

Southern San Joaquin Cow-Calf Cost Study and the Economics of RDM

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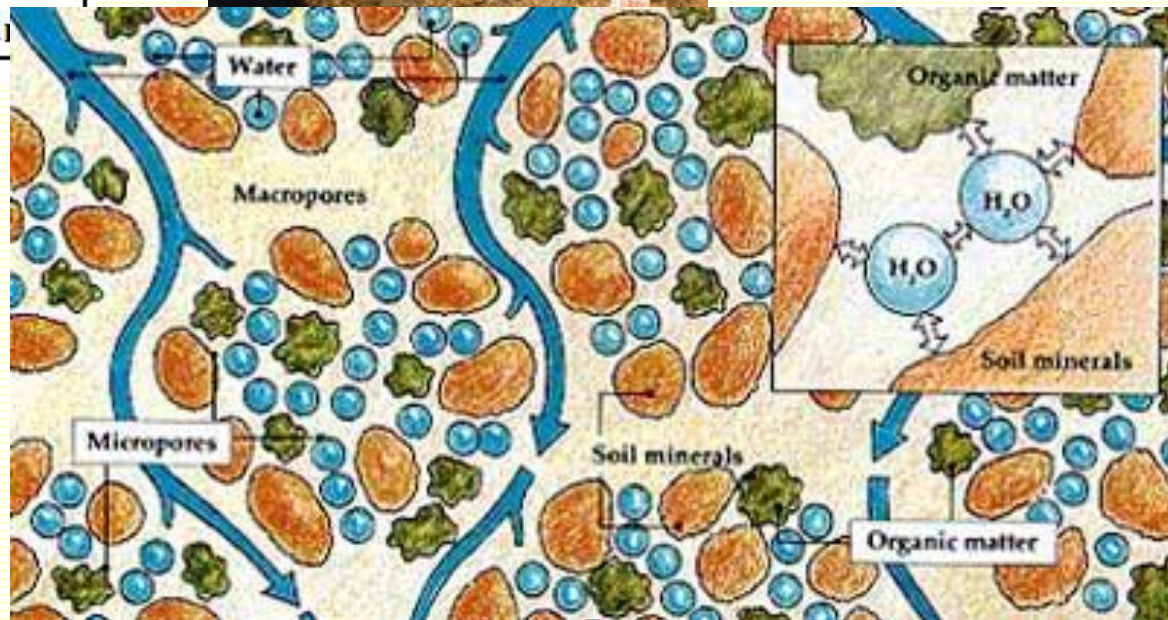
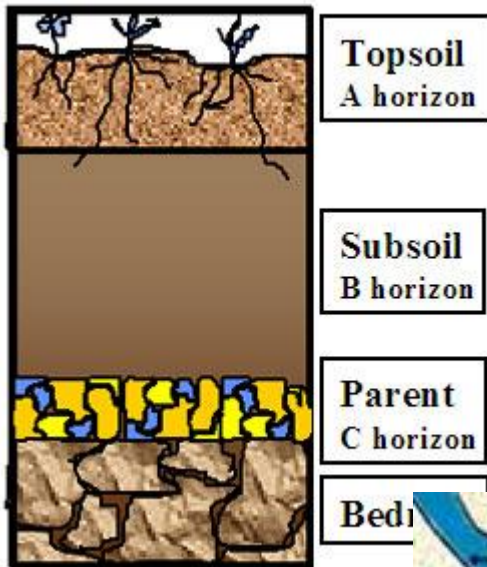
Summary

