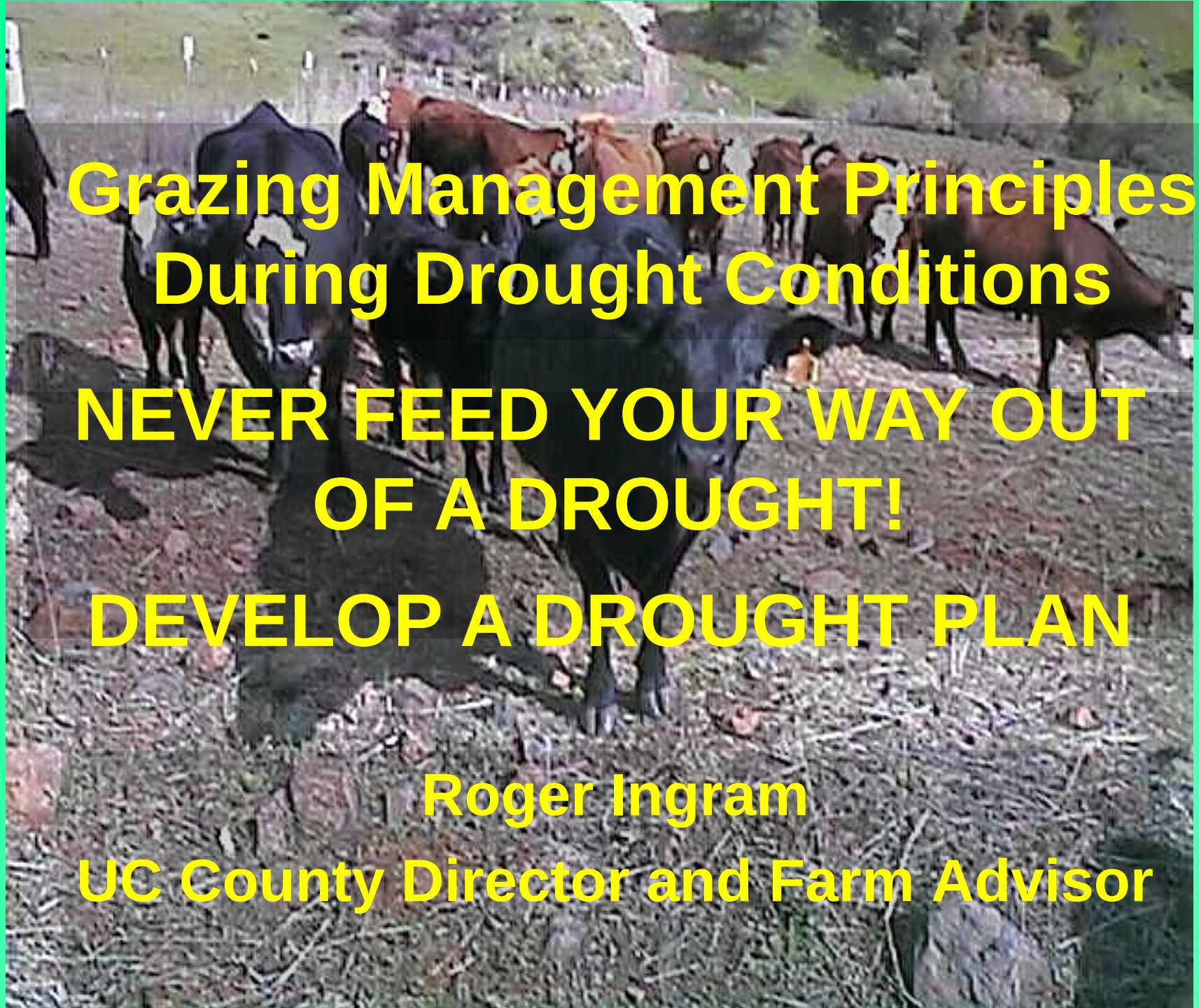


Grazing Management Principles During Drought Conditions

NEVER FEED YOUR WAY OUT OF A DROUGHT!

DEVELOP A DROUGHT PLAN

Roger Ingram
UC County Director and Farm Advisor

Residual Dry Matter – Fall 2014

Residual dry matter is the dry plant material remaining from the previous year's growth that provides:

- **Favorable micro-environments for early seedling growth**
- **Soil protection against erosion**
- **Soil organic matter**
- **Source of low quality forage for livestock**

