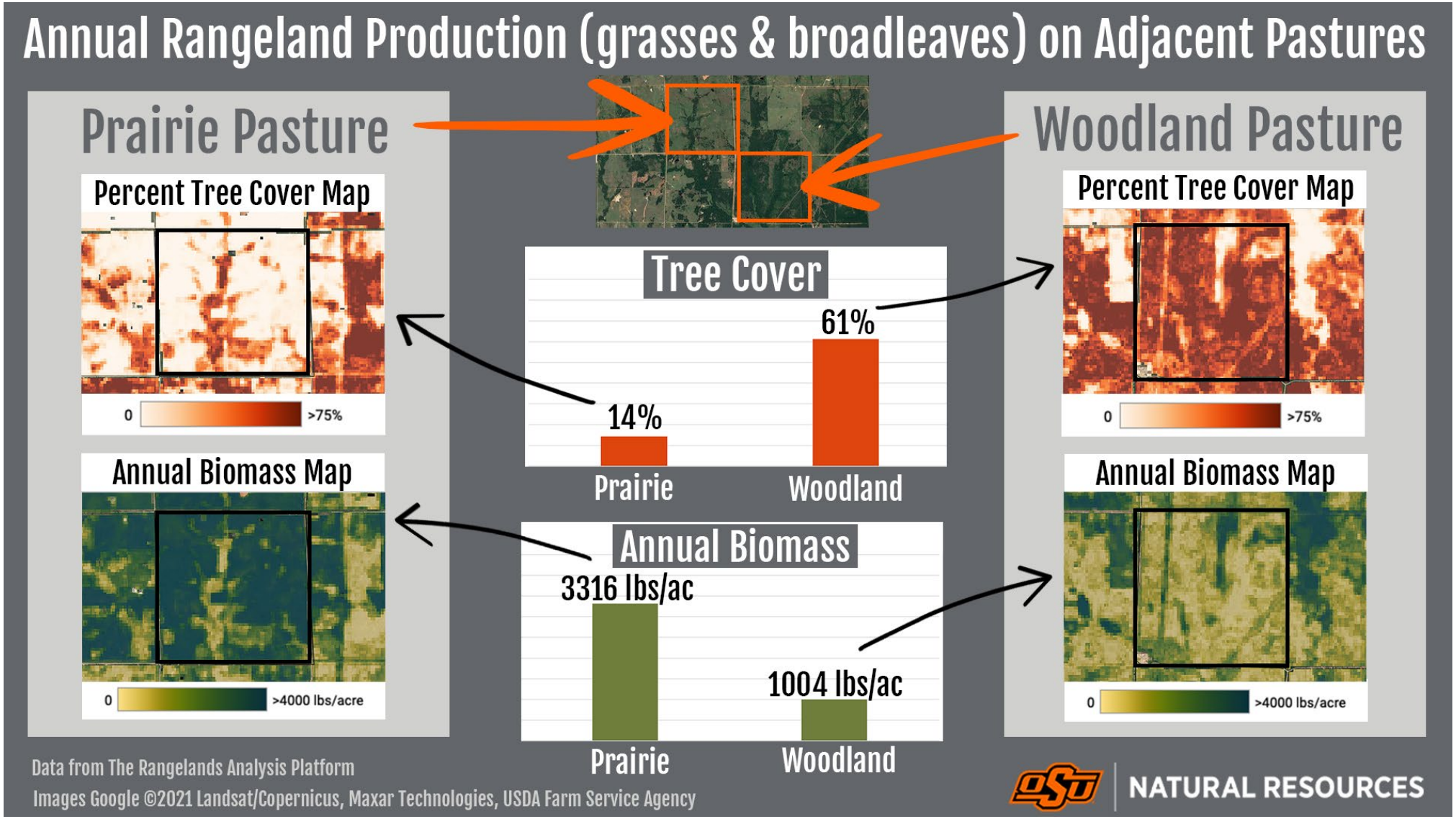
Management Decisions to Prepare for Drought

1. Vegetation Management
2. Grazing Management
3. Diversify Your Herd
4. Diversify Forage Resources

The Green Drought



It lasts longer and is more expensive to fix.