	300 Head	Per head
Total Revenue	\$226,571	\$755.24
Total Cash Costs	\$195,074	\$650.25
Annual Capital Recovery	\$50,623	\$104.99
Actual Revenue	-\$19,127	-\$63.76
Hay - 105 tons	\$18,900	\$63
Supplement - 27 tons	\$8,100	\$27
Pasture	\$88,313	\$294.38
Vet and Vaccines	\$4,921	\$16.40
Replacement bulls - 5	\$25,000	\$83.33
Marketing	\$9,030	\$30.10
Freight	\$6,000	\$20.00
Horses - 2	\$6,030	\$20.10
Pickup truck - mileage	\$8,961	\$29.87
Fencing repair	\$5,000	\$16.67
Other equipment	\$2,000	\$6.67
All other expenses	\$2,984	\$9.95
Loan - interest only	\$4,218	\$14.06
Liability Insurance	\$2,680	\$8.93
Office Expenses	\$2,680	\$8.93

Residual Dry Matter (RDM)

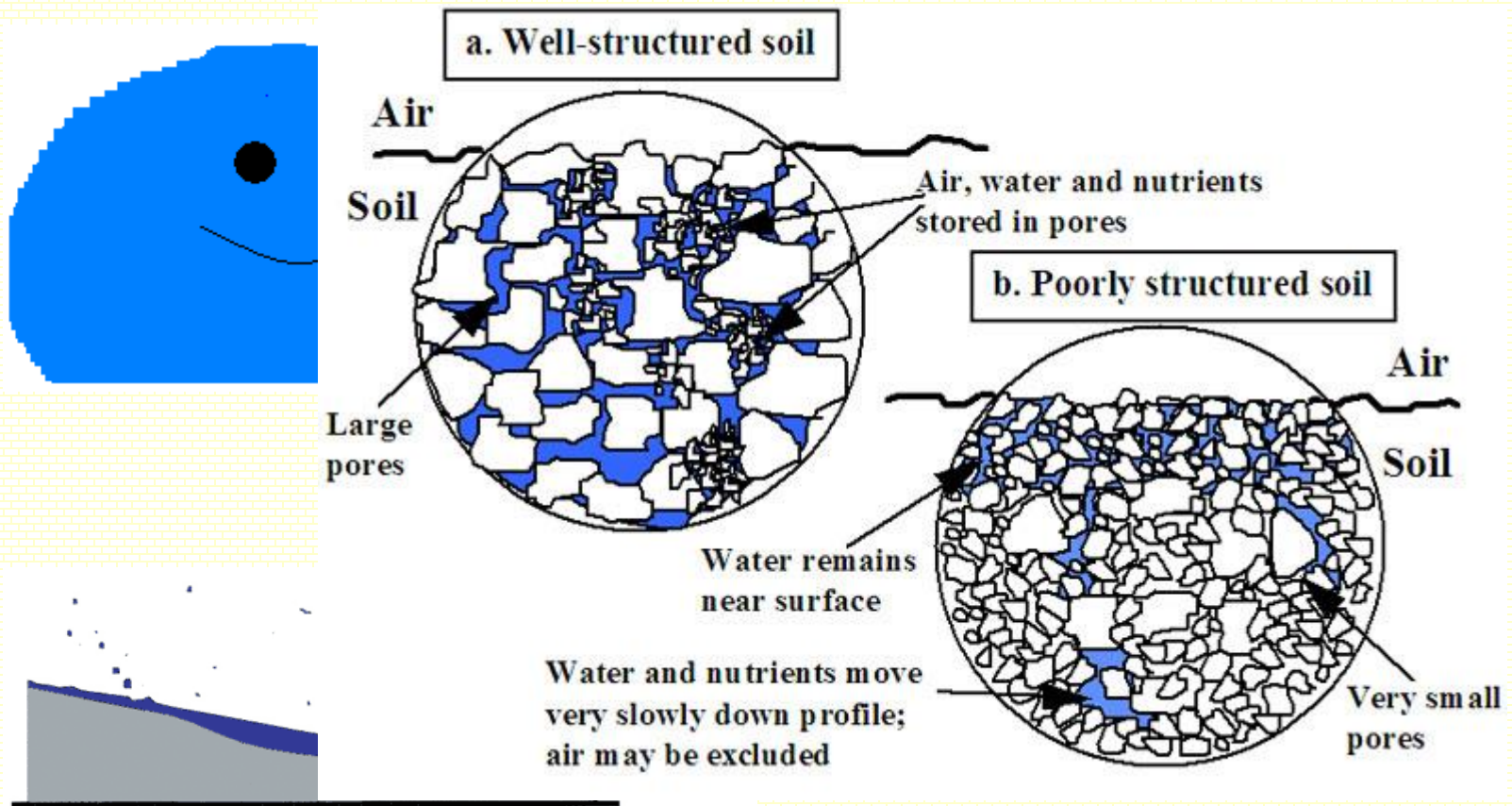


Soil Profile



<http://www.fao.org/docrep/009/a0072e/a0072e07.htm>

Raindrop and soil pore diagram



<http://www.ipm.iastate.edu/ipm/icm/2005/5-2-2005/reducespringerosion.html> and Hillel, Daniel. 1998. Environmental Soil Physics

<http://agriculture.vic.gov.au/agriculture/dairy/pastures-management/fertilising-dairy-pastures/how-do-the-properties-of-soils-affect-plant-growth>

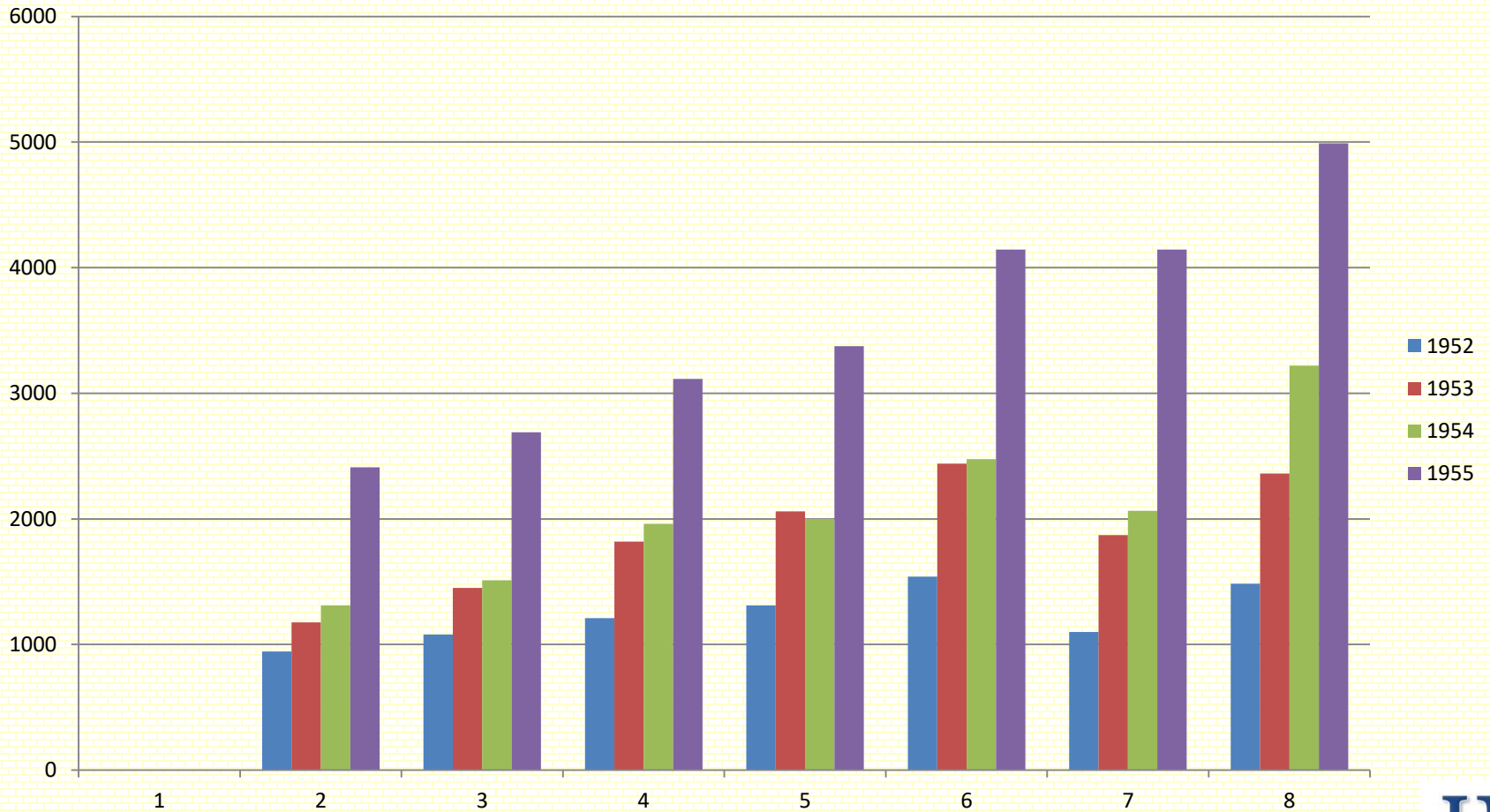
Species Composition and Grazing Intensity



