



Forages

2024 WOMEN IN AG SUMMIT

Rebekah Norman
Rutherford County Extension

Real. Life. Solutions.™

UT EXTENSION
INSTITUTE OF AGRICULTURE
THE UNIVERSITY OF TENNESSEE

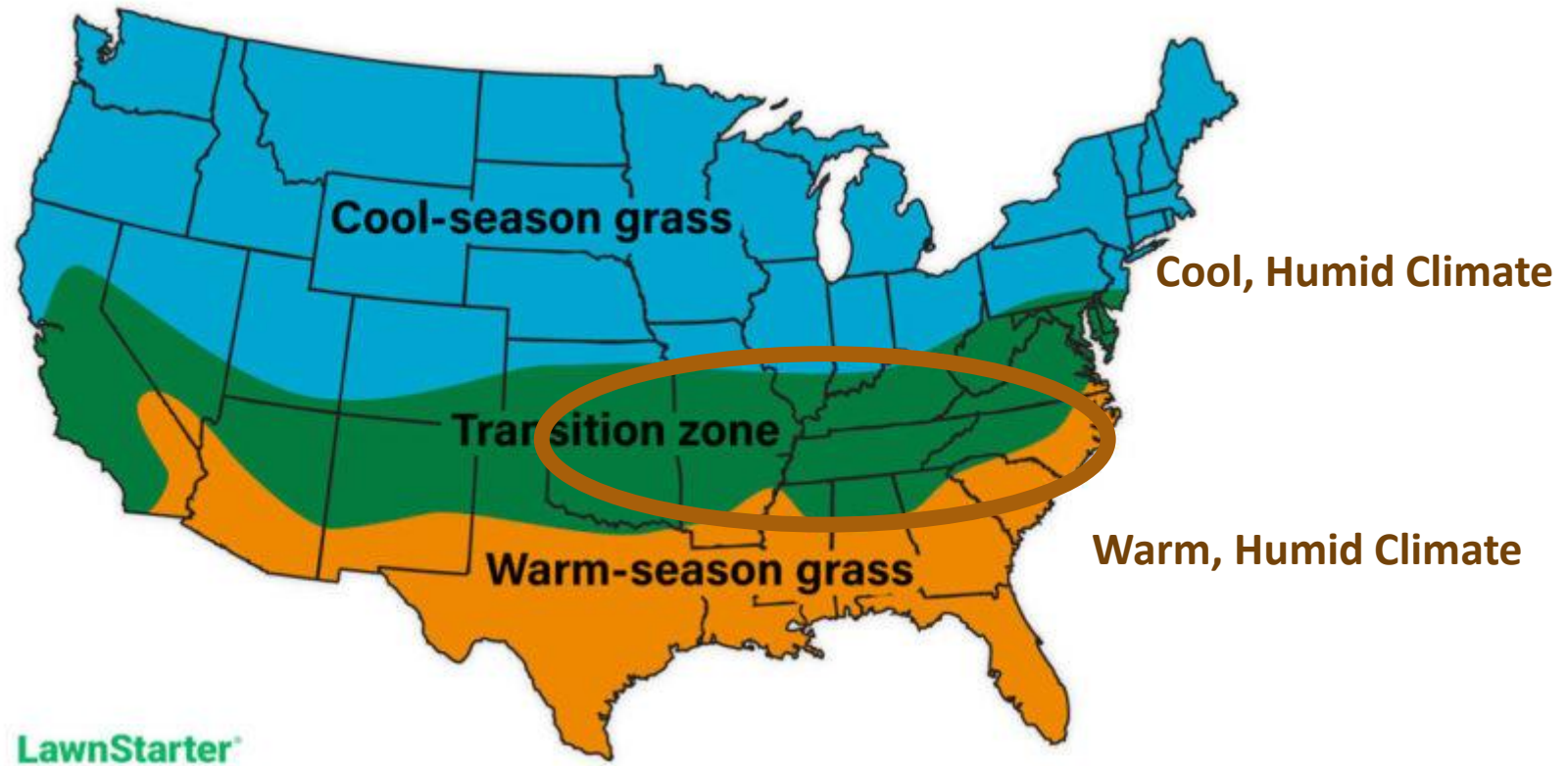
tsu COOPERATIVE
EXTENSION
COLLEGE OF AGRICULTURE
TENNESSEE STATE UNIVERSITY

Why talk about forages

Because sometimes you have to understand how something works in order to make it work for you



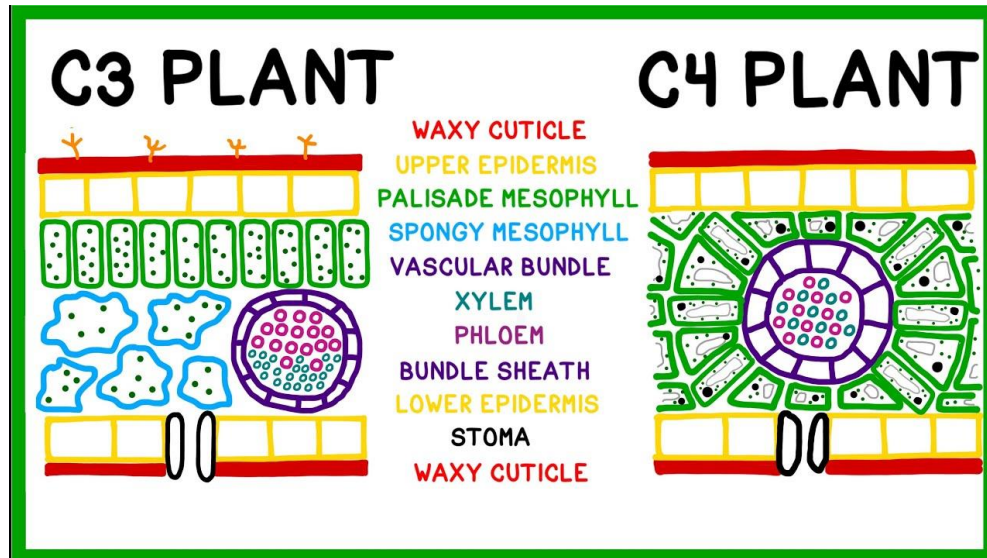
Tennessee's Weather.....



