



Cattle Grazing Management During And After Drought

Ken Olson

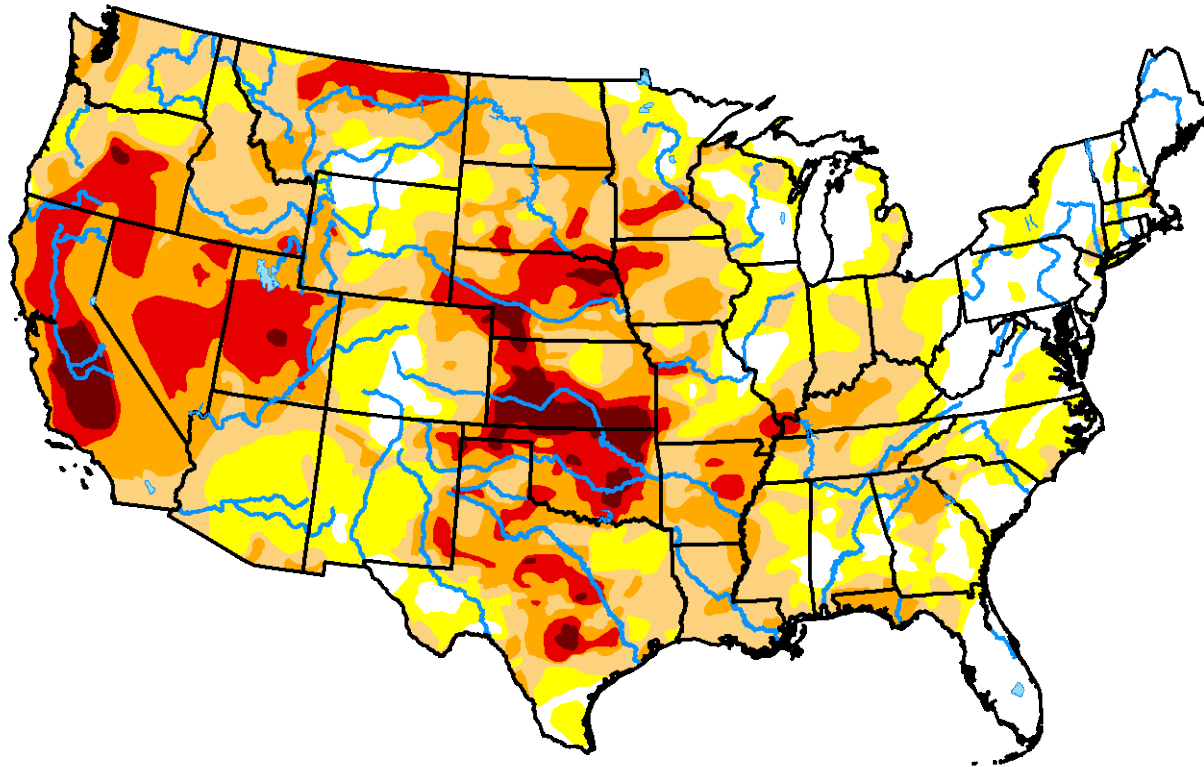
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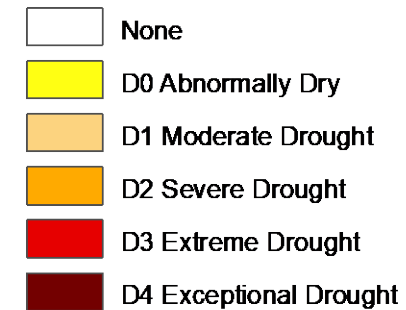
U.S. Drought Monitor

CONUS

November 1, 2022
(Released Thursday, Nov. 3, 2022)
Valid 8 a.m. EDT



Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Brian Fuchs
National Drought Mitigation Center



droughtmonitor.unl.edu



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Today's purpose

- Magnitude of livestock performance response
- Importance of grazing management
 - Key element influencing response to drought
 - Particularly stocking rate - Establishes supply:demand
- Planning & managing for drought – before, during, and after
- Drought plan in action

