

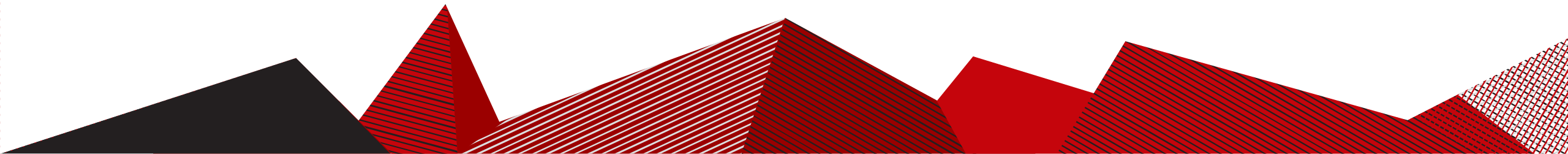
Optimizing Your Grazing System

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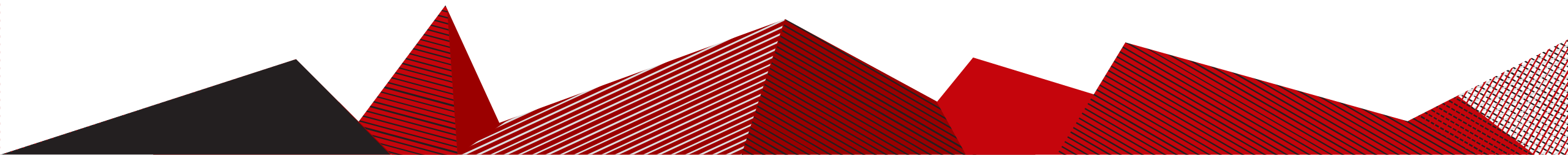