Plants for the Transition Zone....

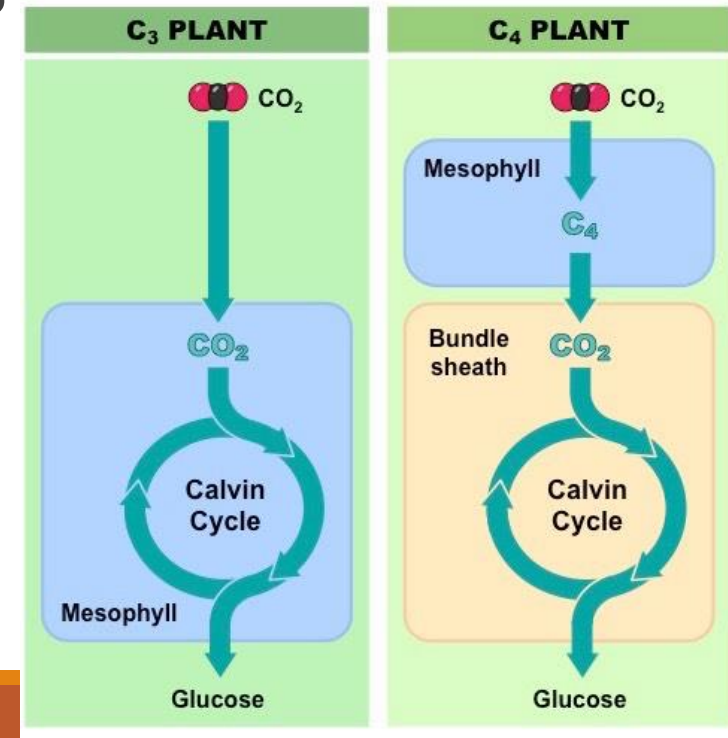
COOL SEASON (C3)

Thrive in temperatures between 65 and 75

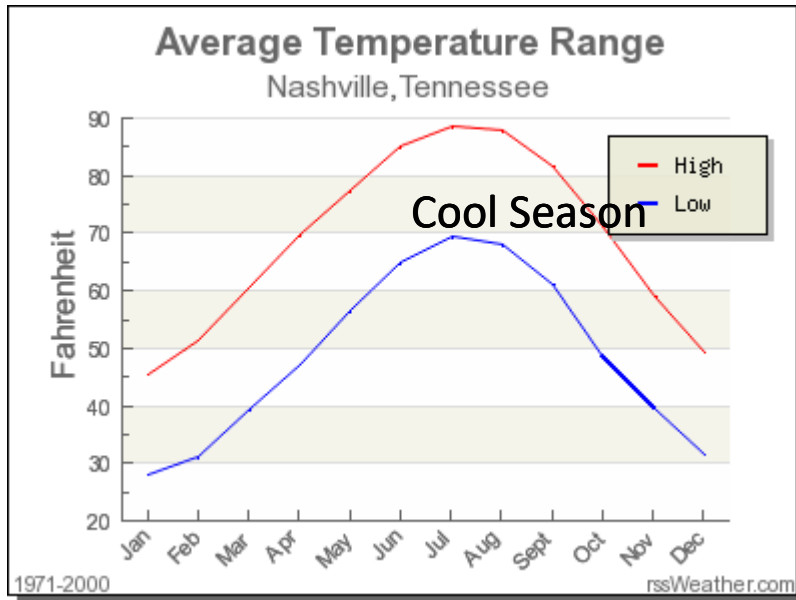


WARM SEASON (C4)

Thrive in temperatures between 80 and 95



Average 2022 Temperatures...



Month	Low	High	
Jan	27.9°F	45.6°F	
Feb	31.2°F	51.4°F	
Mar	39.4°F	60.7°F	Cool Season
Apr	47.1°F	69.8°F	
May	56.7°F	77.5°F	
Jun	65.0°F	85.1°F	Warm Season
Jul	69.5°F	88.7°F	
Aug	68.0°F	87.8°F	Cool Season
Sept	61.0°F	81.5°F	
Oct	48.6°F	71.1°F	
Nov	39.5°F	59.0°F	
Dec	31.5°F	49.4°F	

It's all about the Carbon....

COOL SEASON (C3)

Adapted to cooler temperatures

Photorespiration

Closed stomata in hot/dry weather

In Tennessee, longer growing season(s)—in normal rainfall, provides the most grazing days

Higher digestibility and CP than warm season

WARM SEASON (C4)

More efficient at higher temperatures

No photorespiration

Photosynthesis can occur with closed stomata

More efficient than C3 plants, producing greater dry matter per unit of N and per unit of water

Generally lower digestibility and CP than cool season

So what do we need to know about a plant?

Is the plant cool season or warm season (C3 or C4)?