Interaction of Drought and Stocking Rate

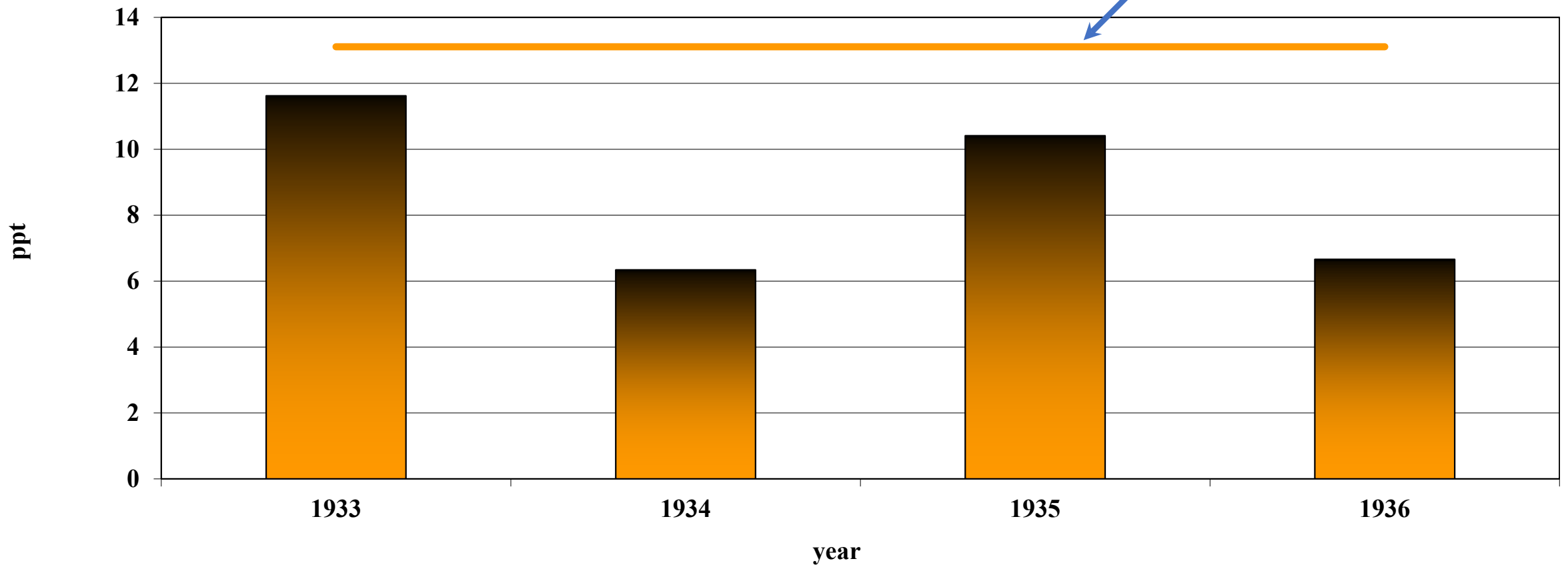
- Classic experiment: stocking rate experiment conducted during Dust Bowl
- Livestock and Range Research Station, Miles City, Montana
- 3 stocking rates (light, moderate, heavy)
 - 12-month grazing season
 - Season-long grazing – summer and winter pastures



