



Grazing Distribution Is an Important Concern on Rangelands



- management made
- Unfortunately, this is not reality









Holechek (1988) recommended adjustments								
	% slope	% Reduction in Grazi	ing capacity					
-	0-10	No reductio	on and a second s					
	11-30 30							
	31-60	60						
	60+	100						
	CALL Y	130533	and the state of t					
1	Distance	e from water, km	% reduction in grazing capacity					
4		0-1.6 (0-1 miles	s) No reduction					
		1.6-3.2 (1-2 miles	s) 50					
		3.2+ (2 + miles)	100					
	hit.							

















Next Question: Would selection for grazing distribution make any difference on the ground?

For Example:

Maybe "hill climbers" use more rugged terrain because more

dominant "bottom dwellers" force them to use less desirable

terrain???

So we started watching cattle

Research in Montana (Bailey et al. 2006)

Grazing patterns of two herds were observed for 3 yearsHerd split to simulate selection for distribution

Stubble height for hill climber treatment met 5 inch height goal often required by BLM and USFS for riparian areas.

	Trait	Correlations	
Ranch		Intraclass	Adjacent
		CS	AR(1)
	Elevation	0.03	0
¥	Slope	0	0
	Distance to Water	0.08	0.01
	Elevation	0	0
6	Slope	0.05	0
	Distance to Water	0.02	0
	Elevation	0.49	0.46
1	Slope	0.60	0.58
	Distance to Water	0.77	0.77
	Elevation	0.71	0.60
	Slope	0.30	0.27
P.	Distance to Water	0.28	0.63
	Elevation	0.61	0.78
E .	Slope	0.39	0.59
ě	Distance to Water	0.18	0.82

Hope!

- DNA test to directly estimate genotype
- All you need is blood
- Cost should be less than \$30 / cow
- Stay tuned

Two heifers with different genotypes at an identified genetic marker on chromosome 29

Conclusions

- Grazing distribution is a critical trait
- We look at terrain use because it is more transferable among ranches
- Terrain use is a summary of lots of tracking data
- Must integrate slope, elevation and distance to water
- Considerable variation among cattle
- Not related phenotypically related to many production traits
- Selection has the potential to resolve important grazing management issues in the western US
- Terrain use appears relatively consistently in most but not all ranches currently evaluated
- Terrain use is an interesting and potentially important and valuable selection trait for western ranches

All About Discovery! New Mexico State L

"...Therefore, after a forty-year case study, it is my contention that couch potatoes actually begin to develop early in life as tater tots."