What is the lifecycle?
Annual, biennial, perennial?

Size/vegetative growth
(close grazing, high grazing, etc.)

Fertility requirements



Cool-season forage production

Annual

wheat
annual ryegrass
rye
turnips

Legumes:
Crimson clover

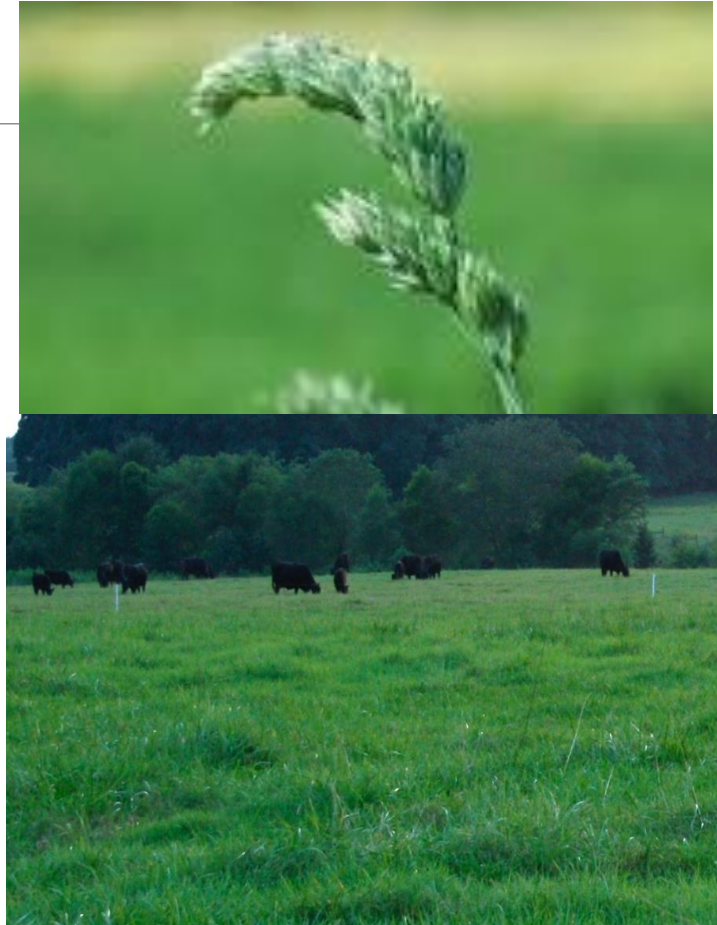
Common Weeds: **butter cup, henbit, purple deadnettle, common chickweed**

Perennial

tall fescue
orchardgrass
Perennial ryegrass
timothy

Legumes:
White Clover

Common Weeds: **Mouse-ear chickweed, plantains**



Warm-season forage production

Annual

Sorghum-sudan
pearl millet
crabgrass
Teffgrass
Fall panicum

Legumes:

Annual lespedeza

Common Weeds:

Pigweed, foxtails, perilla mint, bitter
sneezeweed, wooly croton

Perennial

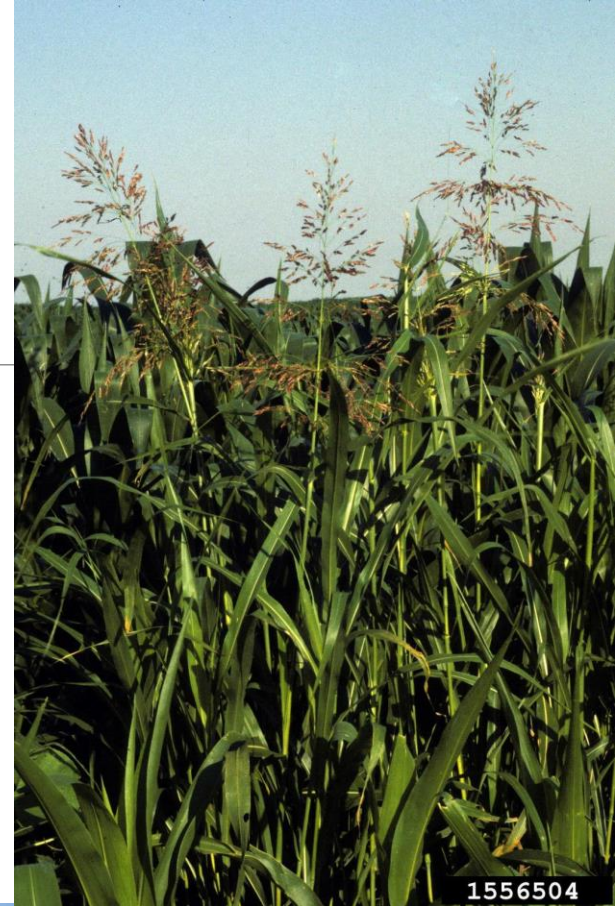
bermudagrass
native grasses
dallisgrass (vol)
Johnsongrass (vol)

Legumes:

Sericea lespedeza

Common Weeds:

Dog fennel



1556504



Pasture Grasses Nutrient Composition

Forage	% TDN Range	% CP Range
Bermudagrass (common)	45-58	6-12
Perennial Leppedeza (common)	50-55	14-17
Switchgrass/Alamo	50-60	7-14
Johnsongrass	55-60	10-14
Tall Fescue	56-66	8-16
Sorghum-Sudangrass	56-70	8-17
Dallisgrass	57-63	10-15
Crabgrass	58-63	11-15.5
Ryegrass	59-68	8-16
Fall Panicum (tested)	61-65	15.86

Why the Ranges???

