

Principles of Controlled Grazing – A Review



April 28, 2018

April 28 – 6:50 a.m.

Red Team



Blue Team



Green Team



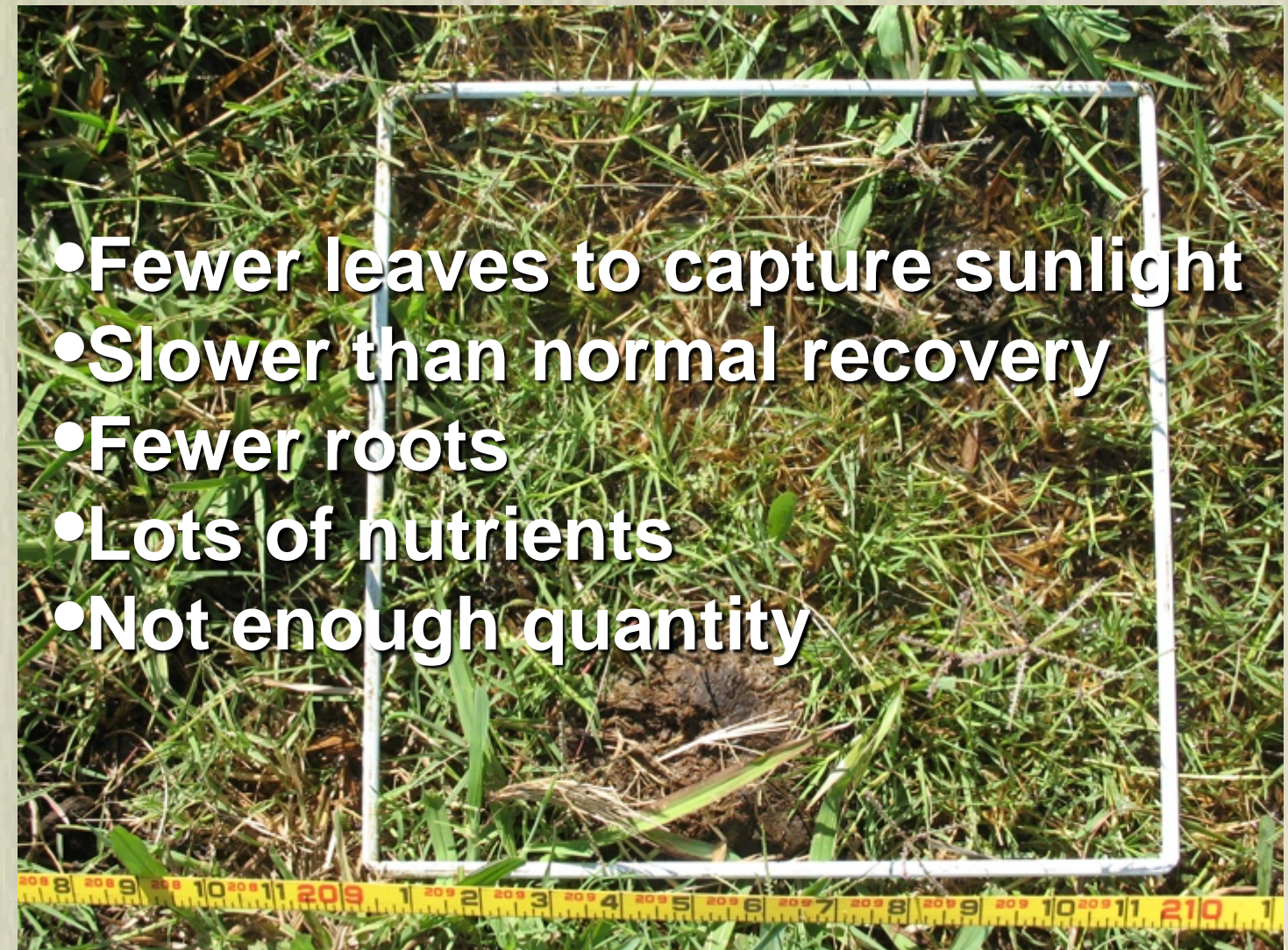
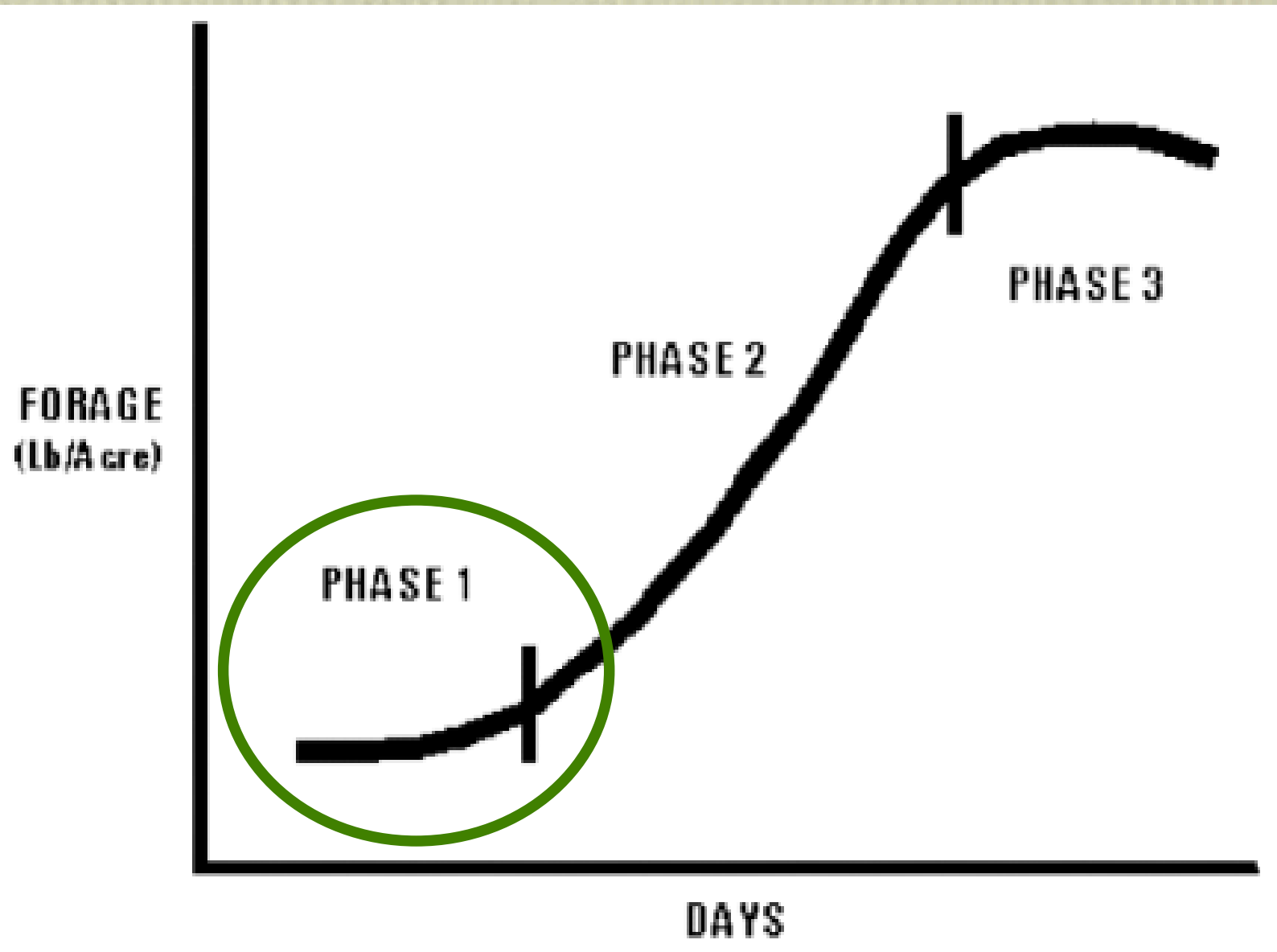
Orange Team



Orange Team!