Points for today

Review changes in livestock nutrition requirements

Understand changes in plant physiology

Managing two moving targets for profit

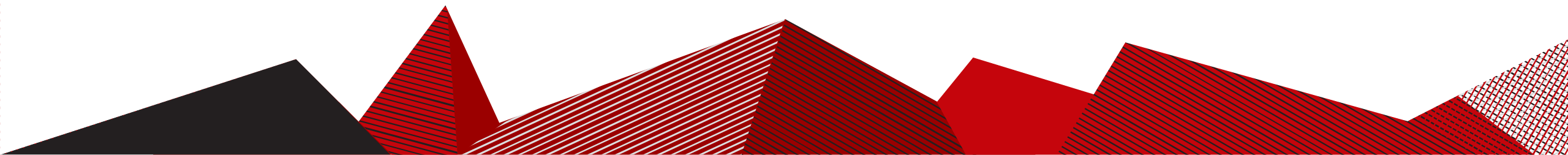


Different Animals Need Different Nutrition

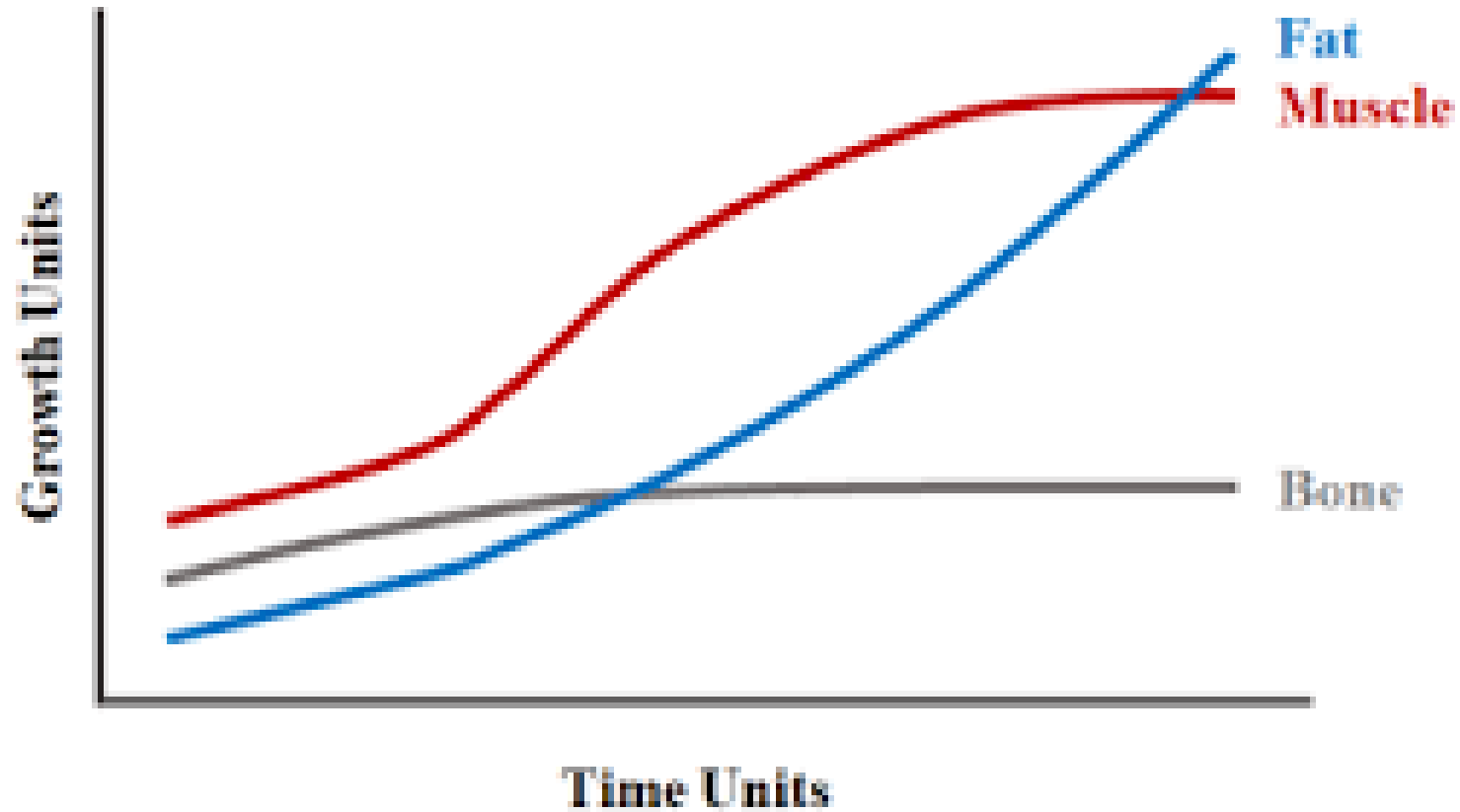


Drivers of nutrient requirements of livestock

Class of animal	Stage of production	Body Condition Score	Milk Potential	Weather
<ul style="list-style-type: none">• Mature• Growing	<ul style="list-style-type: none">• Dry• late gestation• lactation	<ul style="list-style-type: none">• Severely Emaciated• Just Right• Morbidly Obese	<ul style="list-style-type: none">• Low• Medium• High	<ul style="list-style-type: none">• Hair Coat• Thermal Neutral

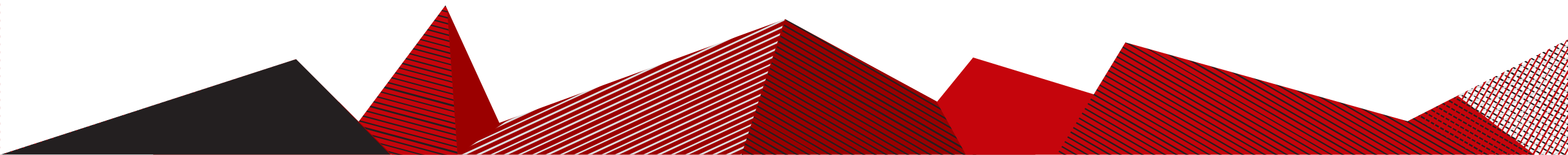


Growing Animals – 3 Phases



Dry versus Lactating Beef Animals

- Intake (%) – 50%
- Protein requirements (lbs CP) – 100%
- Energy requirement (Mcal) – 87%



Body Condition Score

TABLE 13-4.

Energy required to change a mature 1200 lb, BCS 5 cow on condition score.^{a,b}

BCS	APPROXIMATE SHRUNK BODY Wt., lbs	Mcal NE _m ^c to CHANGE 1 BCS
1	880	78
2	960	105
3	1040	131
4	1120	158
5	1200	184
6	1280	210
7	1360	238
8	1440	264
9	1520	290