**Rutherford Co. Hay
Test Average: 60.41**

**Rutherford Co.
Hay Test
Average: 11.82**

Forage Quality

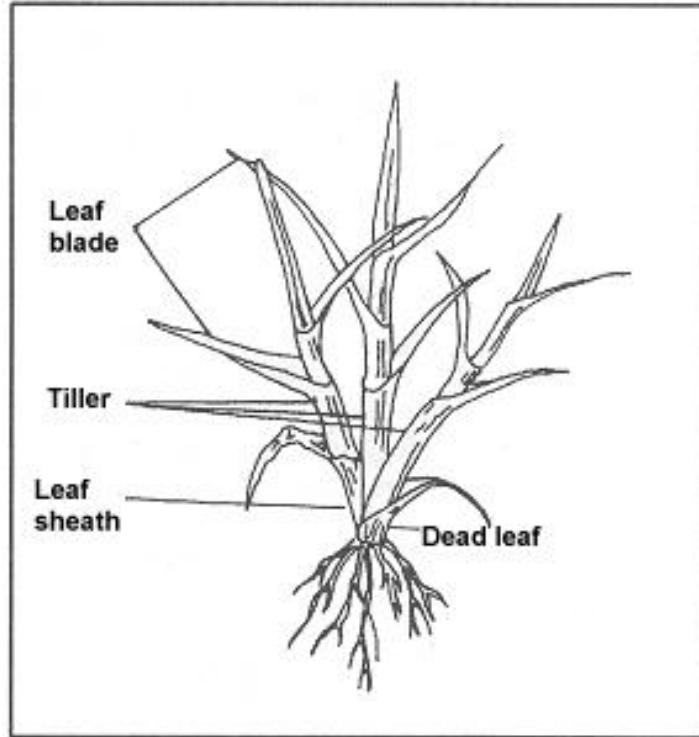


Stage of maturity impacts forage quality.



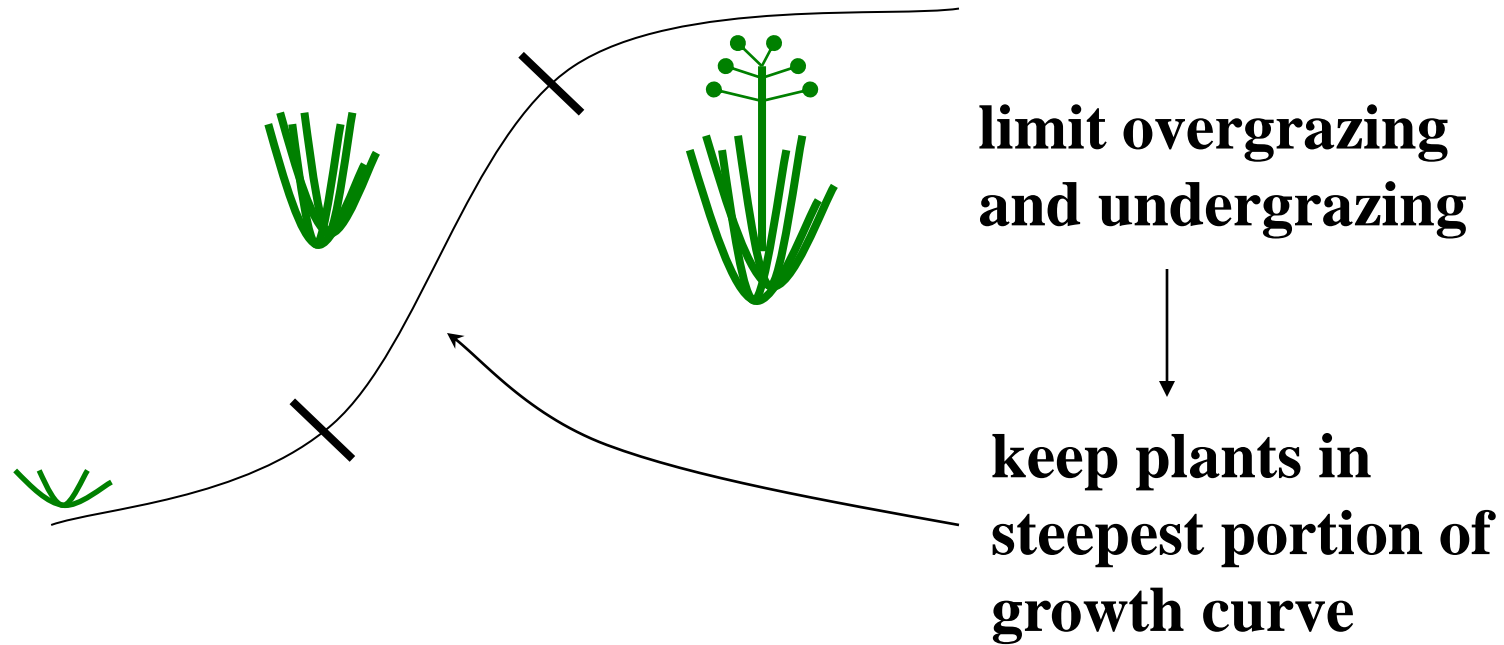
Soil fertility impacts tonnage produced and stand longevity.