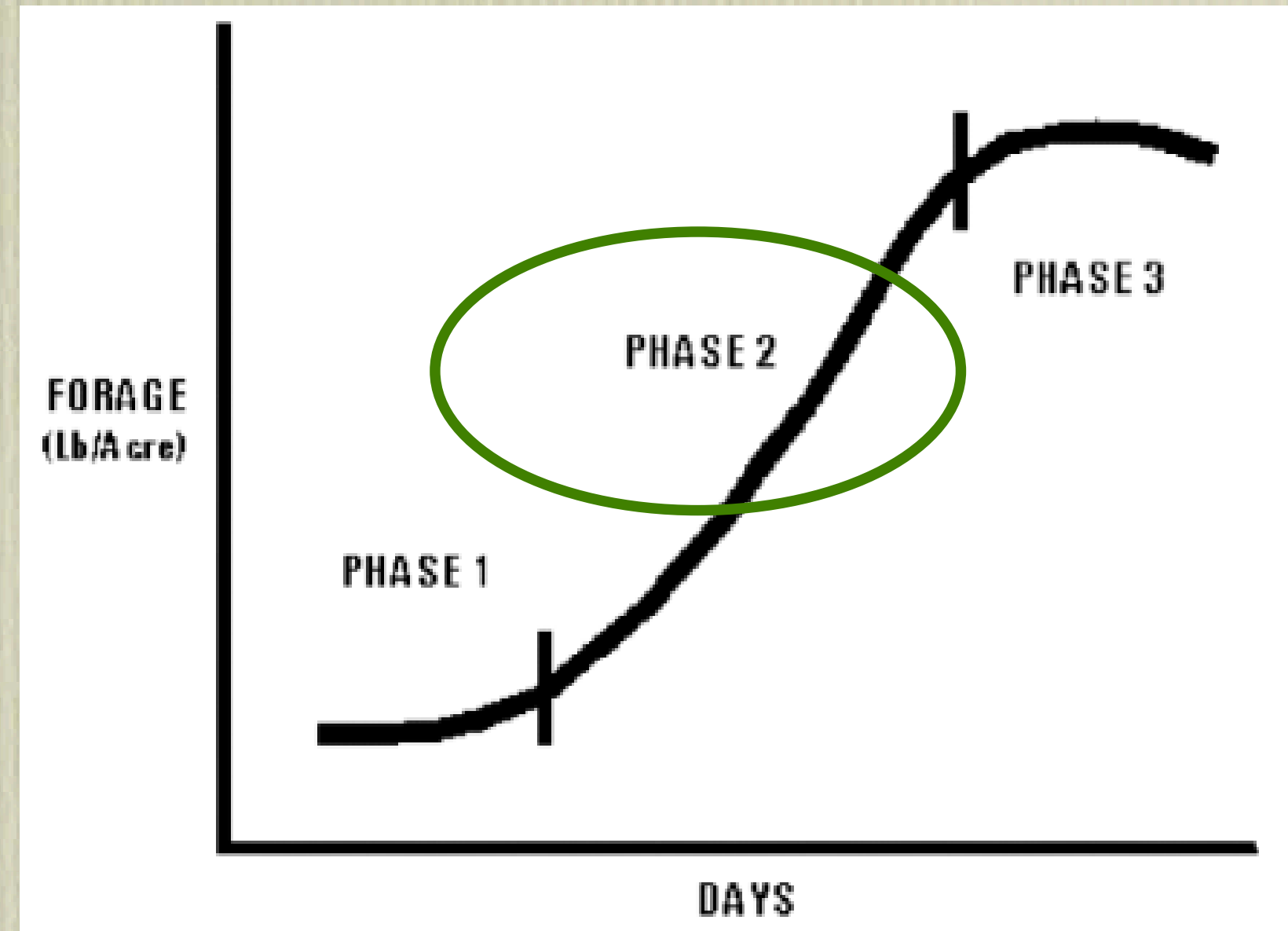
Phase 1: Tastes Great, Less Filling



- Fewer leaves to capture sunlight
- Slower than normal recovery
- Fewer roots
- Lots of nutrients
- Not enough quantity