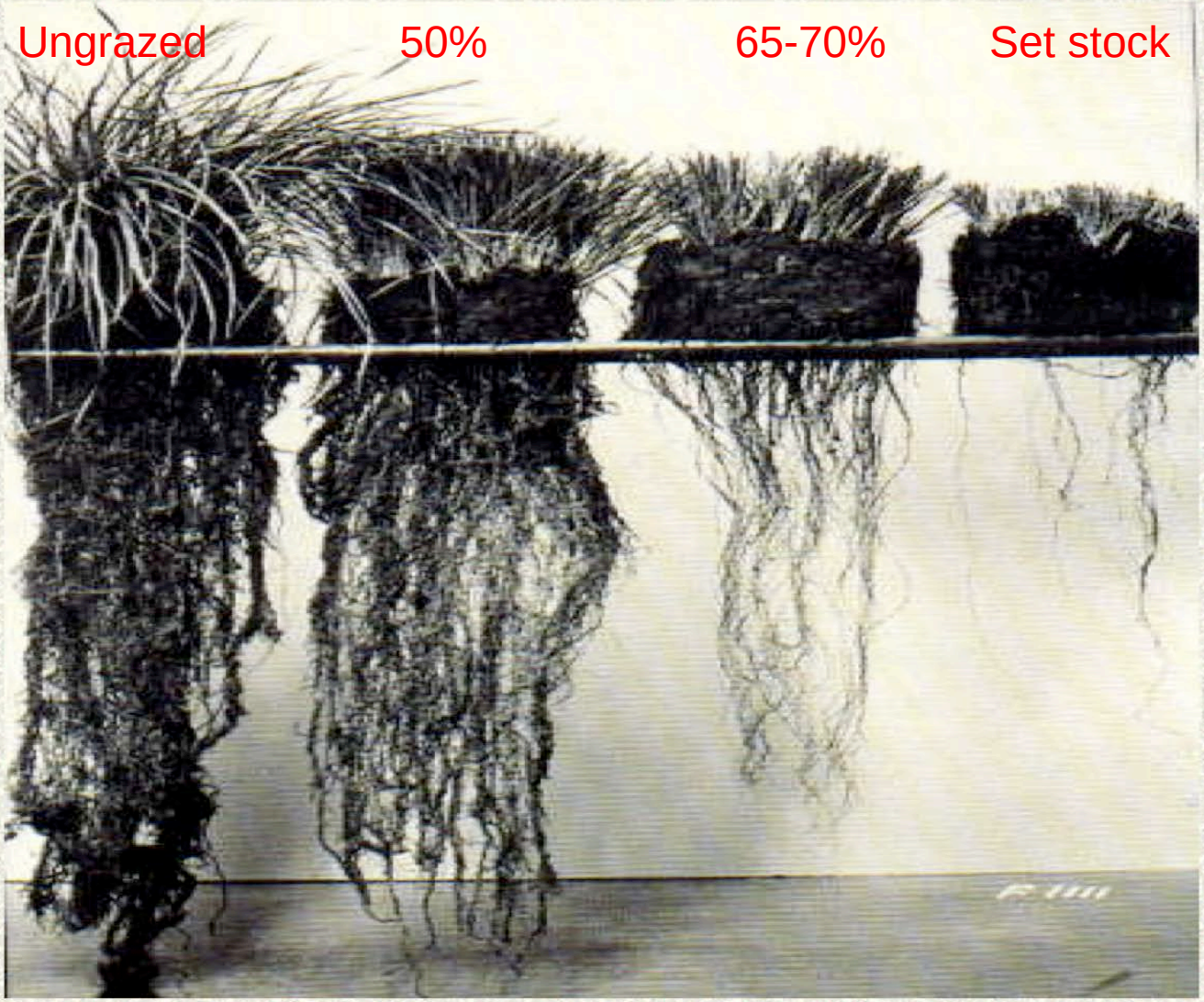
Capture Energy Through Green Leaves

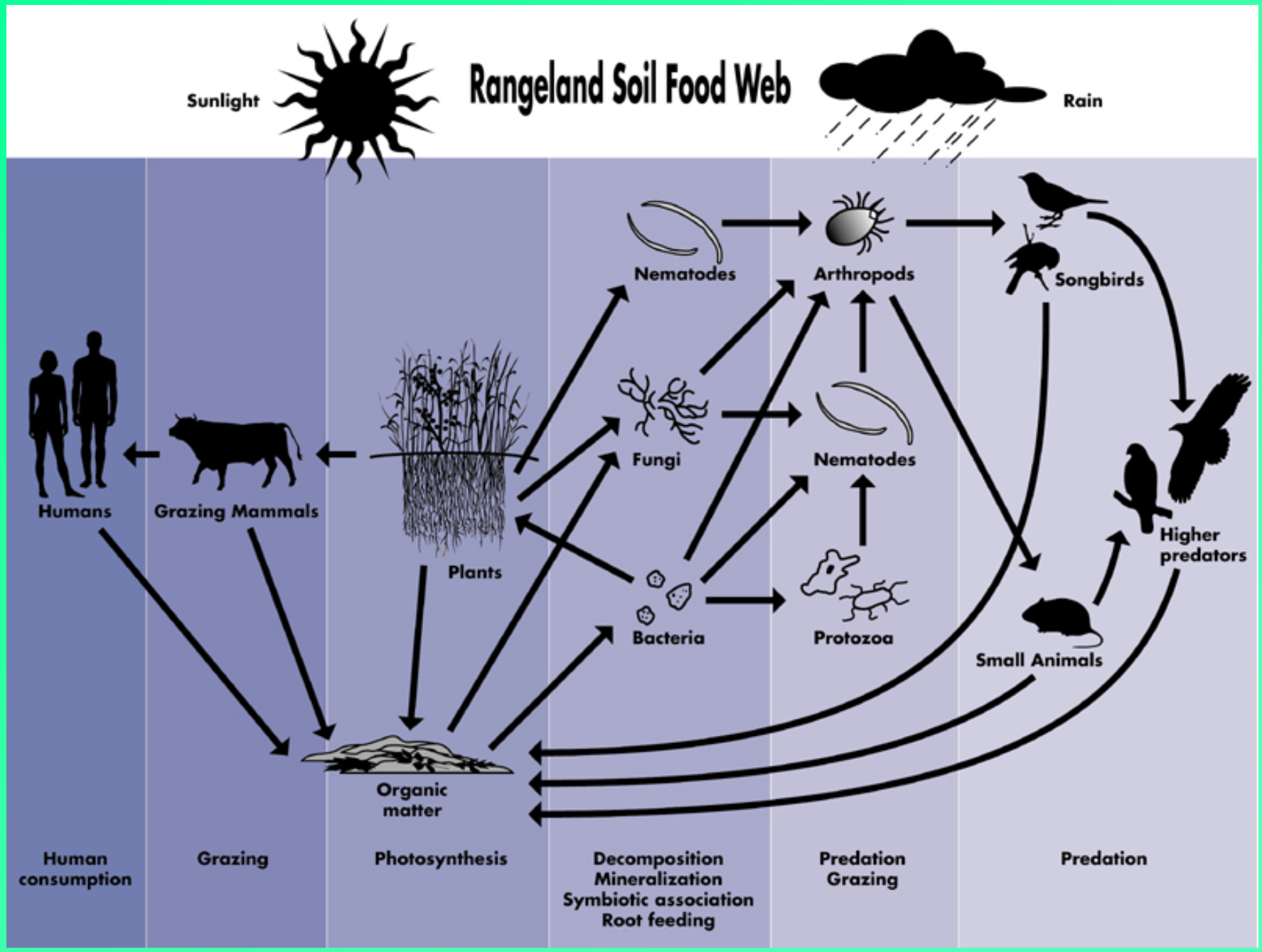
Plant Vigor-Leaves and Roots

Caring for the Green Zone, Riparian Areas and Grazing Management

Alberta Riparian Habitat Management Project, "Cows and Fish Project"