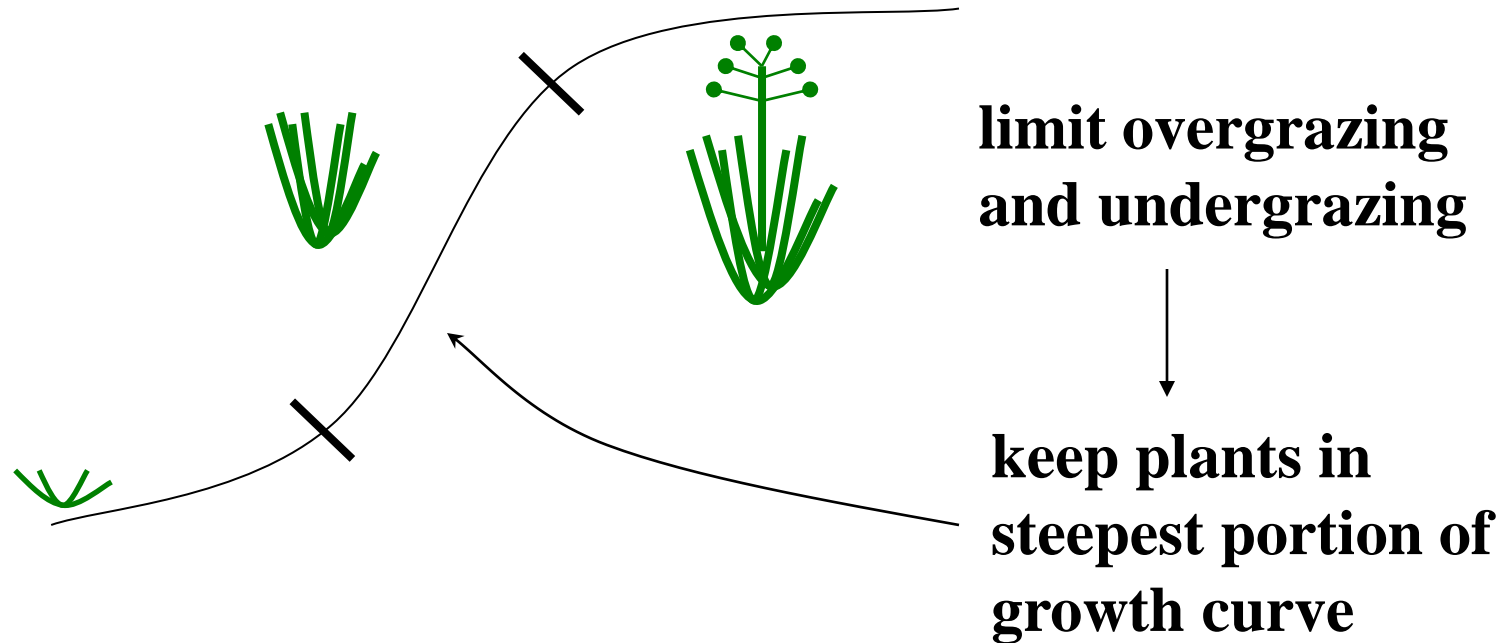


Where is the most nutrient value?

MANAGING THE FORAGE CURVE



In fact, forage quality has more to do with when harvested than the species of grass!





Seed heads = End of growth

Emergence of Seed Heads = end of vegetative growth and start of reproduction

Growth will not restart until seed heads are removed (think mowing or grazing)