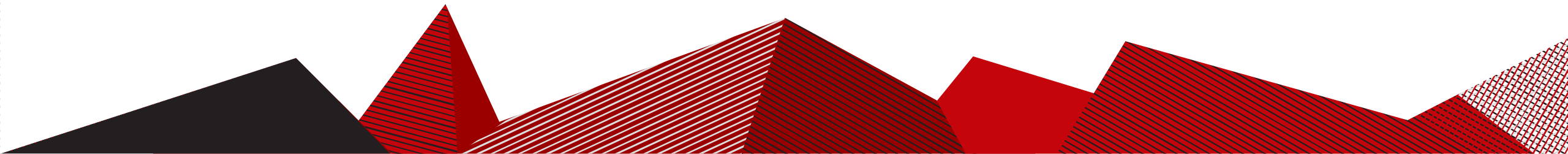
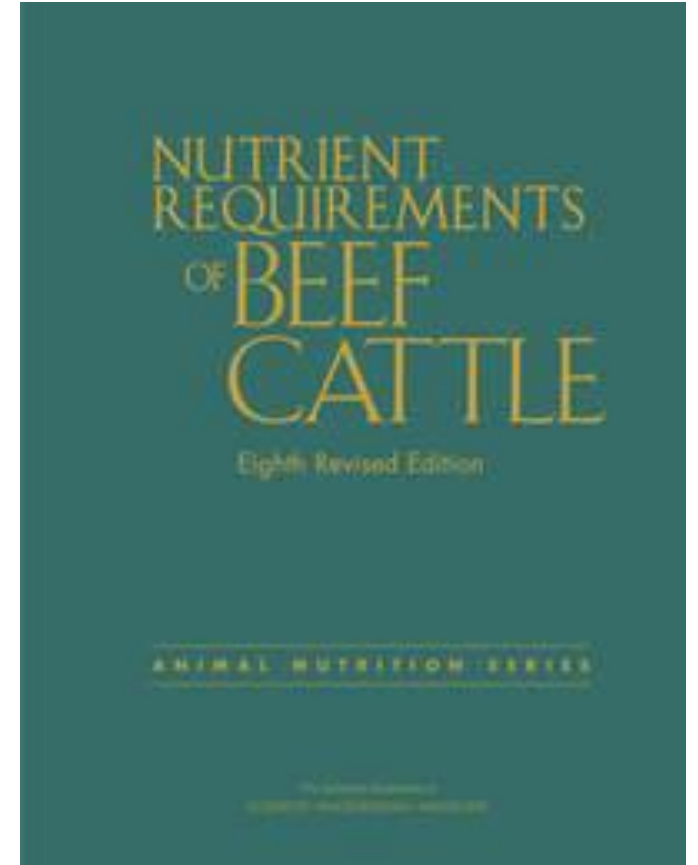
^a Adapted from Purdue research published by Buskirk et al., 1992 J. Anim. Sci. 70:3867-3876.

^b Feeding 1 lb of dry shelled corn provides approximately 1 Mcal NE_m.

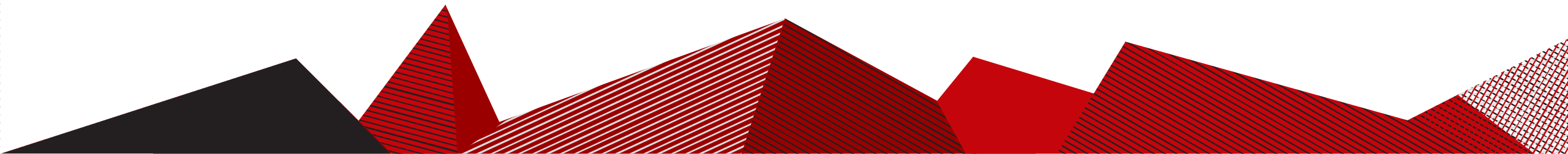
^c Net energy for maintenance, Mcal/day.