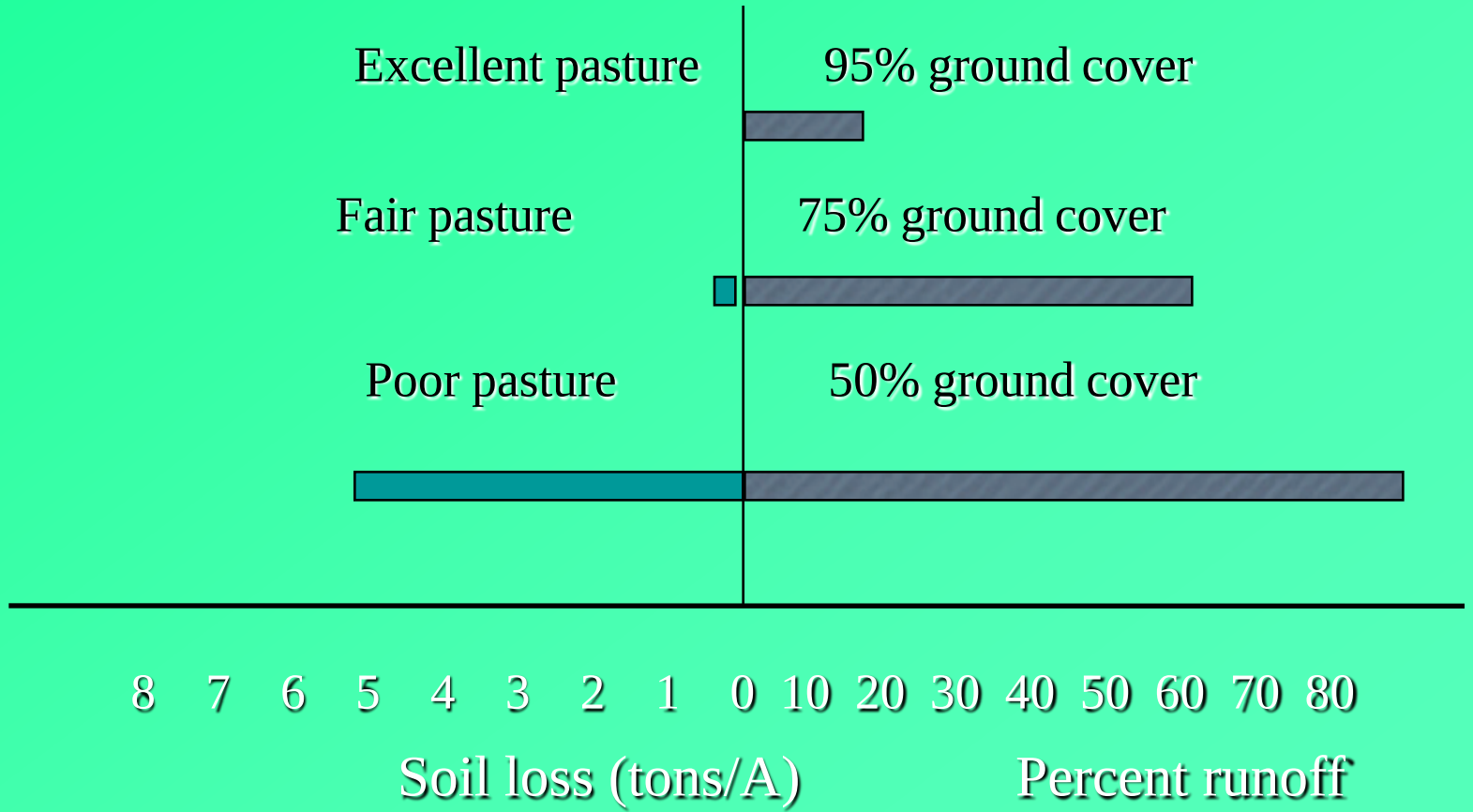
Grazing management & Utilization target




Sunlight
Rangeland Soil Food Web
Rain
Nematodes
Arthropods
Songbirds
Humans
Grazing Mammals
Plants
Fungi
Nematodes
Higher predators
Bacteria
Protozoa
Small Animals
Organic matter
Human consumption
Grazing
Photosynthesis
Decomposition
Mineralization
Symbiotic association
Root feeding
Predation
Grazing
Predation

Infiltration and Runoff - Gerrish

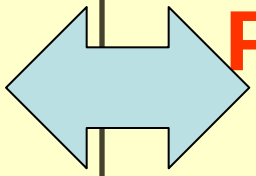