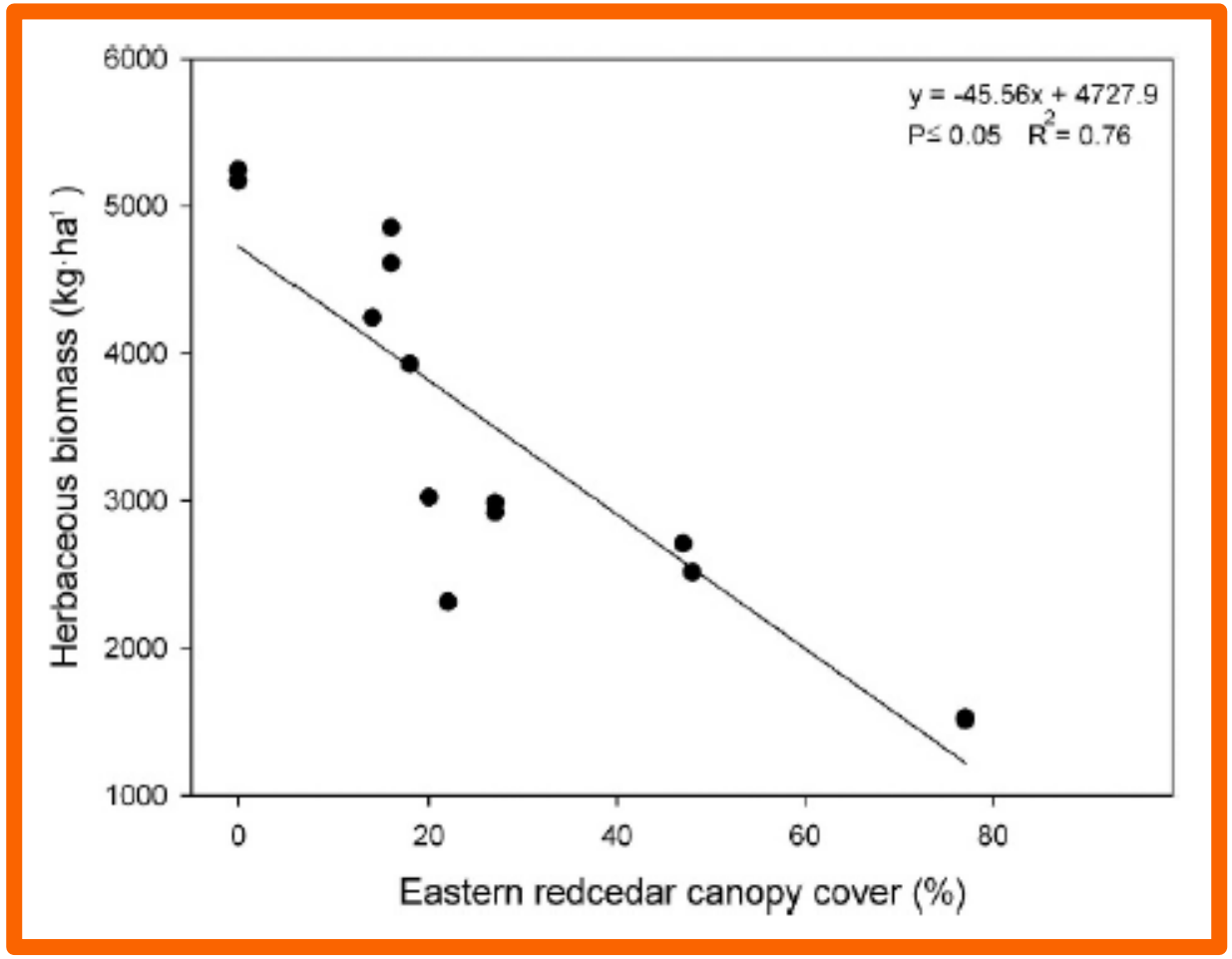
1. Vegetation Management – Control Encroaching Trees and Shrubs

No cedar

- **4730 lbs/acre**
- **Annually 8 acres/ 1000 lb. cow**
- **10 cows on 80 acres year-round**

80% cedar

- **1300 lbs/acre**
- **Annually 27 acres/ 1000 lb. cow**
- **3 cows on 80 acres year-round**



400 lbs/acre LESS FORAGE for every 10% INCREASE IN CEDAR canopy

2. Grazing Management – Use a Sustainable Stocking Rate

Results of Grazing Intensity and Livestock Production (25 Studies)			
	Grazing Intensity		
	Heavy	**Moderate**	**Light**
Use of forage (%)	57	43	32
Forage Production (lbs./acre)	1175	1473	1597
Forage Prod. Drought (lbs./acre)	820	986	1219
Range Trend	downward	upward	upward

Lightly stocked pasture will produce more on dry years than heavy, moderate, or ungrazed pasture.

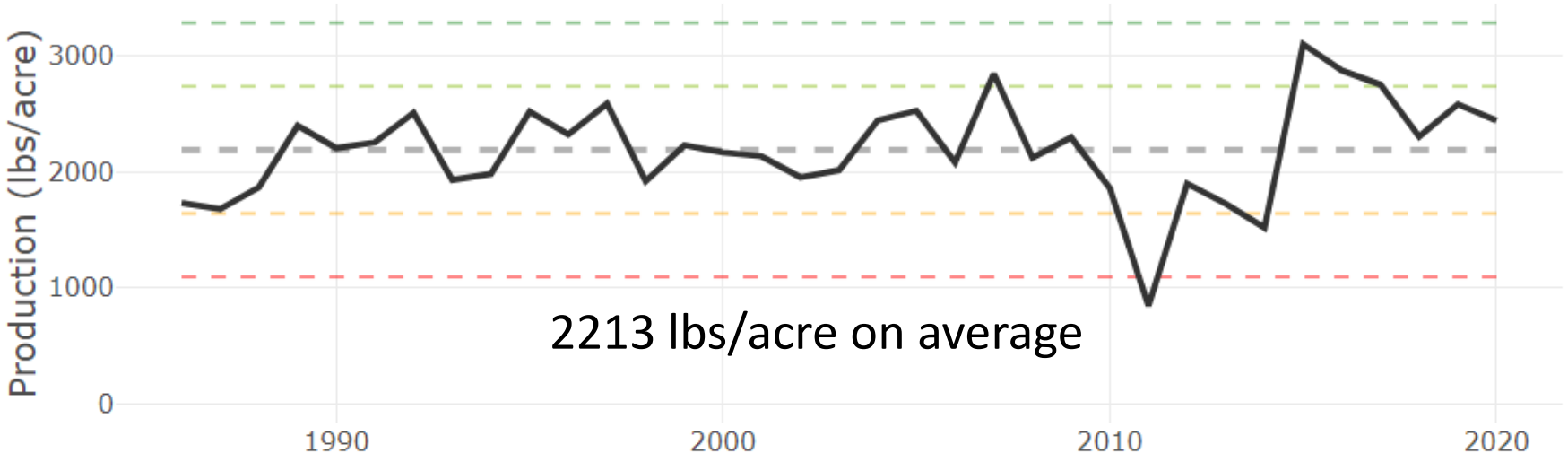
Maximizes leaf (plant engine) material and root growth.