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Annual Precipitation

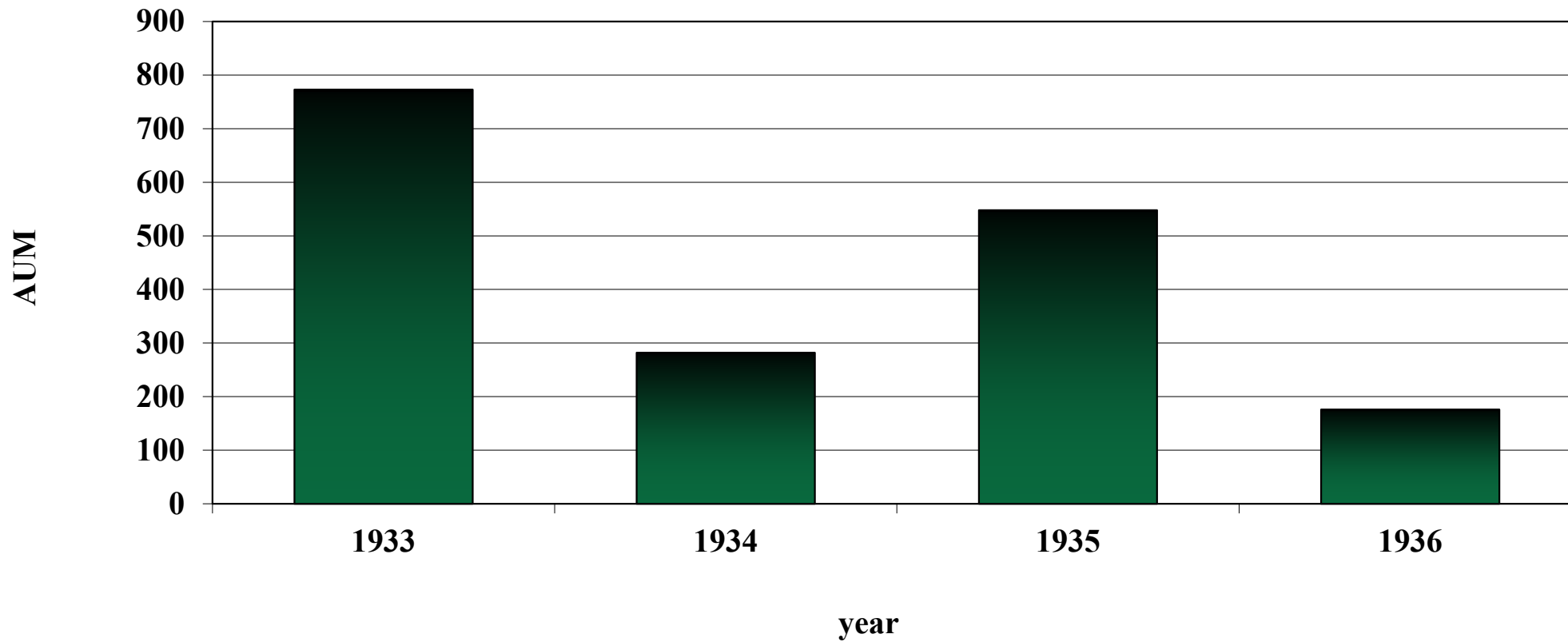
Average = 13.11 in





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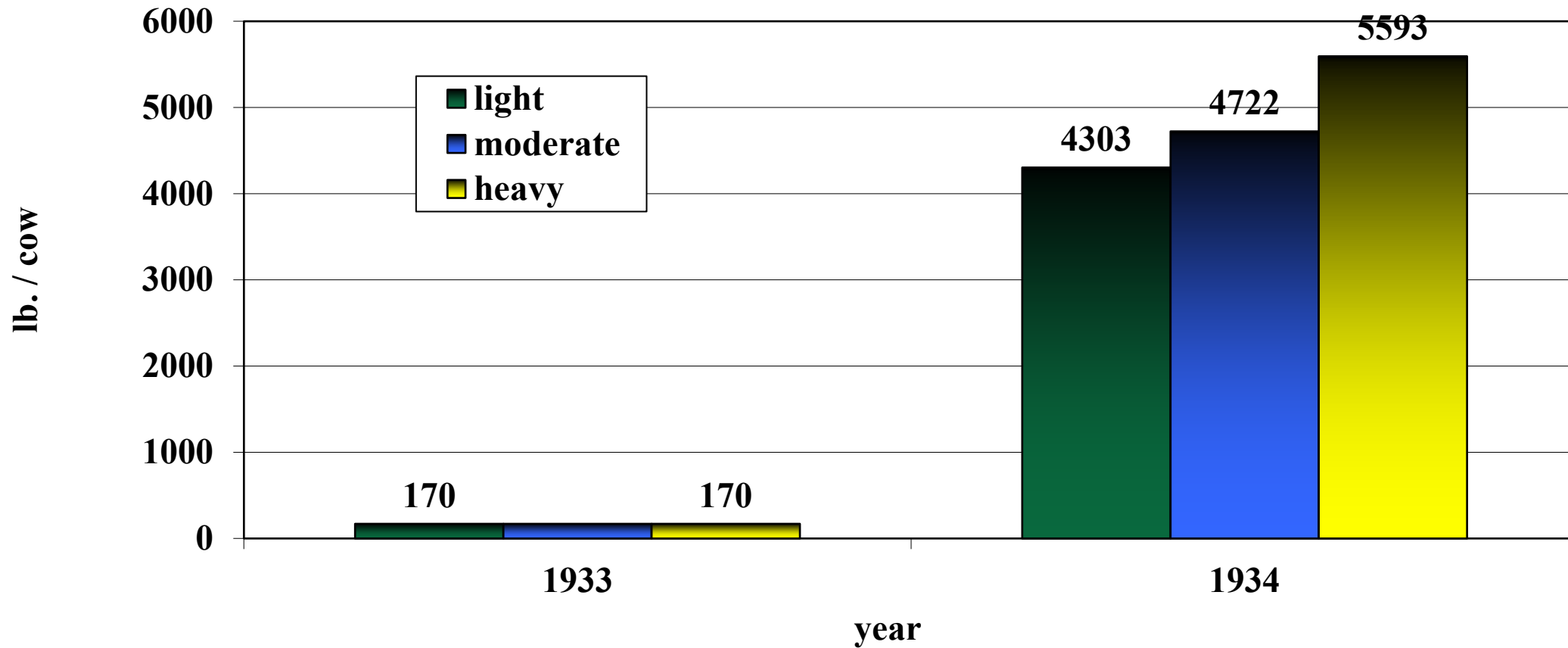
AUM Harvested by Grazing