3 inches of rainfall in 90 minutes, 10% slope, silt loam soil
(University of Nebraska & USDA-SCS, 1937)

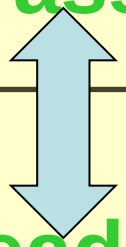


Desirable

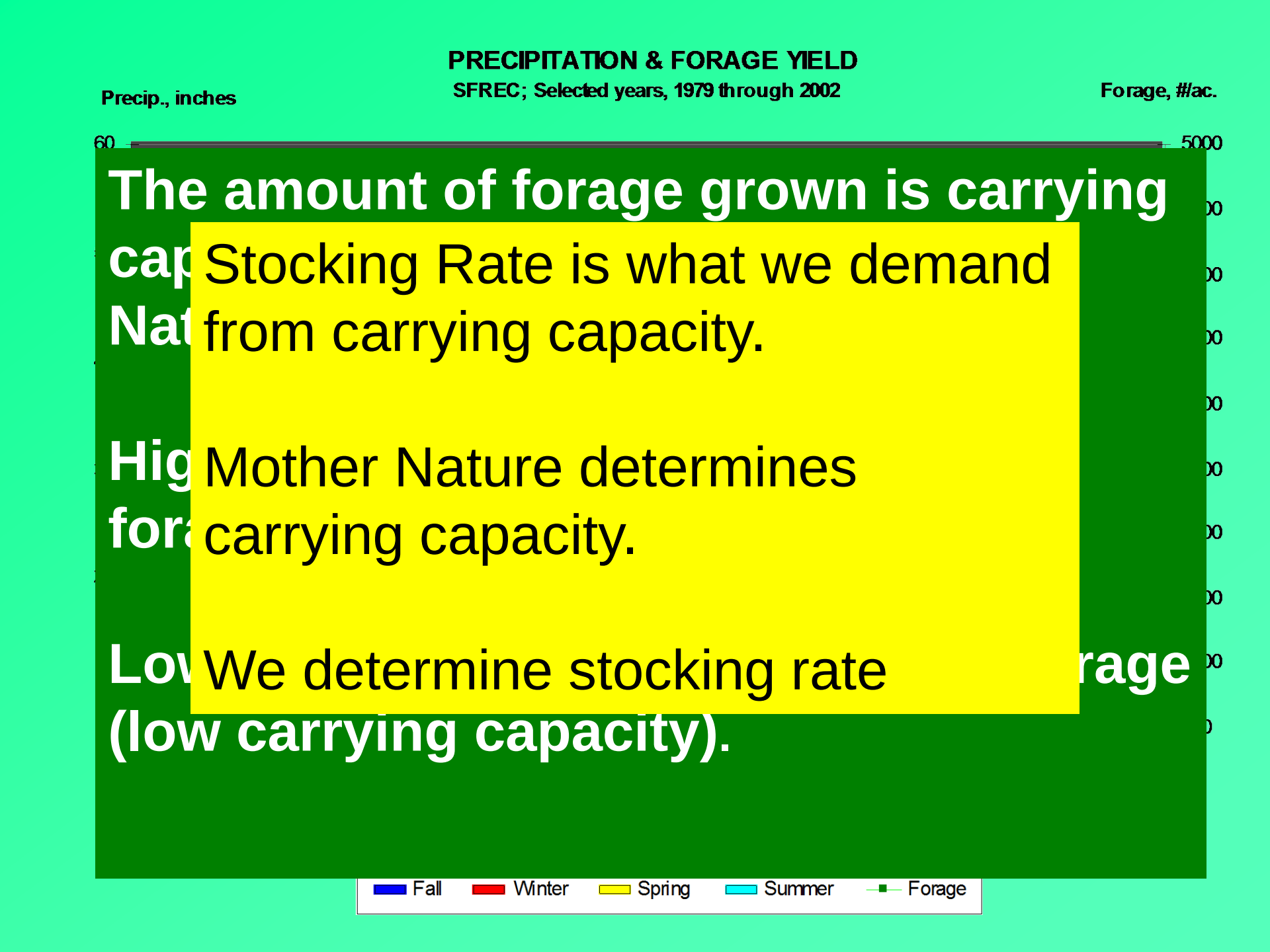
State and Transition

Healthy	At Risk	Unhealthy
Perennial Grass	Perennial Grass	Perennial Grass
Annual Grass	Annual Grass	Annual Grass
YST, Medusahead, Goatgrass	YST, Medusahead, Goatgrass	YST, Medusahead, Goatgrass





Undesirable



The amount of forage grown is carrying cap

Nat

Hig

for

Lov **rage**

(low carrying capacity).