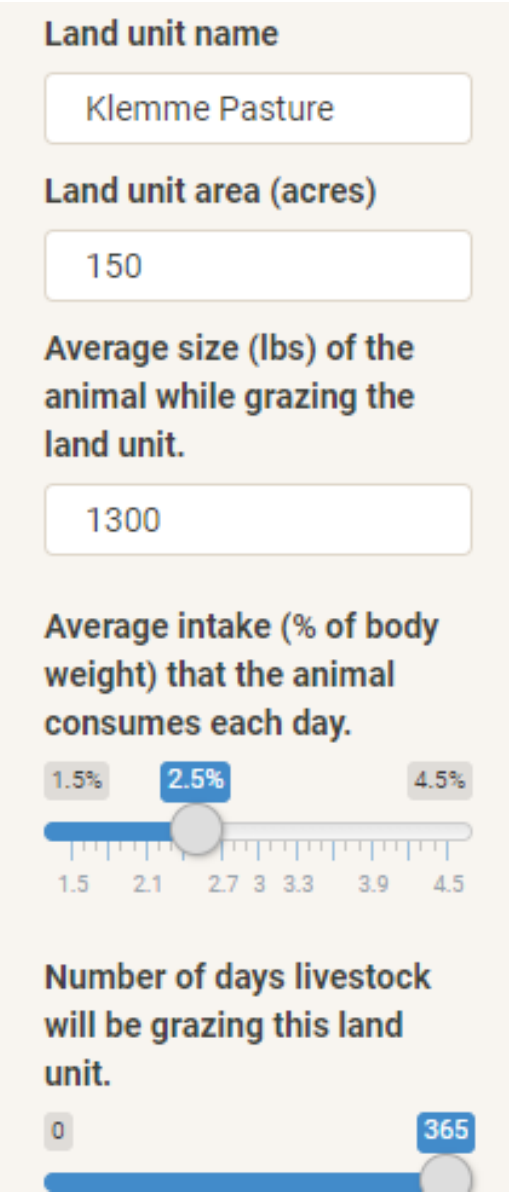
Adequate residual vegetation is key to sustainable forage production.

Rangeland Analysis Platform – Forage Production and Stocking Rate Calculator

You enter:

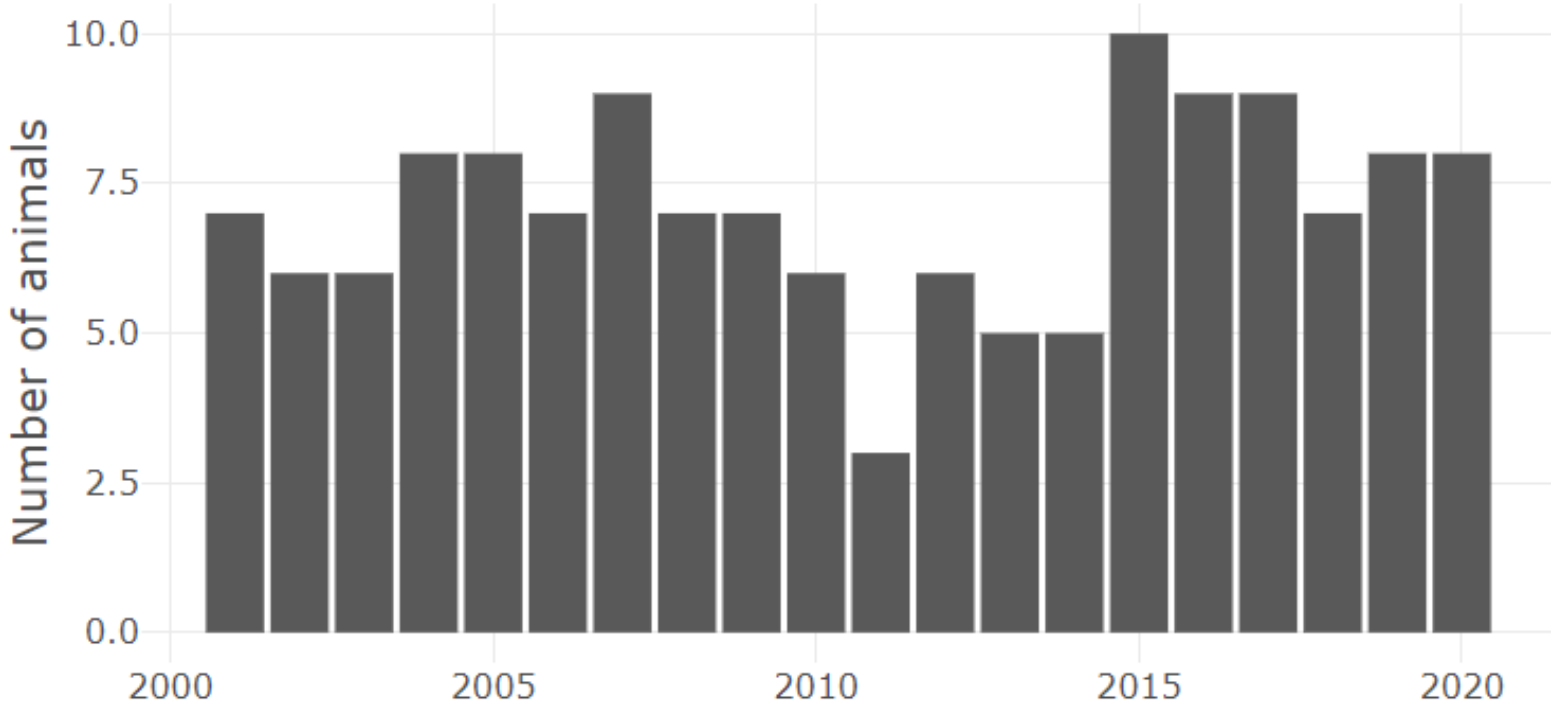
1. Pasture boundary
2. Pasture size
3. Cattle size
4. Estimated intake
5. How long they will graze