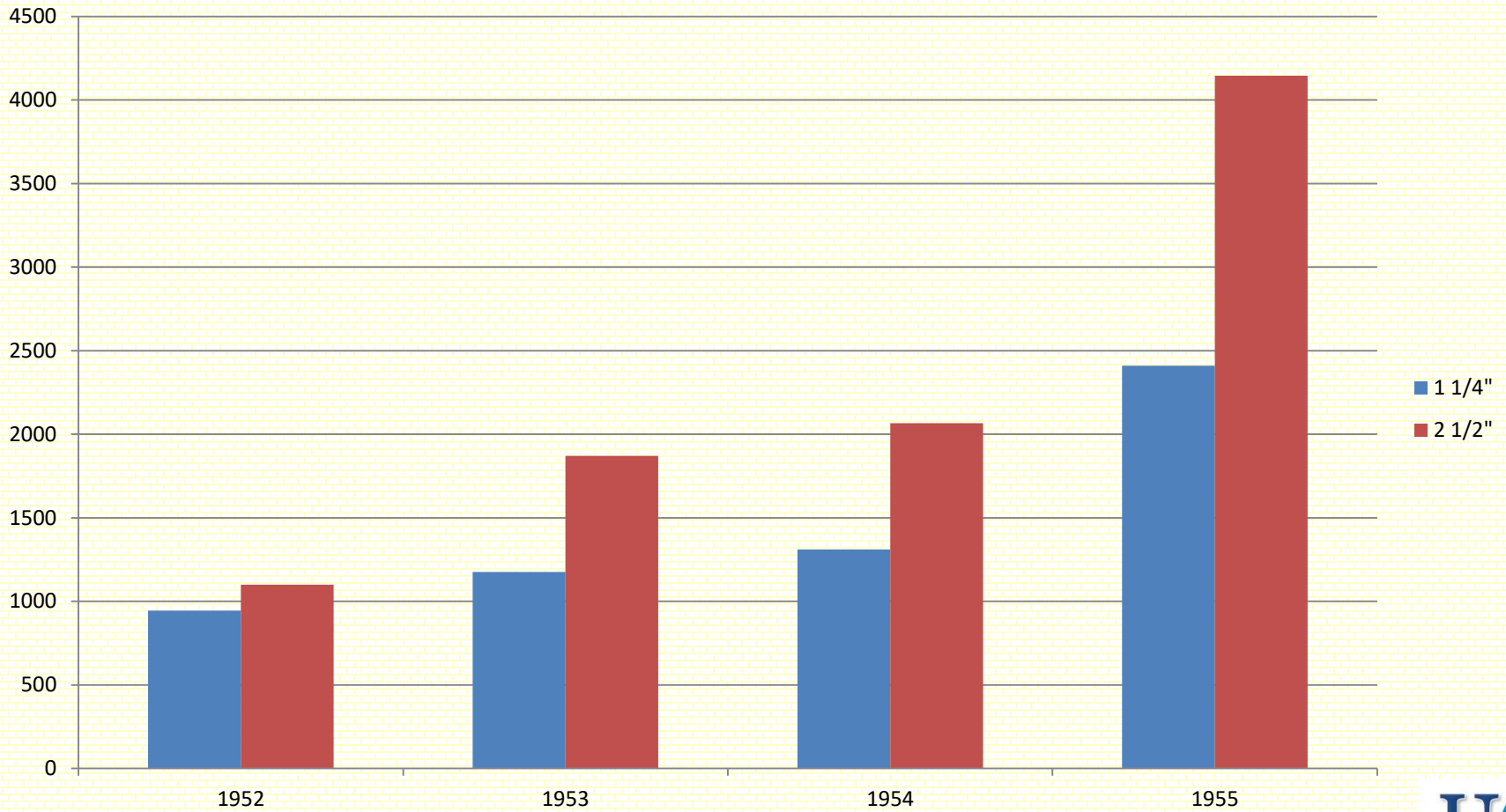
Nutrition



Hopland Study

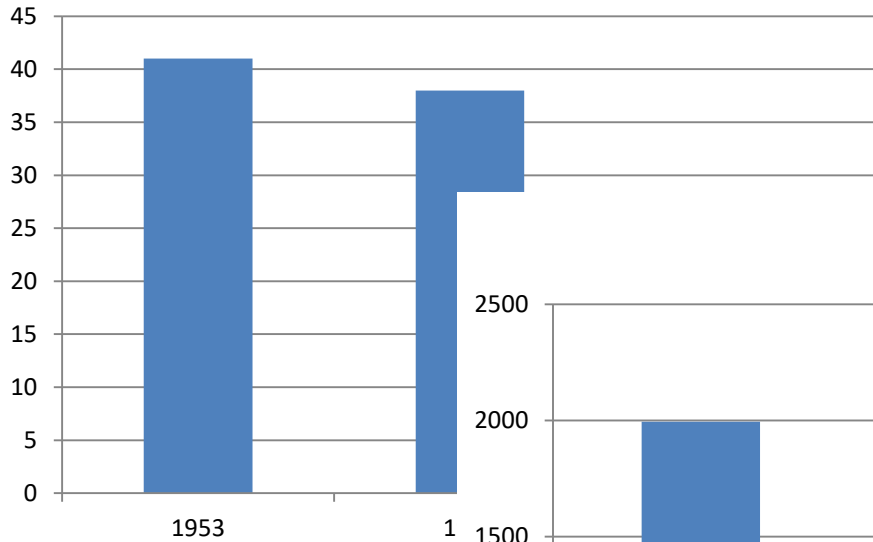


Hopland Study

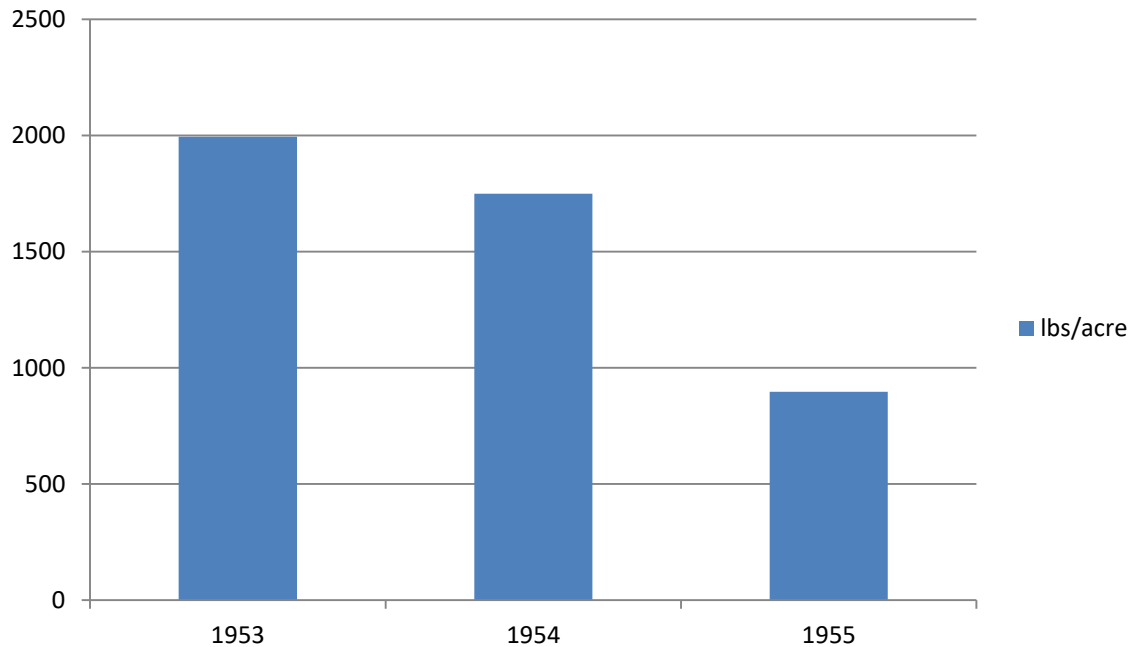


Hopland Study

Rainfall



lbs/acre



Finally...Economics!

- My assumptions
 - 1,200 lb cows, eat 3% daily
 - 2,500 lbs of production per acre (1,000 lbs usable forage)
 - 1 acre ~ 1 AUM
 - \$150/ton of hay
 - \$5,000/acre to purchase land
 - \$15/acre to rent land
 - Value of mulch is $\frac{1}{3}$ to $\frac{1}{2}$ less than forage
 - Cost of soil loss not considered

Finally...Economics!

- Cost of 500 lbs of mulch = \$3.75/acre (0.0075/lb)

	Rent	Hay	Own
Cost of Feed	0.015	0.075	5.3

	No Mulch	500 lbs/acre	Forage lost	Opportunity Lost	Hay
55-56	794	2012			
56-57	1800	2477	677	177	\$ 13.28
57-58	576	3498	2922	2422	\$ 181.65