National Academy Press (NAP) National Research Council

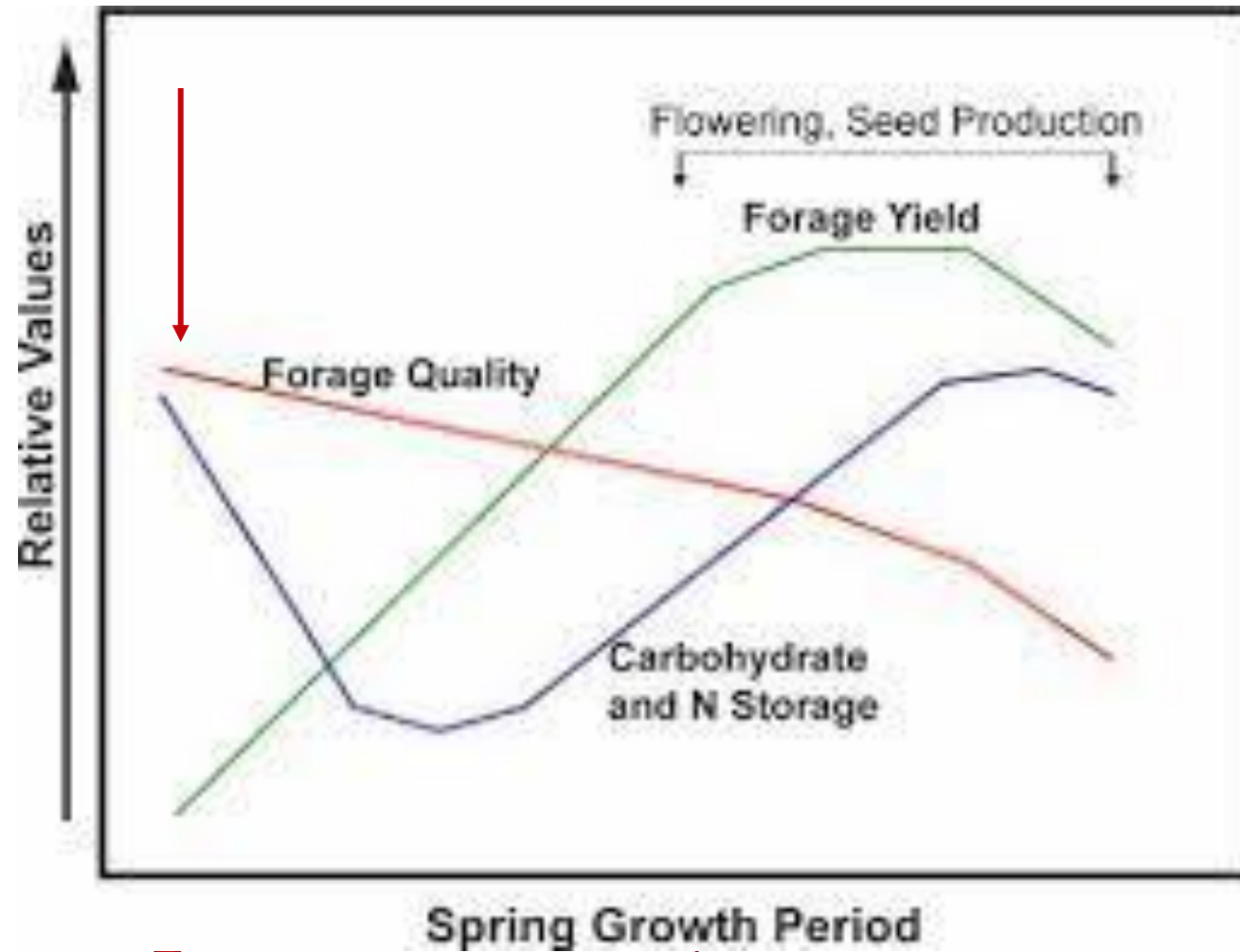
<https://www.nap.edu/collection/63/nutrient-requirements-of-animals>



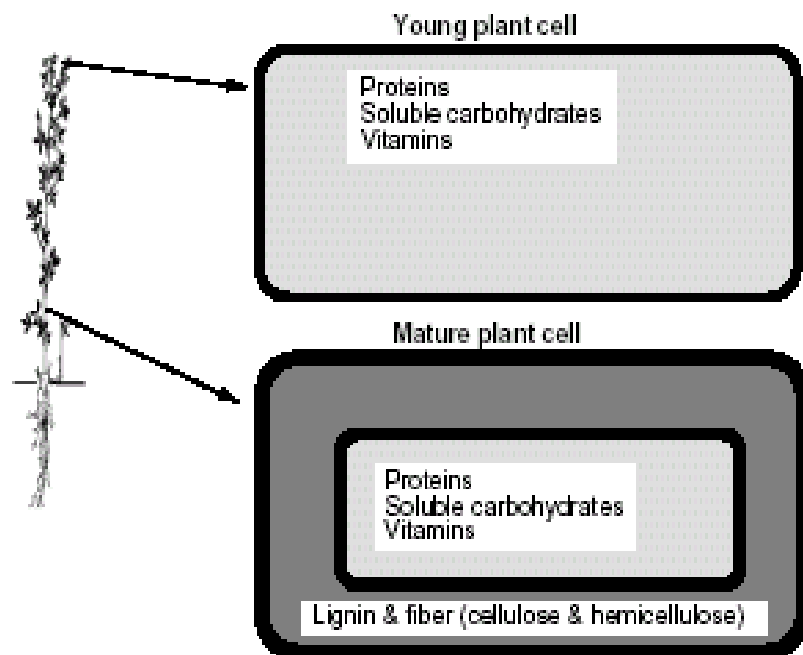
Forage plants also change. . .