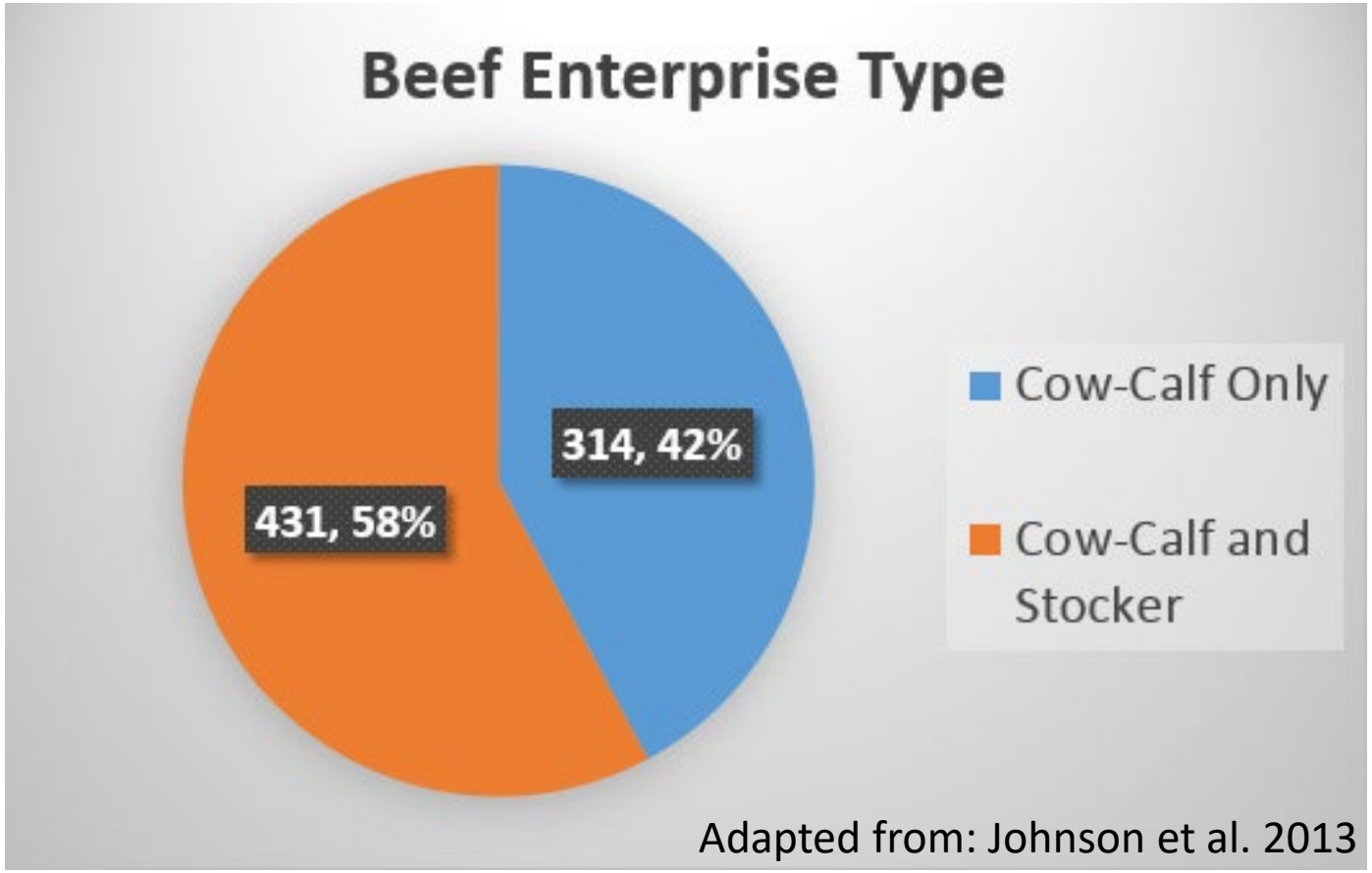
Number of 1300lb cows this pasture could carry year-round

www.rangelands.app



	Average	Lowest value	Highest value	Range
Production (lbs/acre)	2213	844	3097	2253
Stocking rate (animals)	7	3	10	7

Oklahoma Cattle Herds



Beef Cattle Management Practices Assessment 2004-2006

3. Diversify Your Herd & Adjust Stocking

Maintain conservative stocking rate.

Adjust stocking (increase stocking during good years, destock during dry years).

	Conservative Stocking Rate		Flexible Stocking Rate	
Average Annual Net Returns	Cow-Calf	Cow-Calf & Stocker	Cow-Calf	Cow-Calf & Stocker
$ total	55,126	63,076	69,520	115,221
$ / AUY	102	117	102	132

Adapted from Torell et al. 2010

Stockers optimize profitability because they are a low-cost way of adjusting to variable forage conditions.