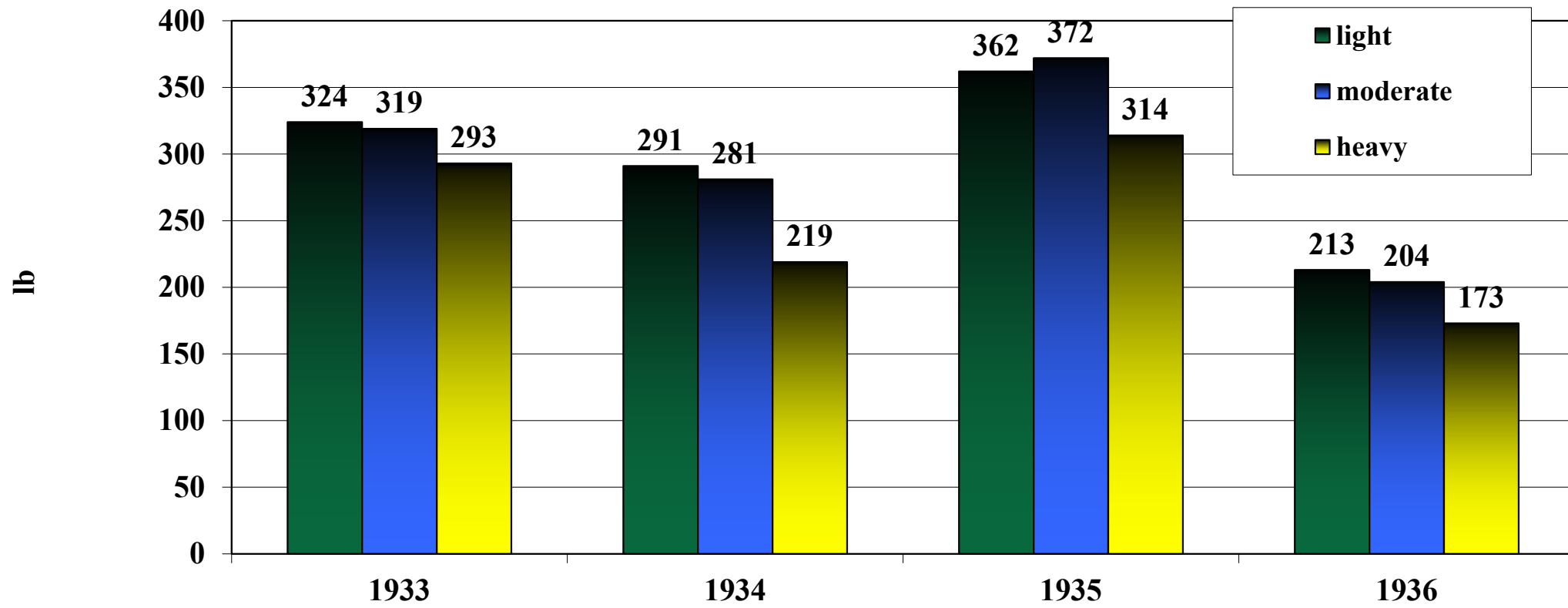


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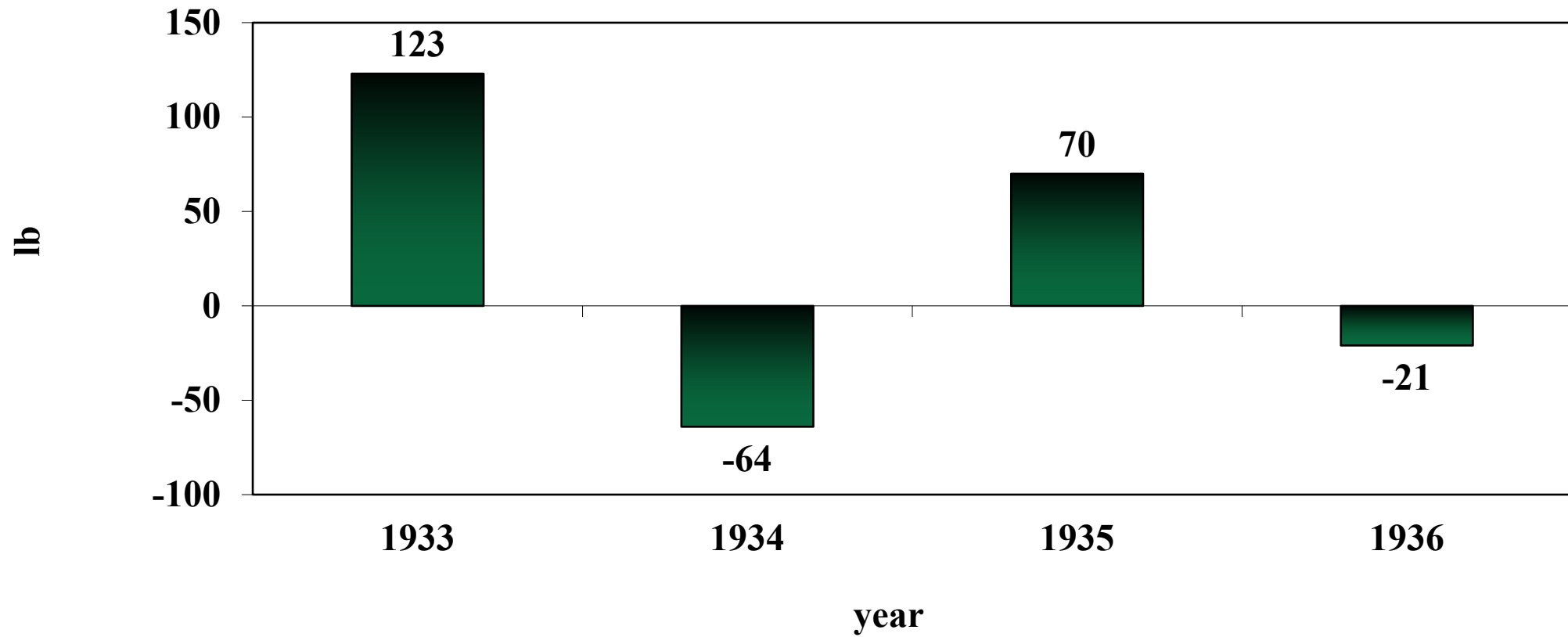
Amount of Hay Fed



Calf Weaning Weight



Cow Weight





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Does This Apply?

- To real life?
- To current drought situation?
- To the local area?



Cattle Management for Drought

<https://extension.sdstate.edu/sites/default/files/2020-08/P-00177.pdf>



livestock

AUGUST 2020

SOUTH DAKOTA STATE UNIVERSITY®
ANIMAL SCIENCE DEPARTMENT

Drought Management Tips for Beef Cattle Producers

Ken Olson | Professor & SDSU Extension Beef Specialist
Adele Harty | SDSU Extension Cow/Calf Field Specialist

Dealing with drought is an ever-present issue. Even when drought is not occurring, producers are either recovering from one or should be planning for the next. Thus, these tips for drought management cover the spectrum of creation and execution of a drought management plan in good times and bad.

Big Picture

1. **Have a plan.** Having a written drought management plan is critical to proactive management before, during and after drought. A well-executed plan is key to minimizing the devastating effects during drought and speeding recovery after drought. However, to do that, the plan must be executed in non-drought times to position the land, livestock, and other resources for reduced impact when drought occurs. The drought plan should be written to ensure that it is well thought out and to reduce the chance that something is forgotten or misunderstood when in crisis mode. The following tips should be addressed in the drought management plan. For more information on drought management plans, see *Managing Drought Risk on the Ranch A*

prevent vegetation recovery. This can permanently impair the health and productivity of the land.