Stocking Rate is what we demand from carrying capacity.

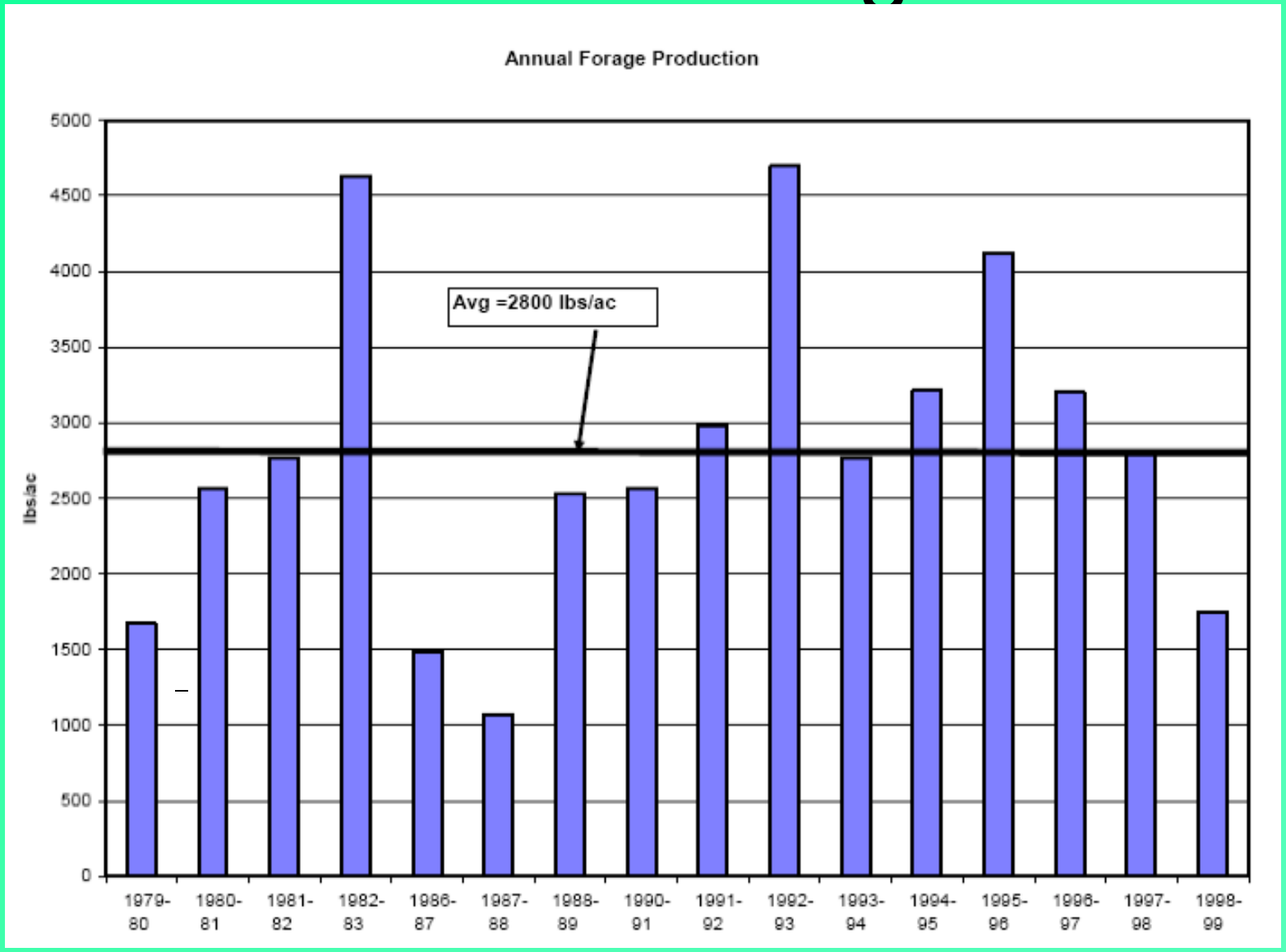
Mother Nature determines carrying capacity.