50:50 split of forage between cow-calf enterprise and yearling most profitable.

3. Adjust Stocking

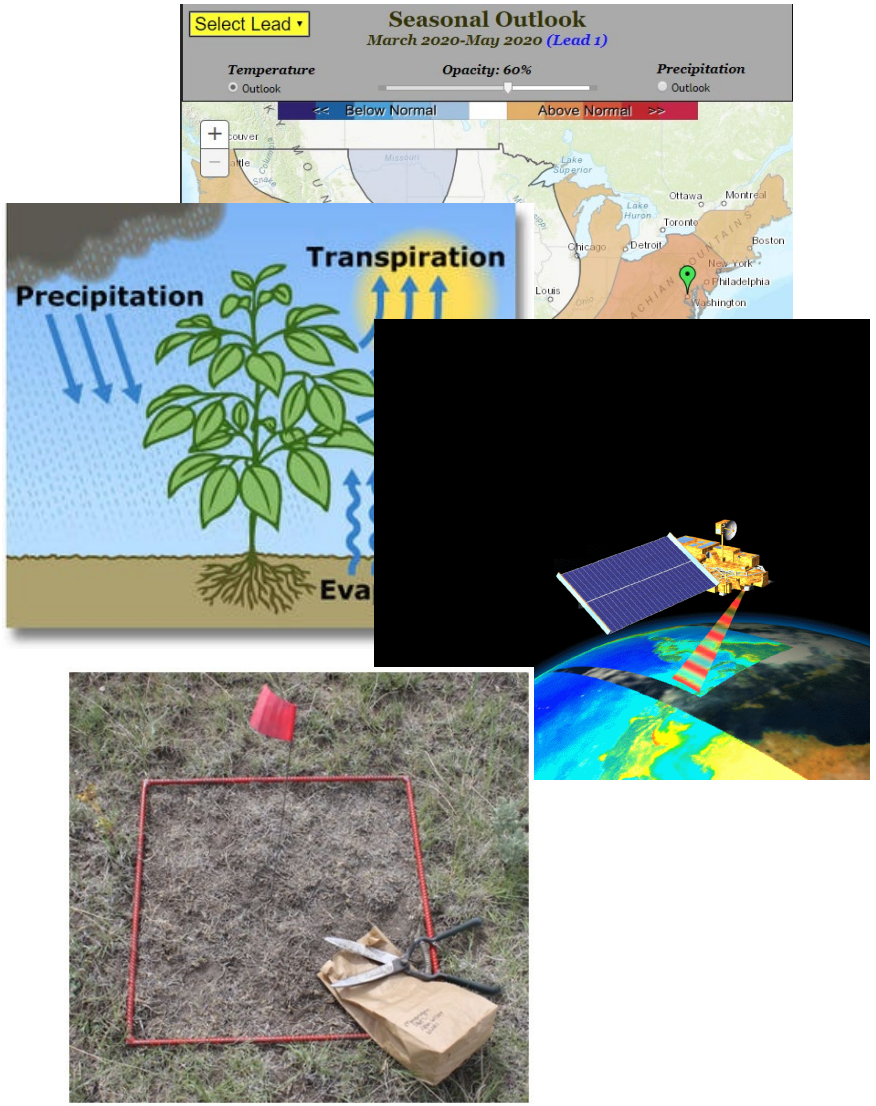
Table 2. Cash Rental Rates for Pastures, 2020-2021.

	Native Pasture					*Bermuda*				
	NW	*SW*	*NC*	*East*	*State*	*NW*	*SW*	*NC*	*East*	*State*
$/acre/year										
Average	12.13	16.07	18.71	16.39	15.42	15.33	17.79	18.60	22.39	20.22
Median	11.00	15.00	17.50	15.00	14.00	(D)	16.00	20.00	20.00	19.00
Number of Observations	118	108	58	131	415	6	33	15	62	116

Maintain a conservative cow herd and lease out additional pasture in wet years.

3. Adjust Stocking – Grass Cast

1. Observed weather + forcasted (NOAA)
2. Evapotranspiration (how much is actually available to plants)
3. Greenness (modis NDVI satellite imagery)
4. Measured production from 30 year data