2. **Improve grazing distribution.** Even with good grazing management, there will almost always be areas of pastures that are underutilized. To take advantage of the forage in underutilized areas of a pasture, use management tools that improve grazing distribution such as strategic placement of supplements or water. Even though this might be old forage from previous years, it can be a valuable resource if supplements are provided to overcome nutrient deficiencies. For more information see: *Grazing Distribution* (<http://www.ksre.ksu.edu/bookstore/pubs/mf515.pdf>)
3. **Consider alternative sources of forage and their management considerations.** A wide variety of alternative forages often become available during droughts. For example, CRP is often released for grazing or hay production, and cereal or corn grain crops that won't produce adequate grain to harvest can be grazed or harvested as hay or silage. Additionally, cropland can be planted to cool-season or summer annual crops for the purpose



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Big Picture

- Have a written plan
 - Set trigger dates
 - Follow-through



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Supply & Demand

- Stock conservatively
 - Adjust stocking rates to match drought-caused forage reductions
 - Avoid long-term damage to the forage resource
 - Allow cattle access to adequate forage
- Improve grazing distribution
 - Use water, salt, mineral and protein supplements to attract cattle to underutilized areas
 - Rotational grazing

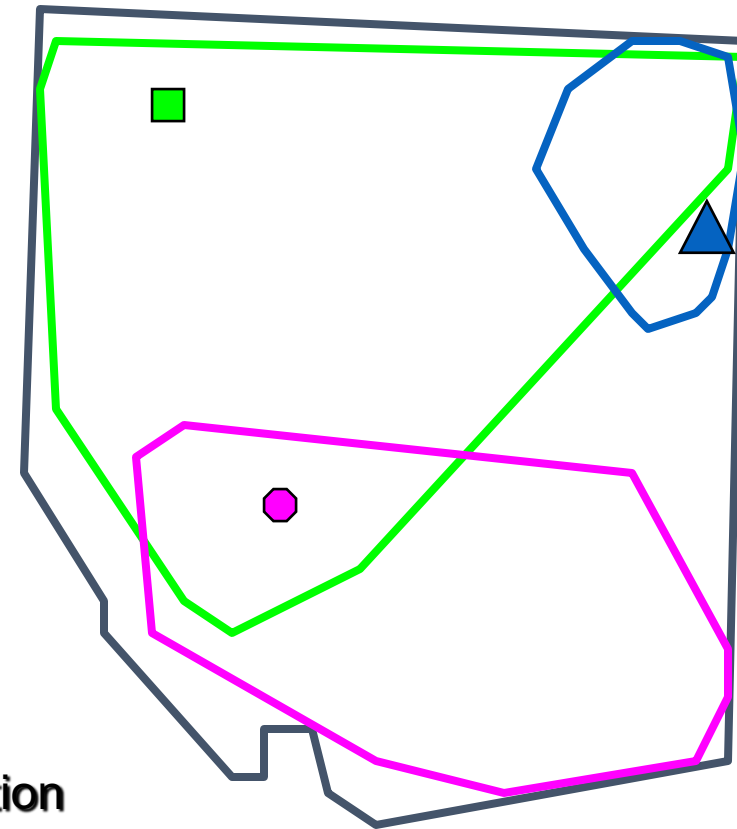
Locations of a GPS collared cow under 3 treatments

(Ganskopp 2000)

Area used by the collared cow for 6 days in each treatment scenario.

Cattle herded to new location of water and salt.