Phase 2: The Sweet Spot

Leaf Capture of Sunlight
Rapid Recovery for the time of year
Happy Roots
Plenty of Good Stuff



Phase 3: Belly Deep in Grass and Starving to Death

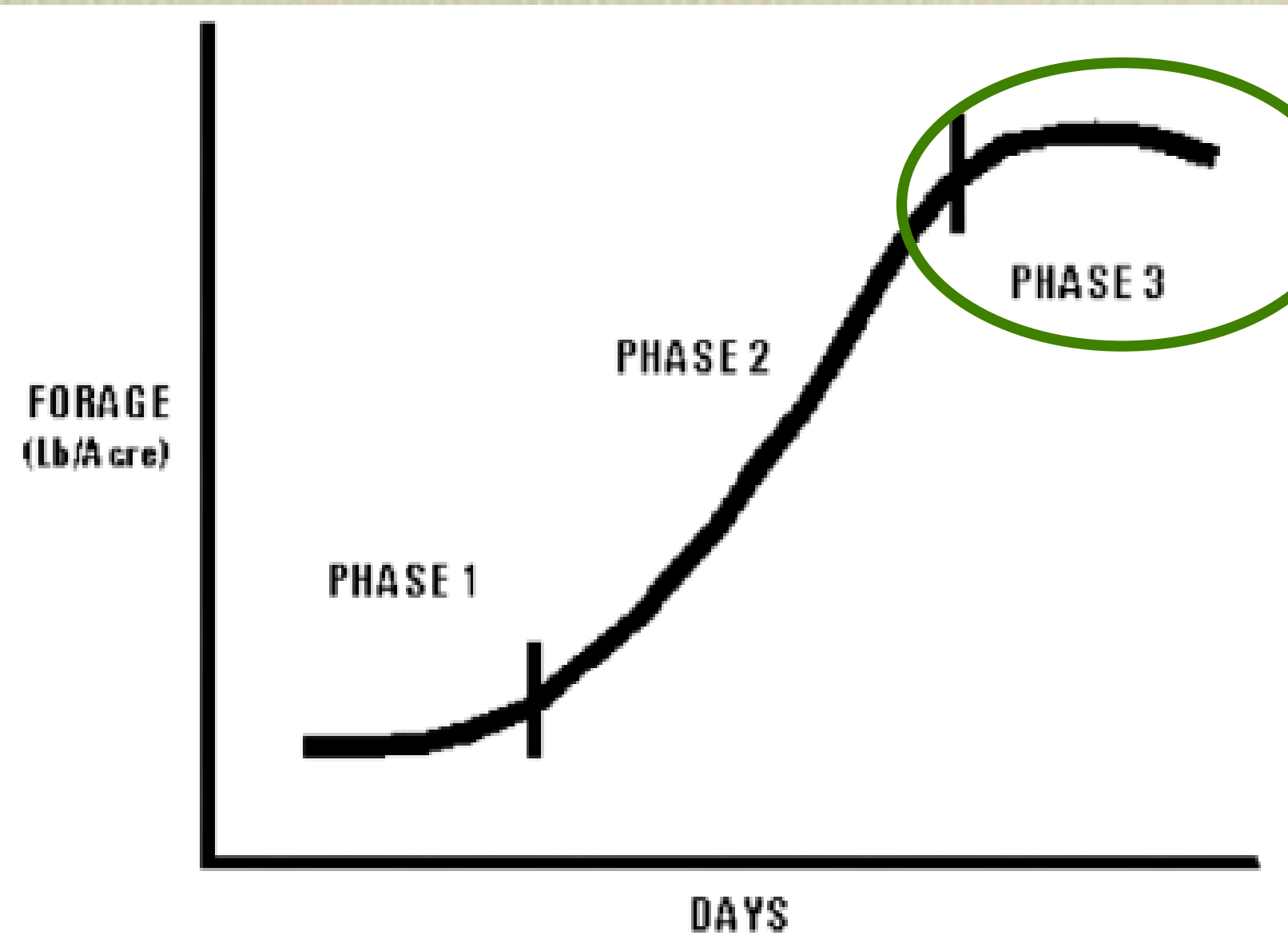
Plant too big to capture enough energy during the day to replace night loss