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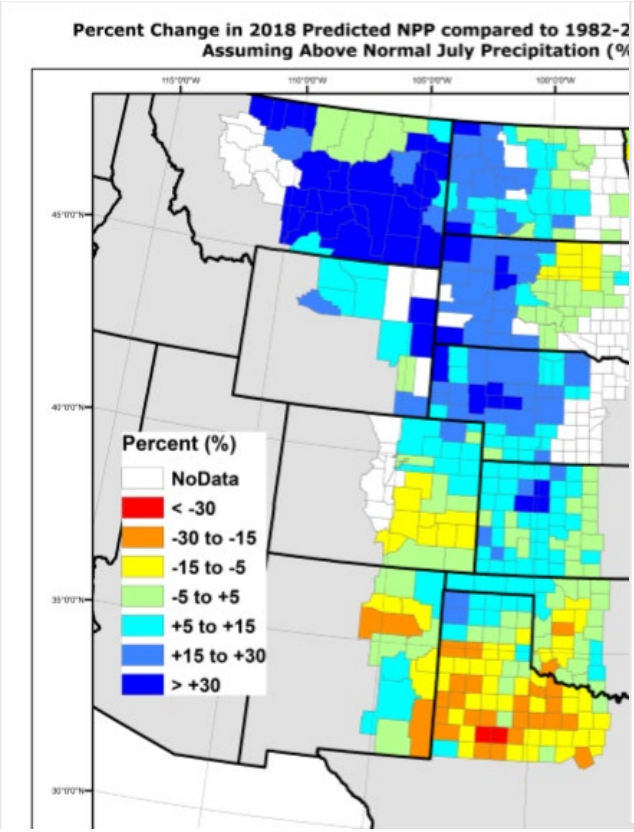
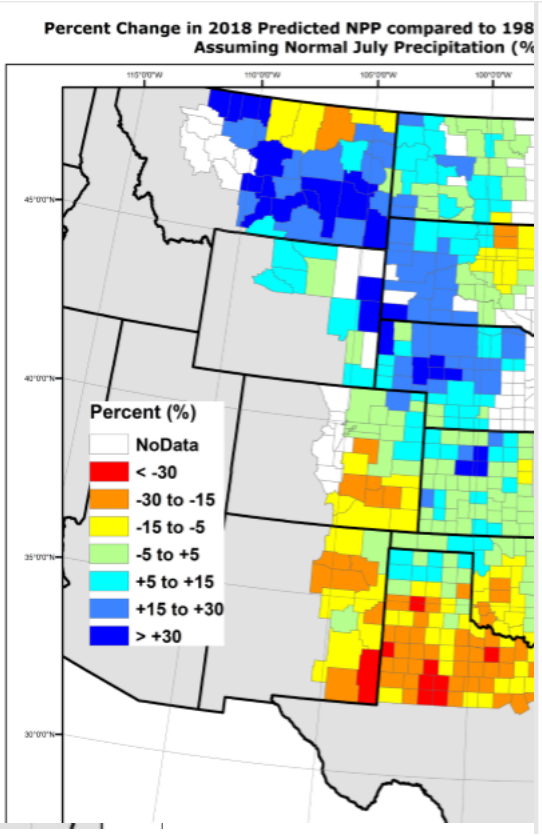
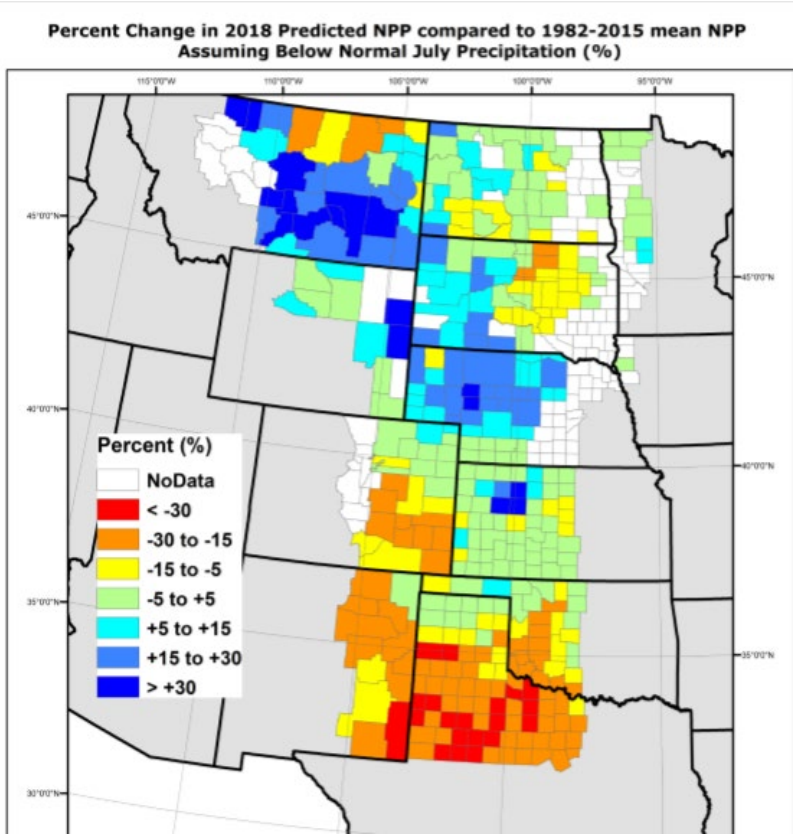