Quality



Seedhead Production

COOL SEASON

Tillers must go through vernalization for seedhead production

Signal to produce seedheads is day length

Once tiller produces seedhead it is done

New tillers produce grazeable forage with **NO SEEDHEADS**

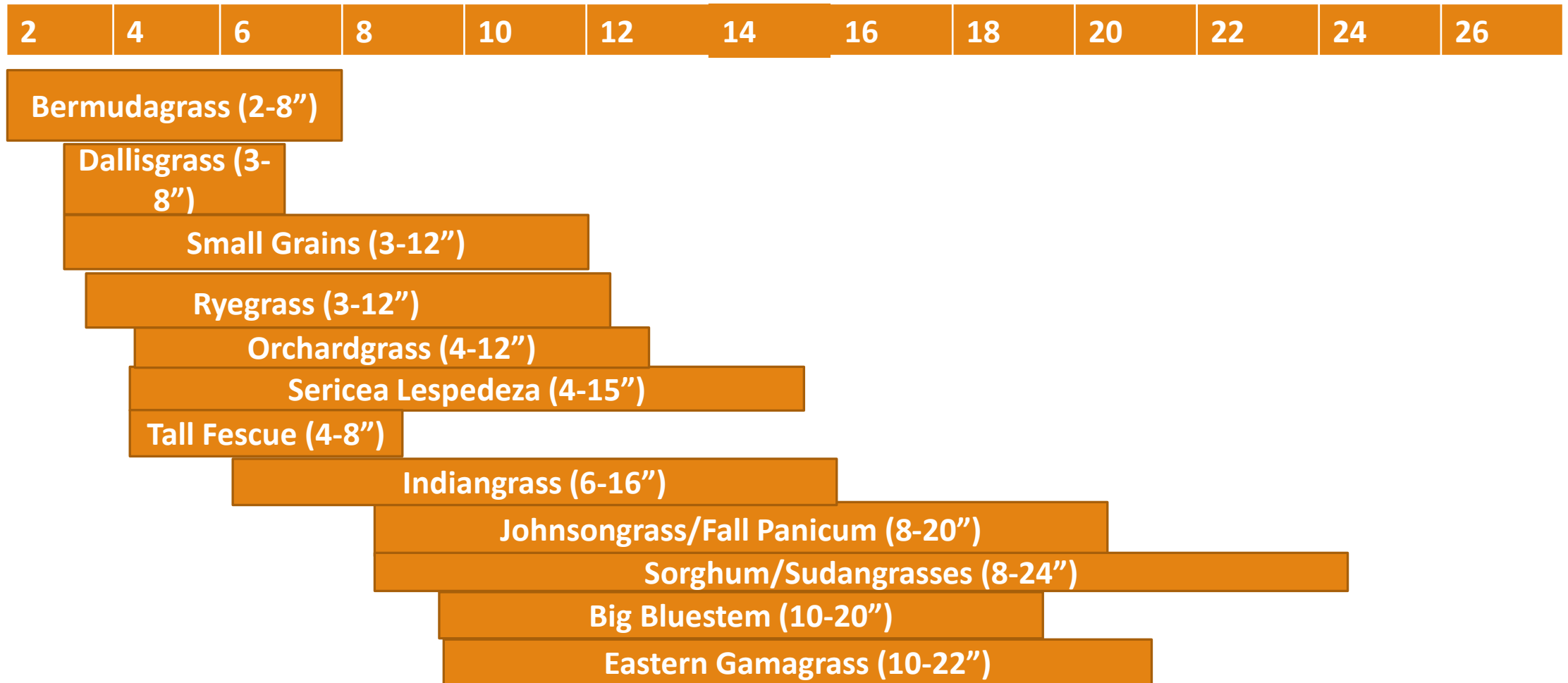
WARM SEASON