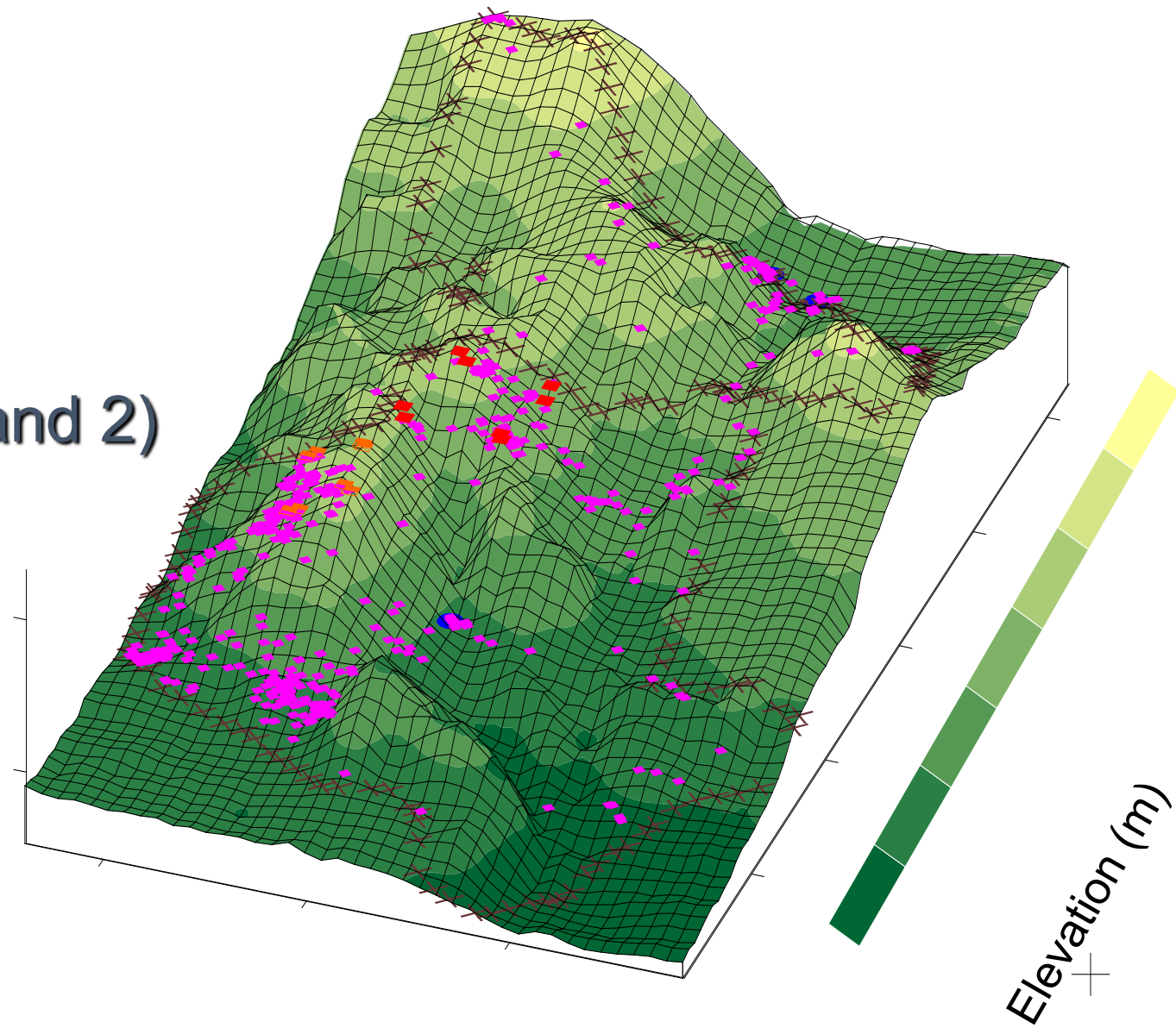
- | | |
|-------------------------|---|
| Fence | — |
| Water and salt together | ● |
| Water relocated | ▲ |
| Salt relocated | ■ |
- Original location



1 km

2100 acre pasture near
Burns, OR

Cow 9013 (Periods 1 and 2)



Locations
recorded
every 10 min



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Supply Management

- Consider alternative sources of forage
 - CRP, cereal or corn hay, alfalfa, sorghum, sudan, straw and silage
 - Consider feed quality, nitrates, prussic acid, and herbicide/pesticide restrictions
 - Compare on cost per unit of nutrient basis
- Purchase winter feed early
 - Price increases as drought worsens
 - Determine feed inventory and evaluate feed needs ASAP
 - Shop shrewdly for alternatives



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Cost on Protein Basis

	Feed \$/ton	DM (%)	CP (%)	CP \$/ton
Soybean meal	290	89	49	665
DDGS	120	91	31	425
WDGS	42	36	31	376
Alfalfa hay	90	89	18	562
20 % range cake	180	85	20	1059
30 % range cake	250	85	30	980
27 % tub	750	95	27	2924

<https://extension.sdstate.edu/feed-nutrient-calculator>

Feed Nutrient Calculator

📅 Updated May 09, 2022



Heather Gessner
SDSU Extension Livestock Business Management Field Specialist

This SDSU Extension calculator is designed to assist producers with supplemental feed purchase decisions. There are many feedstuffs available that provide protein or energy. The price of these products, based on the nutrients they provide, should be used to develop the best, low-cost balanced ration for the enterprise.

To use this calculator producers will need to know the price per unit of the feedstuffs available for purchase, the mileage to deliver the feedstuffs, and the cost of delivery for the feedstuffs. Additionally, for accurate calculations, the feed values of the available options should be entered. Base nutrient analysis for common feeds are listed in the calculator.

Evaluation of feedstuff costs, on a nutrient basis, will provide producers the opportunity to create least-cost rations for their livestock enterprises. As feed is the largest expense in any livestock enterprise this is a critical decision making process.