We determine stocking rate

Grazing Management Principle

Adjust Stocking Rate to Changes in Carrying Capacity on an Annual and Seasonal Basis

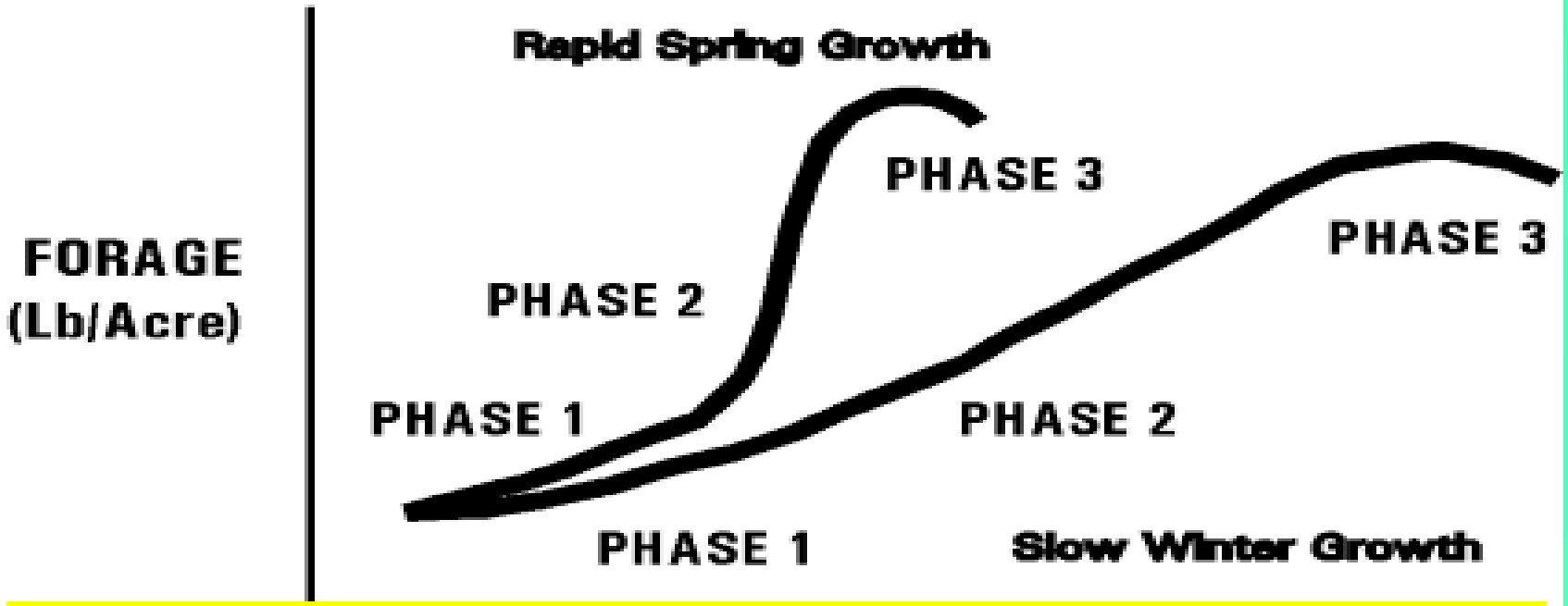
Flexible Stocking Rate



Destock Early

- **What is your Critical date?**
- **This is the date where you will implement your culling policy if you have not received any rain.**
- Selling in a normal market – right now it is high.

Principle: Adjust Rest Periods to the Growth Rate of the Plant



Drought will make slow growth slower – increase rest period

Overgrazing

- Grazing a plant before it has recovered from the previous grazing
- Function of time, not animal numbers
- Occurs in two ways
  - Stay too long and get a second bite before plant has recovered
  - Come back too soon (too short a rest period)