Outer leaves shade out middle of plant

Increased lignification

Lots of Quantity

Low Quality



Photosynthesis is maximized in Phase 2

Phase 1: Too little leaf cover



Phase 2: Ideal solar collectors



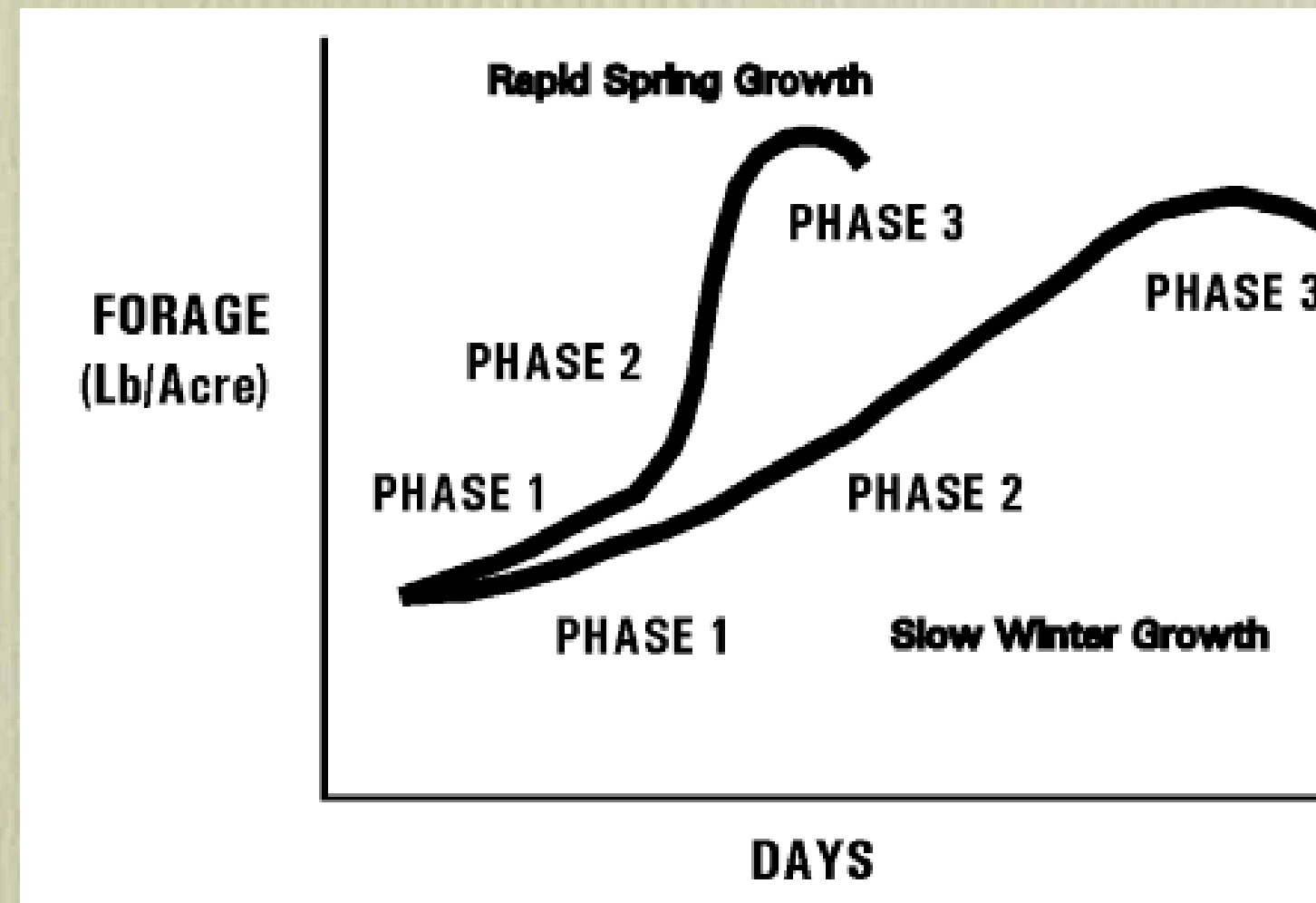
Phase 3: Too much shading and dying leaves