Disclaimer: The preceding is presented for informational purposes only. SDSU does not endorse the services, methods or products described herein, and makes no representations or warranties of any kind regarding them. This publication is not legal advice and should not be substituted for the guidance and recommendations of experienced legal counsel. Legal questions specific to your situation should be directed to a licensed attorney.

DOWNLOAD



Feed Value Calculator



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Supply Management

- Bring feed to cows or take cows to feed?
 - Consider feeding cows in drylot
 - Feed choices
 - Harvested forages
 - limit-fed concentrate diet
- Analyze the economics and feasibility



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Diets, %DM

	Antelope	Forage Diet	Limit-fed Diet
Corn silage		3.7	
Grass/alfalfa hay		21.8	
Wheat straw		71.9	24.1
Modified DGS			13.3
Corn grain			56.6
Liquid supplement		2.6	4.6
Limestone			1.4
Native range	Free choice		
30% cake	1.5 lb.		
DM offered, lb		24.6	14.0
\$/day		\$1.11	\$0.90



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Cow Response to Winter Feeding Programs

	Weaning	November	January	February
	Body Weight			
Antelope	1378	1482	1547	1486
Forage fed	1388	1471	1446	1392
Limit fed	1390	1313	1439	1409
	Body Condition Score			
Antelope	5.5	5.7	6.4	5.8
Forage fed	5.4	5.3	5.4	5.0
Limit fed	5.4	5.2	5.8	5.4



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Supply Management

- Minimize feed waste
- Carefully consider creep feeding
- Be wary of poisonous plants



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Supply Management

- Manage water supplies
- Monitor water quality
 - Sulfates
 - Nitrates
 - Blue-green algae



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Demand Management

- Ensure demand is met by monitoring nutritional status
 - Monitor cow BCS
 - Sort by BCS and feed accordingly





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Demand Management

- Wean calves early
 - Decrease cow nutrient requirements
 - Reduces intake
 - Increases body condition
 - Increase carrying capacity
 - 36% reduction in forage utilization



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Demand Management

- Shorten the breeding season **AND** Pregnancy check early
 - Sell opens immediately
 - Selection based on reproductive efficiency



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Demand Management

- Manage the bull inventory
 - Bulls are big and eat a lot
 - Sell ASAP after breeding
 - Consider AI



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Demand Management

- Use cow performance records to make culling decisions
 - “You can’t manage what you don’t measure”
 - Rank the poorest performers and cull them first
 - % culled based on trigger dates in drought plan



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Demand Management

- Diversify into cow-calf plus yearling stockers
 - Stockers can be more easily liquidated
 - Retain genetic foundation in cow herd



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Marketing and Finances

- Market culls early
 - Avoid drought-induced market decline



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Marketing and Finances

- Avoid selling lightweight calves
 - Lightweight calves often don't sell well
 - Retain ownership?
 - How long? Age? Weight?
 - Ship calves to feed or feed to calves?



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Marketing and Finances

- Protect yourself from market risk
 - Consider risk management tools
 - LRP
 - Futures
 - Options
- Use USDA programs
 - Livestock Indemnity Program
 - Livestock Forage Disaster Program



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Marketing and Finances

- Communicate with your management team
 - Lender
 - Accountant
 - Veterinarian
 - Feed dealer



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Big Picture

- Think outside the box
- Plan ahead for drought recovery management

Rainfall

[illegible]

Implementation of drought plan

1. Oct 2011 – Purchased CRP hay (\$20/bale)
2. Dec 2011 – Got more rental pastures
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14. Aug 15th – Ultrasounded heifers and ship to feedlot

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15. Late Aug/Early Sept – Started relocating cows and calves for fall and winter
16. Jan 2013 – Ship light calves to backgrounder –(normally run on grass)

Future Plans if drought continues in 2013

- No grass calves – already shipped to backgrounder
- Only AI replacement heifers (no clean-up bulls)
- All cows will return to ranch for calving and breeding
- Dry lotting yearling heifers this spring, summer, fall winter
- Have an option to put cows out for winter (decide by August 15)

Take home message

- Measure, record and use
 - Precipitation
 - Grass Production
 - Animal use (Animal Unit Days)
- Have a drought management plan
 - Be Proactive instead of Reactive
 - Better to be safe then sorry
 - Saving a dime now might cost you a dollar later
- Know the risk/reward opportunity in the future