Grazing Management Strategies – Combine Herds

3 Herds, 12 Paddocks, 4 paddocks / Herd			
Paddock 1	Paddock 2	Paddock 3	Paddock 4
Herd A			
Herd B			
Herd C			

9 days grazing in each paddock = 27 days of Rest

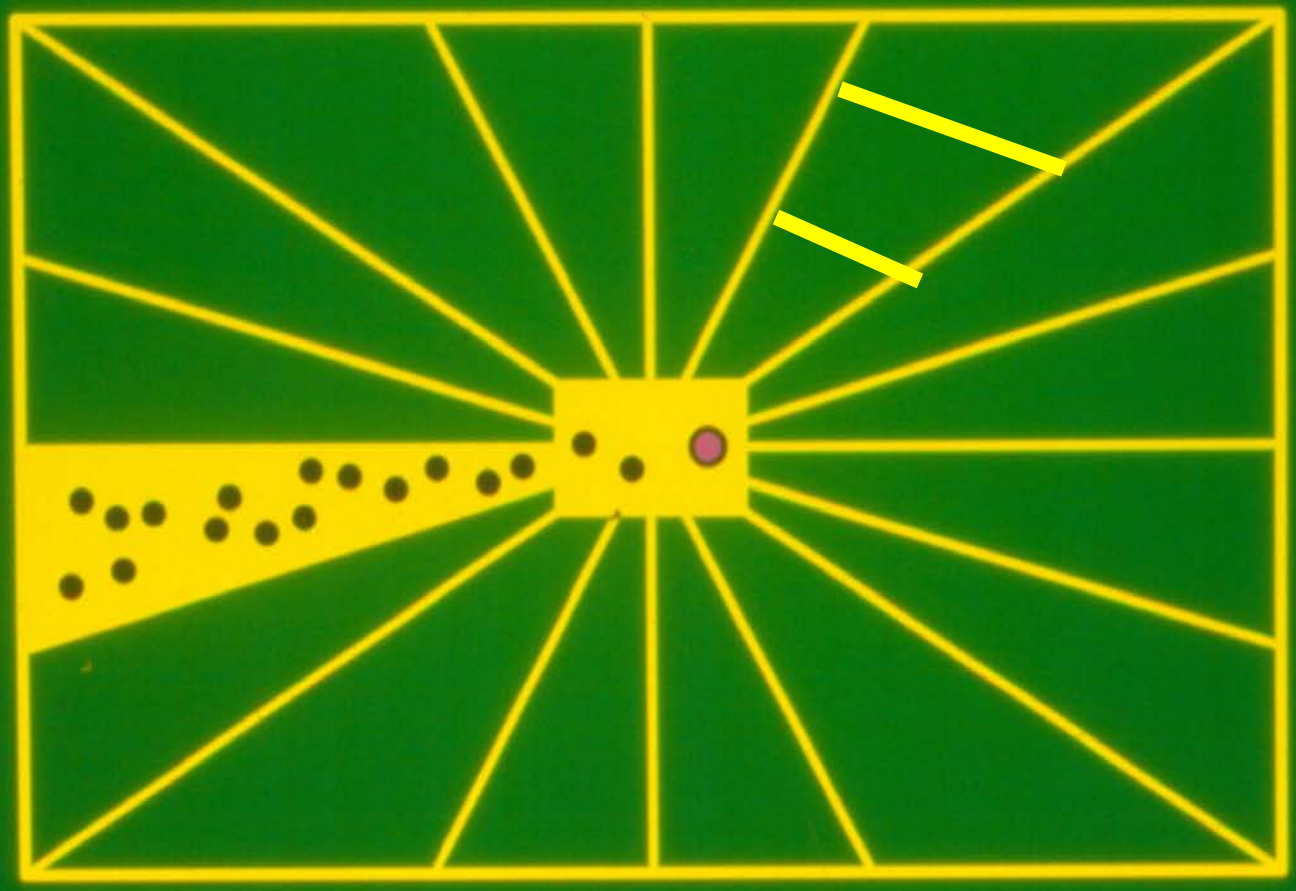
Grazing Management Strategies – Combine Herds

1 Herds, 12 Paddocks, 12 paddocks / Herd			
Herds A, B,C 1	2	3	4
5	6	7	8
9	10	11	12

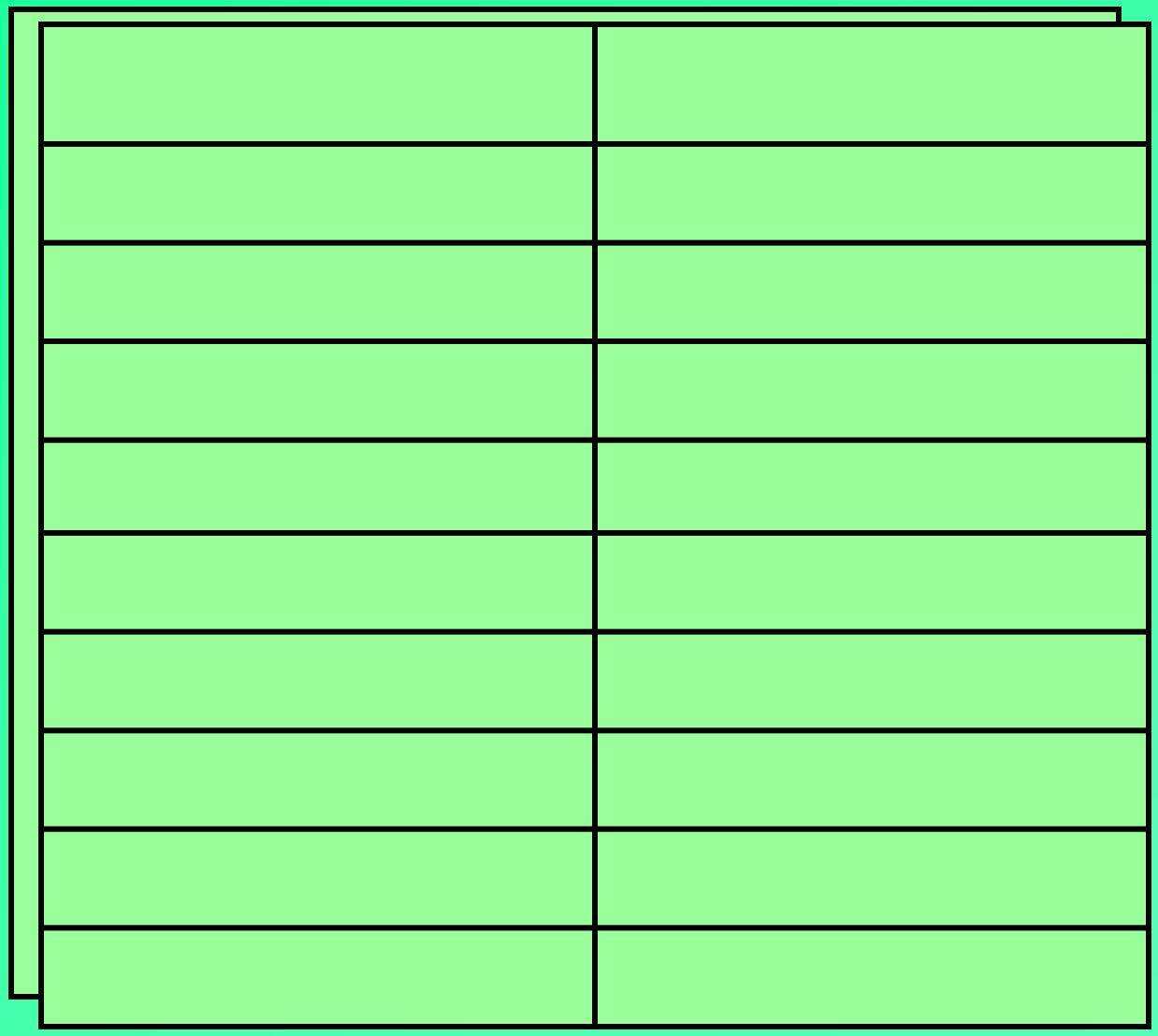
3 days grazing in each paddock = 33 days of rest