Above Normal Rainfall



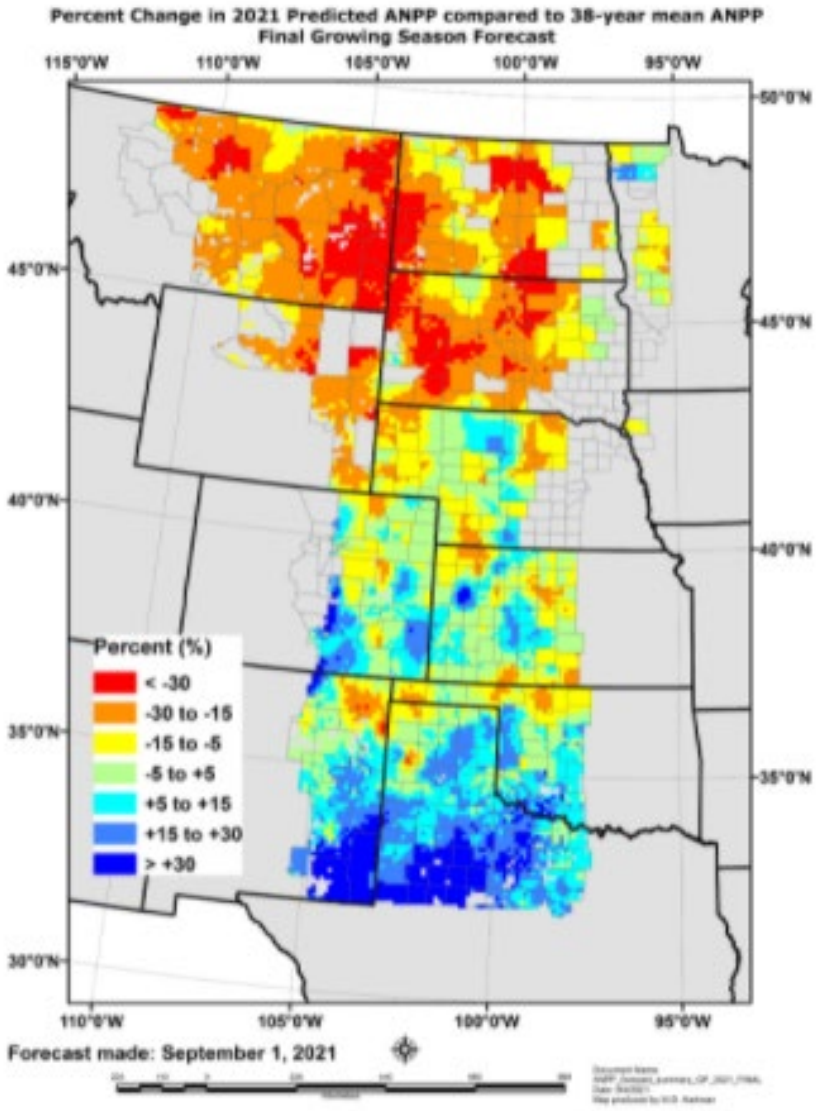
Normal Rainfall



Below Normal Rainfall

https://grasscast.unl.edu

3. Adjust Stocking – Grasscast



- 6 mile by 6 mile grid
- Updated every 2 weeks
- Shows **% change** in production
- Best used mid-summer

Sept. 1, 2021

4. Diversify Forage Resources

<u>Patch burn grazing</u>

1. Burn part of the pasture
2. Cattle graze burned patch,
   allow other areas to rest
3. Burn a different area
4. Cattle move to new burned area