Head and flower based on accumulated heat units, not day length

New tillers can produce seedheads without vernalization

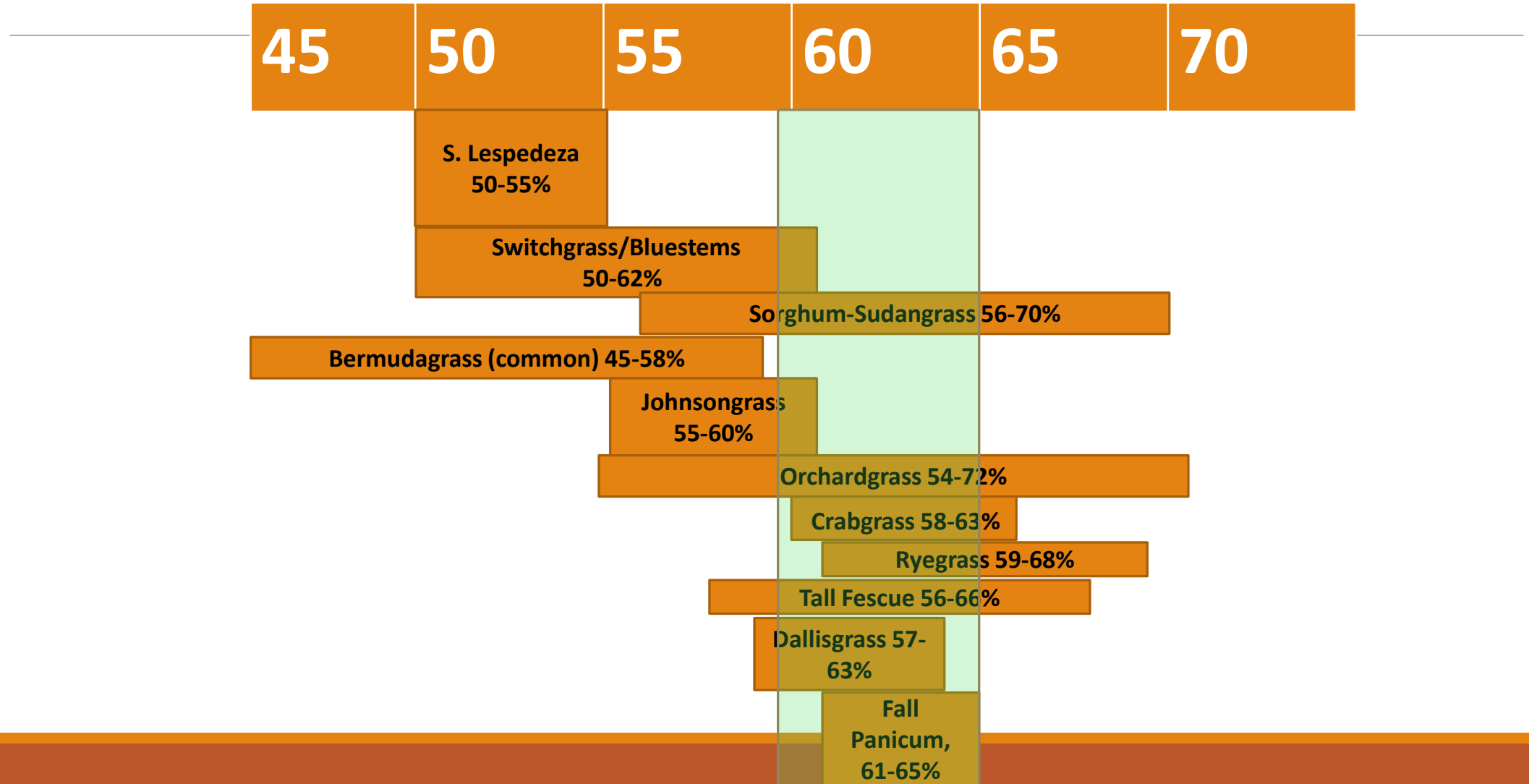


Keeping Grass Vegetative...and Keeping the Stand



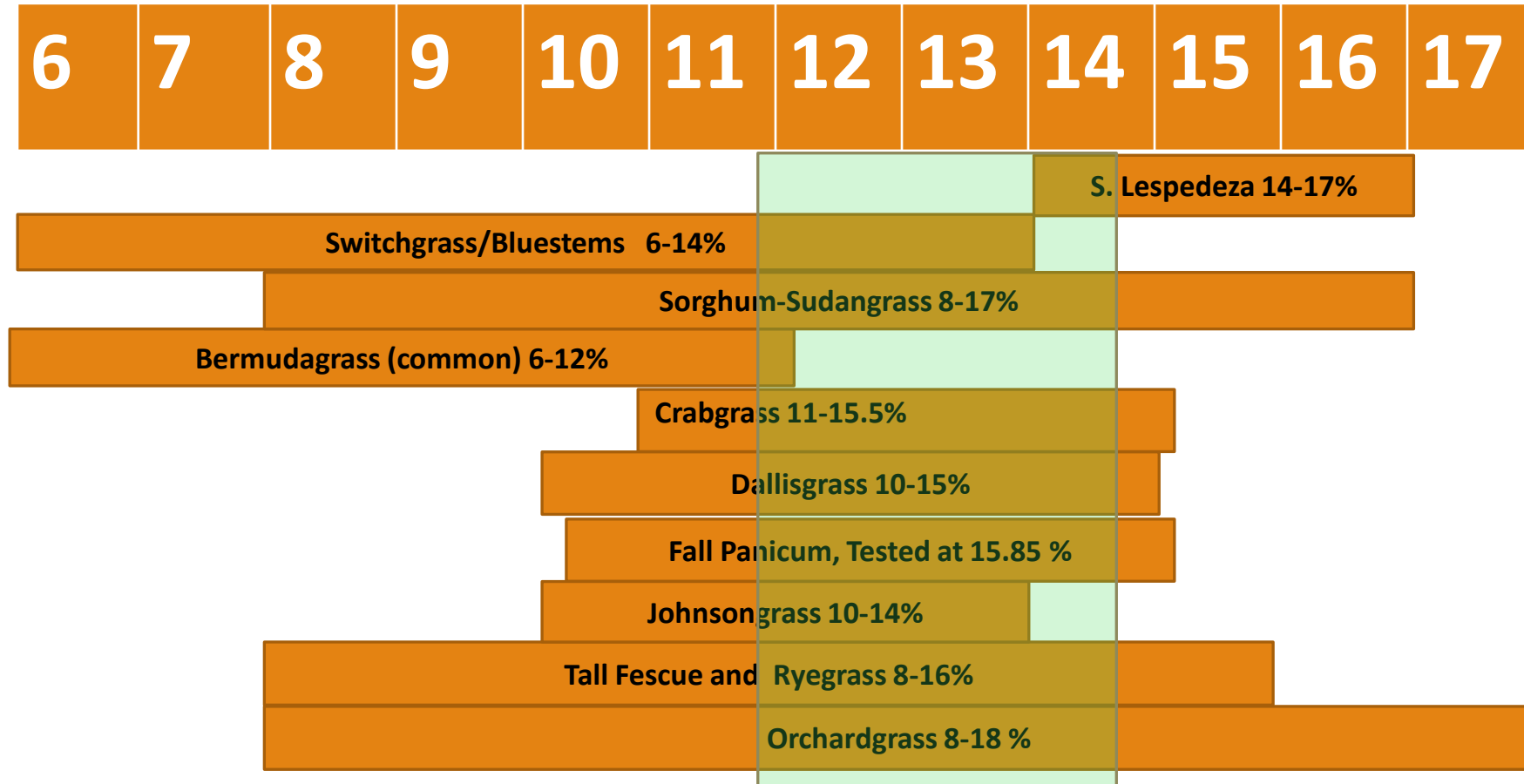
9 out of 11 can have TDN of 60% or higher!!

TDN of Forage Grasses



ALL can have CP or 12% or higher!!