58-59	411	2092	1681	1181	\$ 88.58
59-60	897	1808	911	411	\$ 30.83
Average	895.6	2377	1482	982	\$ 73.64

RDM tables

Table 1. Minimum RDM Standards for Dry Annual Grasslands (<12" annual rainfall)

RDM Standard for percent slope (lb/acre)				
Woody Cover (%)	0-10	10-20	20-40	>40
0-25	300	400	500	600
25-50	300	400	500	600
50-75	NA	NA	NA	NA
75-100	NA	NA	NA	NA

Table 2. Minimum RDM Standards annual grassland/hardwood rangeland (12-40" annual rainfall)

RDM Standard for percent slope (lb/acre)				
Woody Cover (%)	0-10	10-20	20-40	>40
0-25	500	600	700	800
25-50	400	500	600	700
50-75	200	300	400	500
75-100	100	200	250	300

Table 3. Minimum RDM Standards for Coastal Prairie (>40" annual rainfall)

RDM Standard for percent slope (lb/acre)				
Woody Cover (%)	0-10	10-20	20-40	>40
0-25	1,200	1,500	1,800	2,100
25-50	800	1,000	1,200	1,400
50-75	400	500	600	700
75-100	200	250	300	350

Real-life example

- Mulch breaks down at an average of 7% every 30 days (40-70 lbs/month)
 - Assume first rain falls on October 1
 - Assume 500 lbs recommended RDM
 - Assume grazing ceases June 1
- How much mulch should be on the ground on June 1?

Reporting the Drought

- <http://droughtreporter.unl.edu/submitreport/>
- Provide a written description of drought impacts on livelihood, activities, etc.;
- Select categories to show losses and gains as a result of the drought;
- Report on the duration of drought event;
- Select Affected Places – geographic areas ranging from an entire state to a small area within a state;
- Submit images that document the drought and its impact;
- Provide contact information (includes an option to keep information confidential).