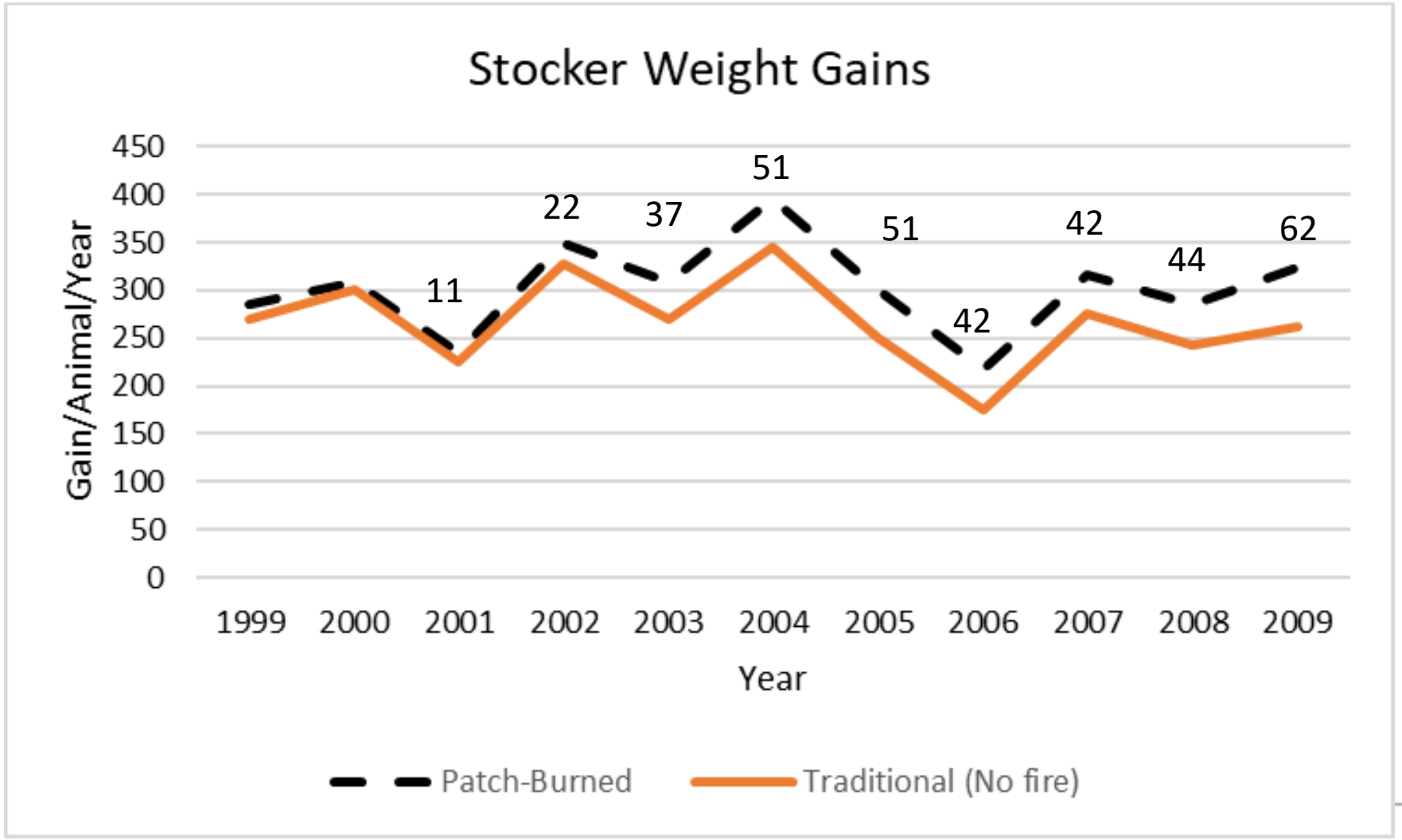
4. Diversify Forage Resources

Kansas Stocker Cattle Gained More Weight on Patch-Burned than Annually-Burned Pastures During Drought (2011 & 2012)				
	Annual Burn	Patch Burn	Difference	P-value
Initial April Weights (lbs)	591	591	**0**	0.98
Final August Weights (lbs)	844	870	**26**	0.07
Total BW Gain (lbs)	251	277	**26**	0.02
ADG (lbs/day)	2.16	2.38	**0.22**	0.02

Patch burn grazing

- High QUALITY feed in burn
- High QUANTITY feed in unburn
- Stockpiles forage in unburned

Stocker Gains on Patch Burned Pastures Near Clinton, OK



Study Length: 10 Years

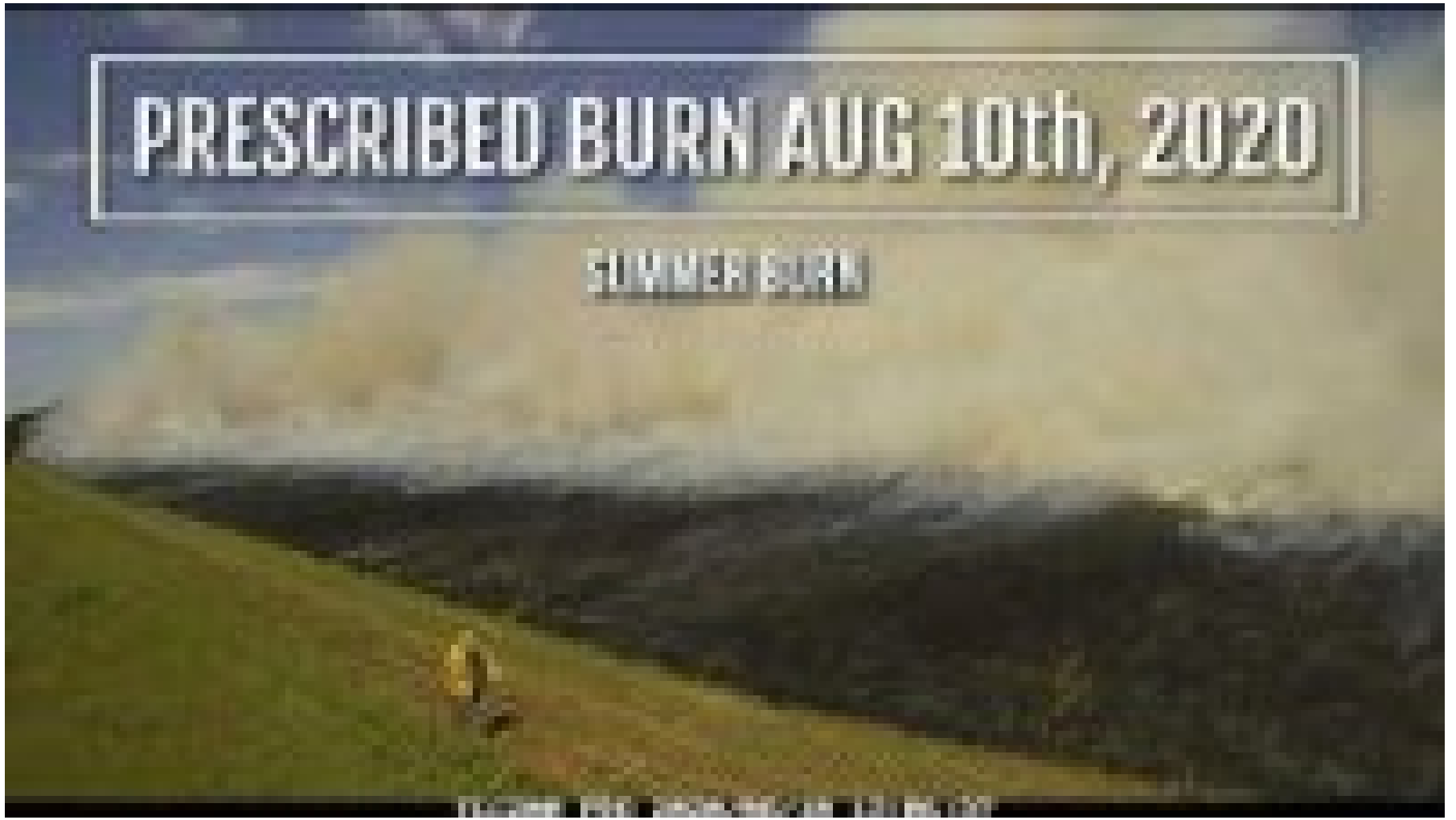
Grazing period:

Mar. 15 – Sept. 15

Stocking Rate: 1.5 acres/steer/month or 9 acres/steer/6 months

Number above the lines are the difference between weight gains in patch burn versus traditional pastures.

Patch Burn Grazing – Forage Quality, Stockpiled Forage



https://www.youtube.com/watch?v=o4d6-e_Tfnk&t=2s

Management Decisions to Prepare for Drought

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2. Use Sustainable and Flexible Stocking Rates
3. Diversify Your Herd
4. Diversify Forage Resources

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