Getting More Intensive

Wagon Wheel Design



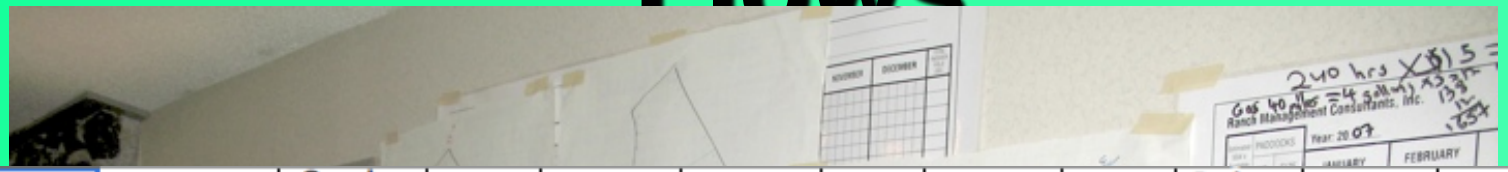
Block Design



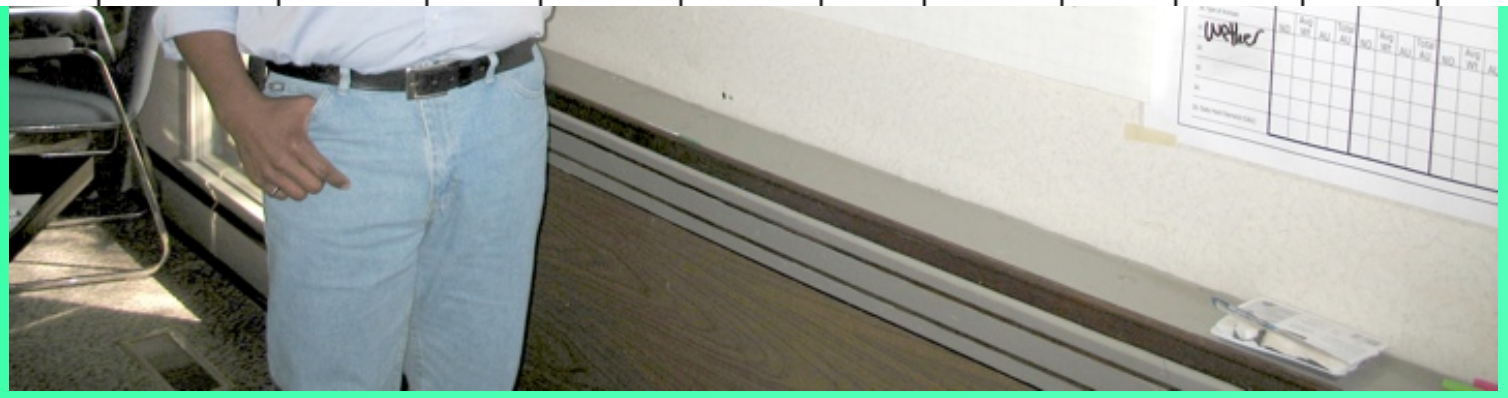
Other Issues

- **Poisonous Plants** – As forage supply gets short, animals will be more likely to eat plants they normally avoid. Acorns (tannins and phenols) and buckeye seeds (neurointoxication) are two examples.
- **Livestock Water** – Haul, pump, and/or pipe water, develop springs.

Grazing Planning and Stock Flows



	Animal Class	Opening Number Jan. 1,2014	Births This Year #	Purchases #	Purchases Value ($/hd)	Sale #	Sale Value ($/hd)	Deaths #	Rations (freezer meat) #	Transfers Out #	Transfers In #	Closing Number Dec. 31, 2014
Cow-Calf	Cow	212				21	550	3			68	256
												0
Cow-Calf	Heifer 2	74				6	1000			68	63	63
												0
Cow-Calf	Heifer 1	65				2	800			63	50	50
												0
Cow-Calf	Calves - heifer		166			113	605	3		50		0
												0
Cow-Calf	Calves - steer		166			164	688	2				0
												0
Cow-Calf	Bulls	10		2	1500	2	1200					10
												0



Grazing Management Principles During Drought Conditions

- Don't feed your way out of a drought
- Match stocking Rate to changes in carrying capacity
- Know critical date and implement culling policy
- Increase rest periods
- Combine herds
- Get more intensive.
- Minimize overgrazing
- Develop livestock water
- Develop a drought plan