Crude Protein of Forage Grasses



Key Principles



Don't depend on one forage species

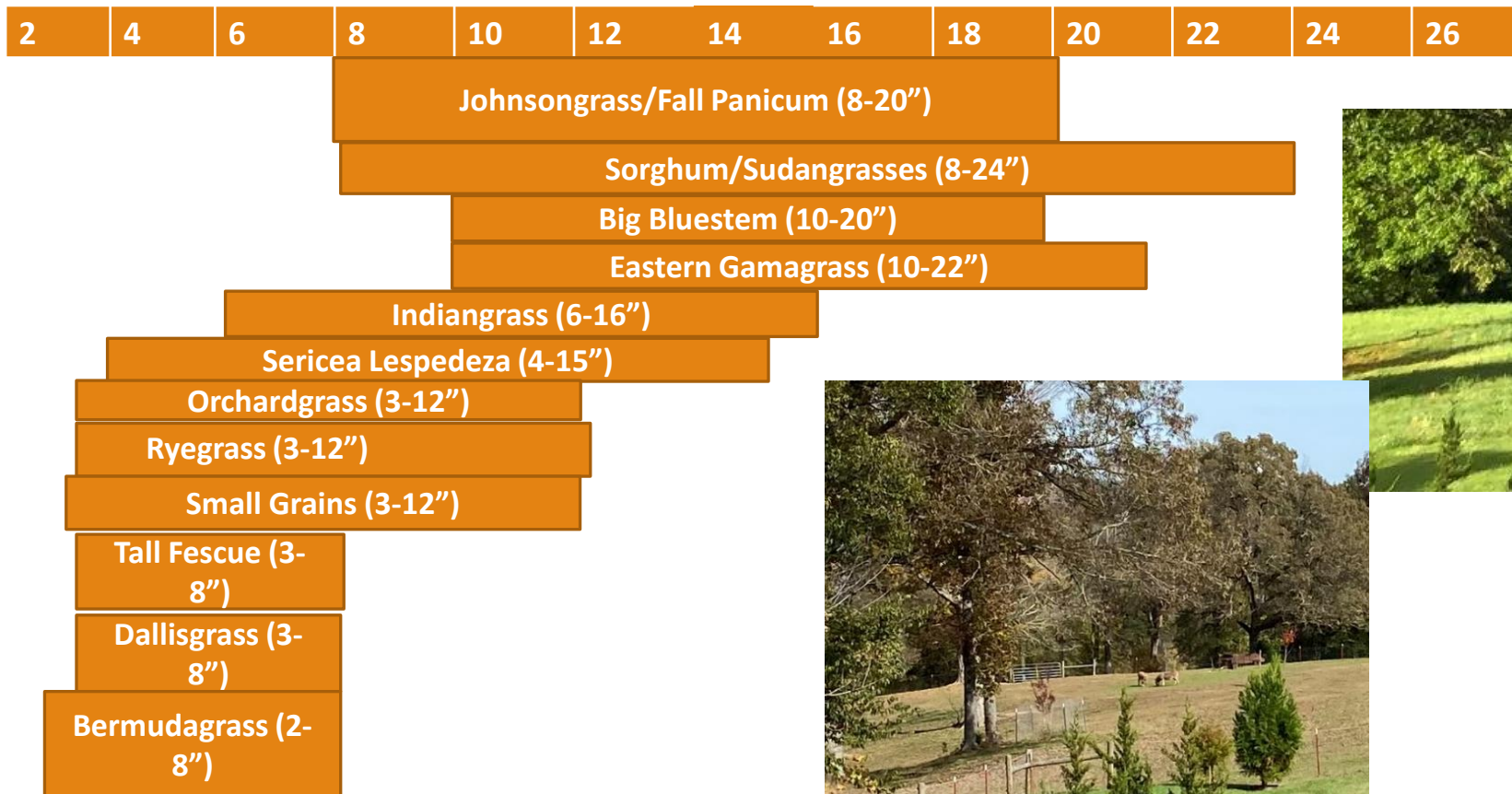
Develop cool and warm-season programs

Include both grasses and legumes

Keeping the Forage Stand



Keeping the Stand



Food for Thought

It is too expensive for the average livestock operation to spend money on reseeding and re-establishing pastures until a plan for managing the pastures for stand longevity is in place



But



If you are serious about controlling costs without sacrificing welfare or reasonable animal performance, both grazing management and WHAT they are grazing must eventually be addressed

Controlled Grazing

Commitment to Management



Controlled Grazing Can be Used to:



Improve yield of quality forage

Improve forage yields

Improve persistence of forages

Improve beef production **per acre**

Calm animals

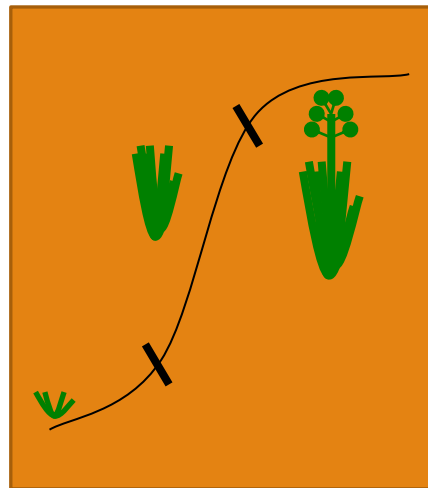
Internal Parasite Management

Manage Manure (nutrient) distribution

What is YOUR goal?

MANAGING THE FORAGE CURVE through

Grazing



Maximizes quality



Maximizes production



Improves stand longevity

Managing to favor _____

Remember

Minimum grazing/mowing height...

Fertility and when to apply



“Rainfall has more to do of whether I am a good forage manager than how I manage my livestock.”

**Joe Hampton,
Back Creek Angus**



“The quickest way to work livestock is slowly.”

“You cannot starve a profit out of an animal.”

AND you can't starve a profit out of a field (Rebekah's addition)

“Animal behavior is learned from the handler.”

“The market is never wrong about the value.”

“Fat is a pretty color, but it is not heritable.”



“Forage Practices that Pay”

November 8, 2024 – 8:30am

Lane Agri-Park - Auditorium

315 John R. Rice Blvd. Murfreesboro TN 37129

Learn the results of the nationwide survey of forage producers. How did they respond when asked to identify forage practices making an economic difference in their operation?

Topics Included:

- Demystifying Fertilizer and Lime Products
- What’s in that Bale? –Nutrients removed, nutrients recycled through manure, and what they are worth
- Forage Plot Tour
- Hear from Your Peers: Producer Panel
- Winter Grazing Options
- TN State Fair Best of Fair Hay winners
- Trade Show & Lunch Included
- **Cost: \$40 prior to November 1, \$50 after**

Please Join Us!

Tennessee Forage and Grasslands Council

NOVEMBER 8, 2024

LANE AGRI-PARK

MURFREESBORO, TN



Questions?