What is Overgrazing?

- Grazing a plant before it's recovered from the previous grazing.
- Overgrazing is a function of time, not livestock numbers!
- How can overgrazing occur?
 - Stay too long
 - Come back too soon

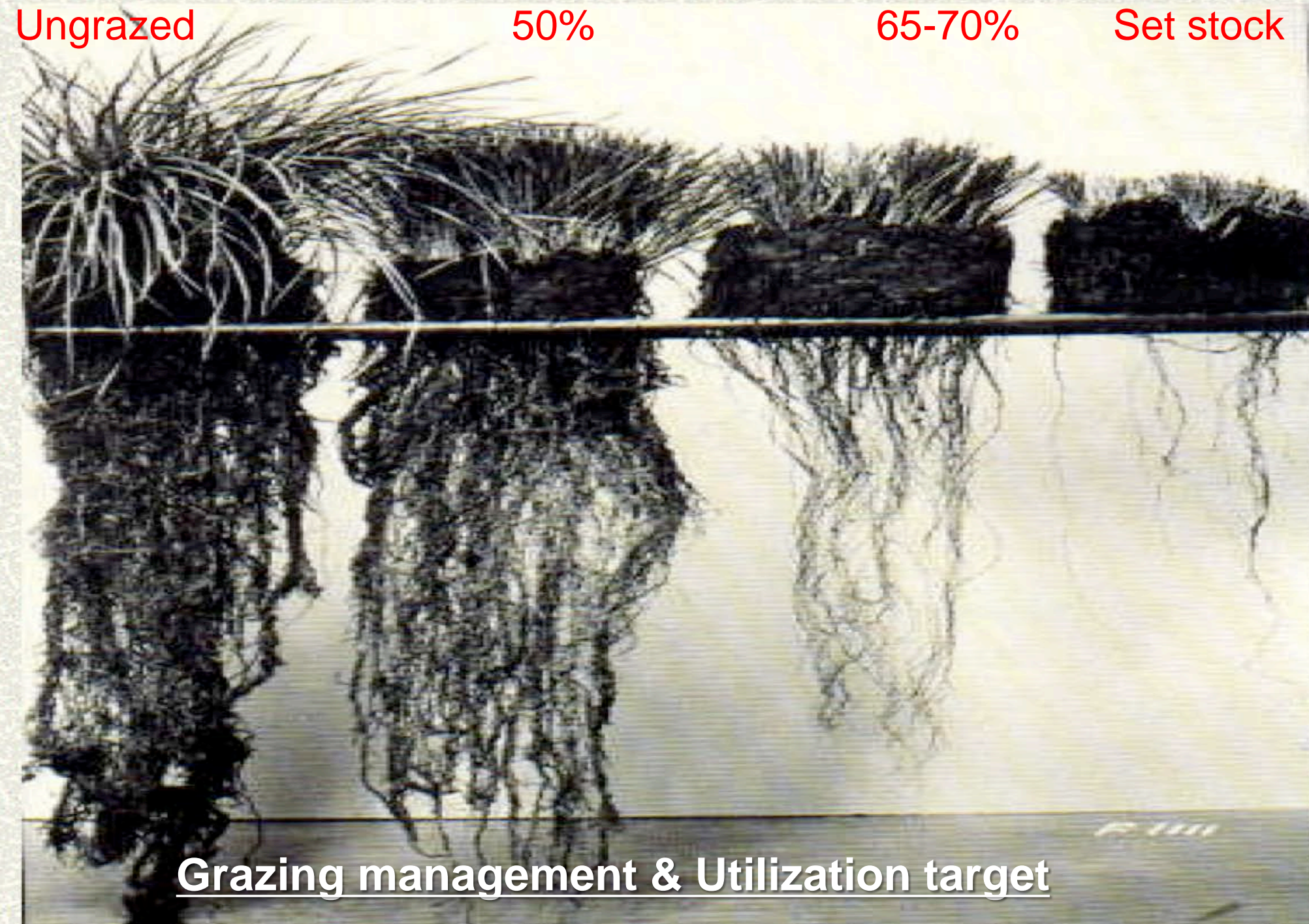
Principle: Adjust Rest Periods to the Growth Rate of the Plant



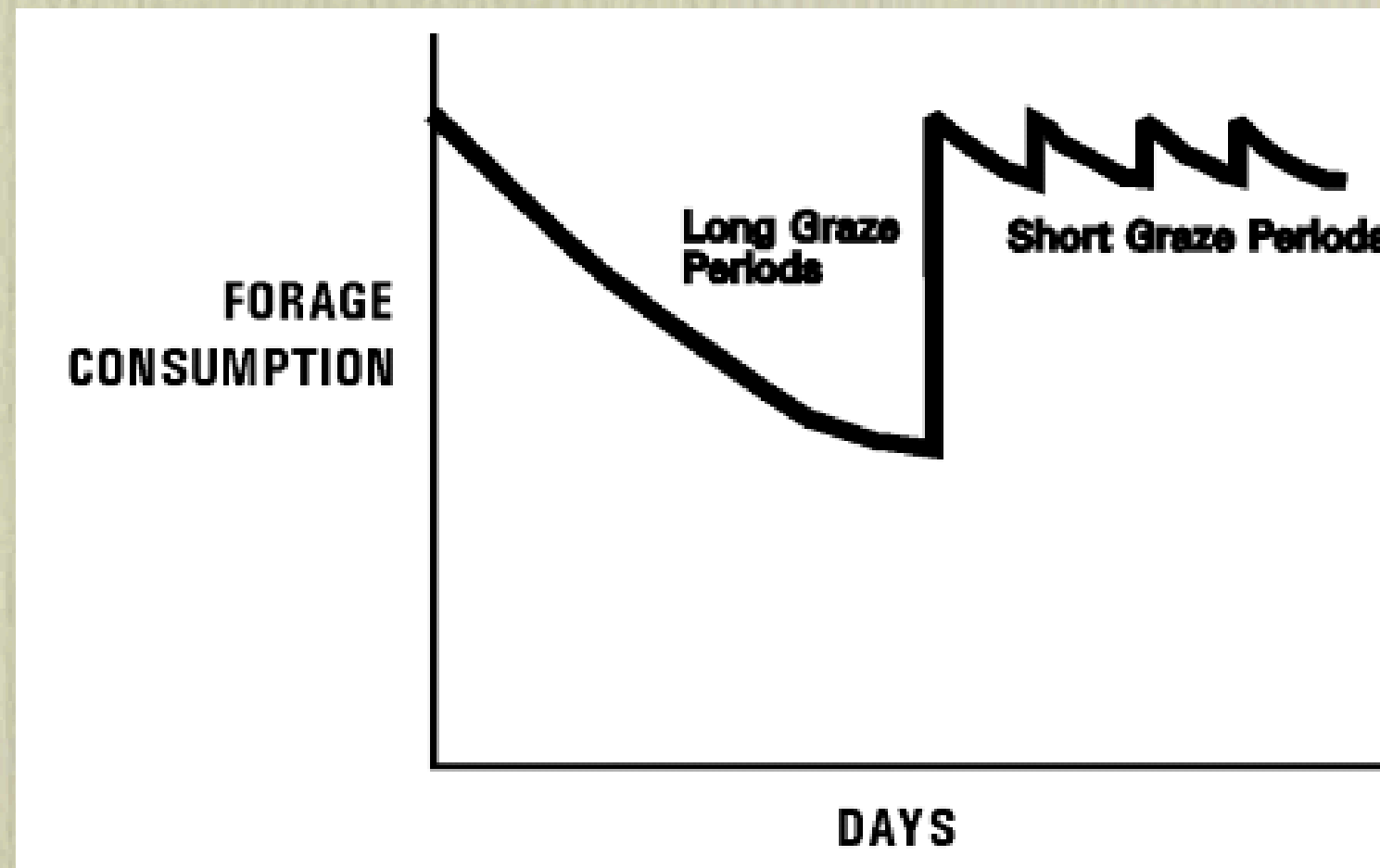
Plant Vigor-Leaves and Roots

Caring for the Green Zone, Riparian Areas and Grazing Management

Alberta Riparian Habitat Management Project, “Cows and Fish Project”



Principle: Use the Shortest Graze Period Possible While Maintaining Adequate Rest



Calculating Graze Periods

35 Days of Rest (is this rapid growth or slow growth?)



Maintaining forage intake is critical

**The more you eat, the
fatter you get**

Voluntary Forage Intake

A large flock of sheep is grazing in a lush green field. In the background, a person wearing a hat and a light-colored shirt stands near a fence line. The scene is bright and sunny, with a clear sky and a well-maintained pasture.

- Three controlling factors
 - Grazing time
 - Biting rate
 - Bite size

**5 'bites' from
excellent pasture**

**5 'bites' from fair
pasture**

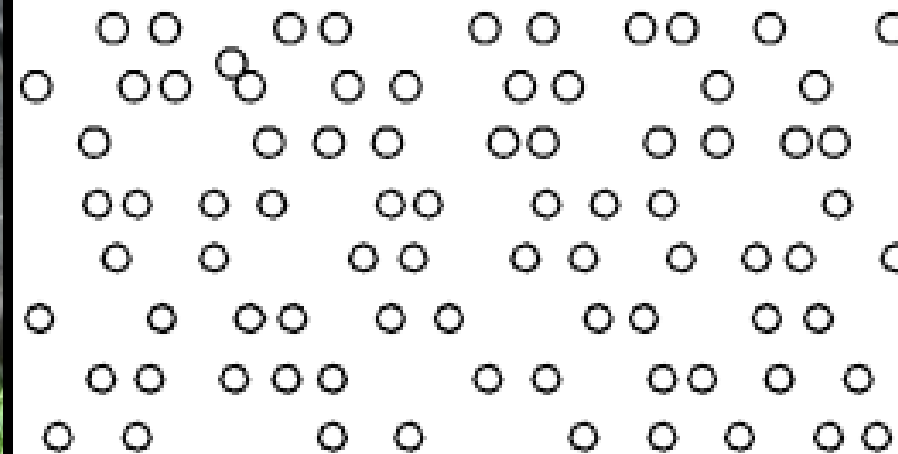


Principle: Use the Highest Stock Density Possible

1 Animal For 100 Days



100 Animals For 1 Day



Head / # Acres

To Increase Stock Density:

1. Add more animals to a given area
2. Keep the animal number the same and reduce the area

Principle: Use the largest herd size possible consistent with animal husbandry practices

- Concentrated action of animal's hooves break the hard soil crust or trample down canopy
- Not the same as stock density

Stocking Rate & Carrying Capacity



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



On annual rangelands, carrying capacity can vary greatly from year to year!

What are some strategies for coping with this variability?



Barriers to Change

- Capital costs
- Inertia
- Labor availability
- Biology
 - Cow gestation, for example
- Cash flow impacts
- Aversion to risk
- Life-work balance
- Others?