Forage Quality Changes



Forage Quality Declines with Maturity



Older plants contain more lignin, which is less digestible

<u>Plant part</u>	<u>Digestibility (%)</u>
New leaves	70-75
Old leaves	60-65
Dead leaves	45-50
Green stems	50
Dead stems	35

In Spring, maintain pastures in vegetative stage to optimize forage quality and dry matter intake



Extension

UNIVERSITY OF WISCONSIN—MADISON

Residual leaf

Stubble
(0-5cm)

0-leaf stage
(Immediately
after grazing)

1st new leaf

2nd new leaf
appearing

Residual
leaf

1-leaf stage

2nd new leaf

1st new leaf

3rd new leaf
appearing

Residual leaf
starting to die

2-leaf stage

2nd new leaf

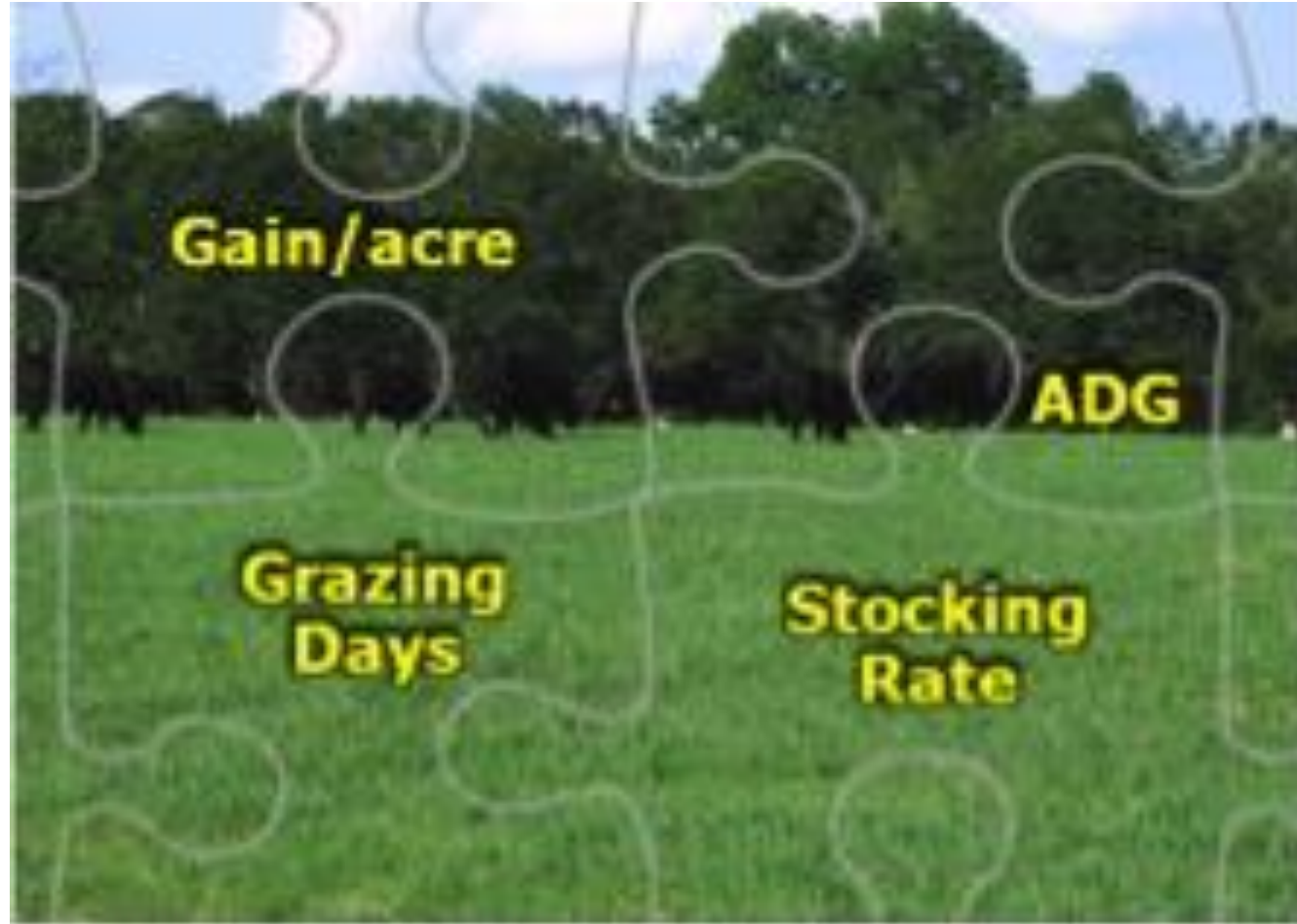
3rd new leaf

1st new leaf

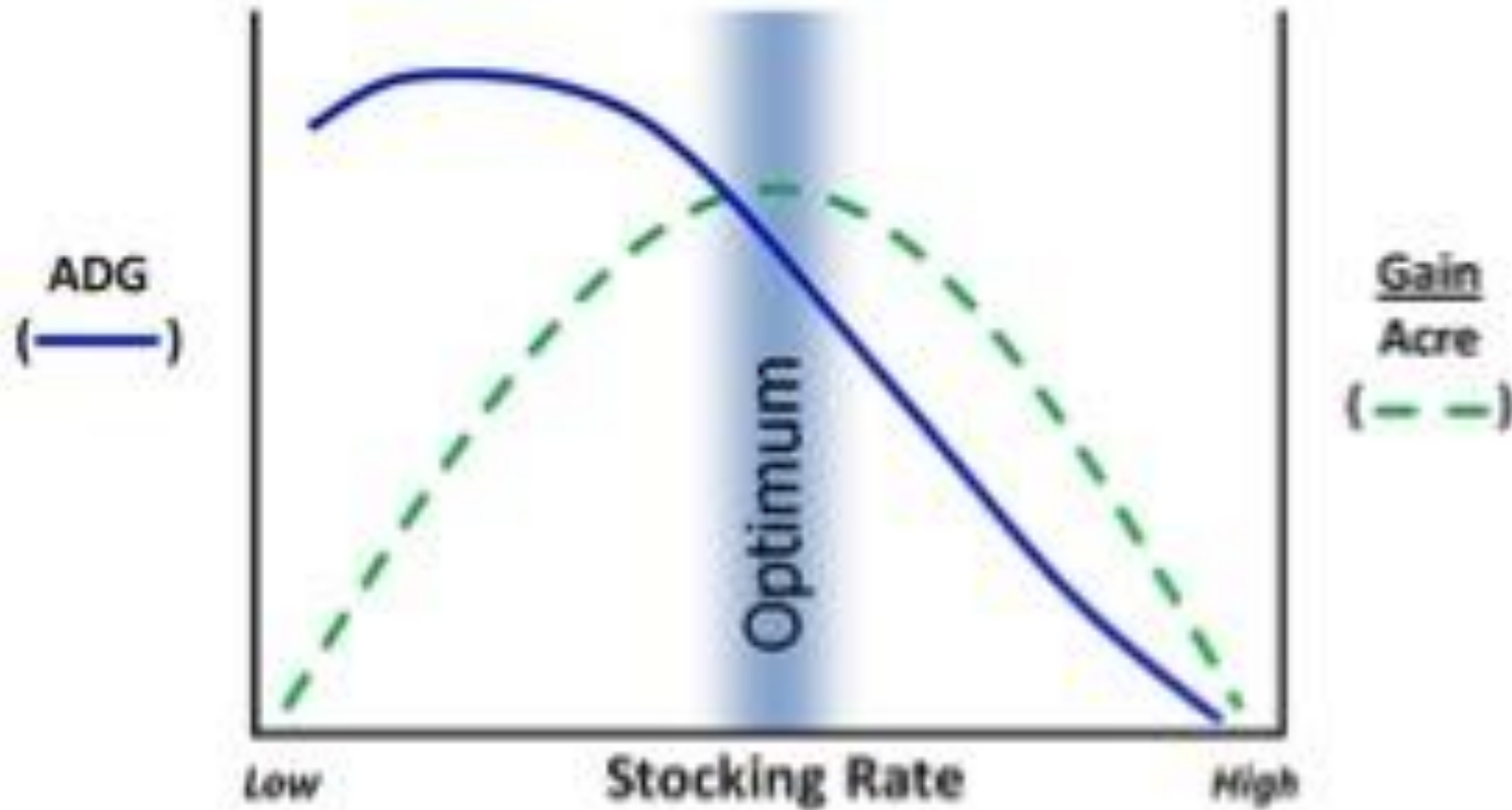
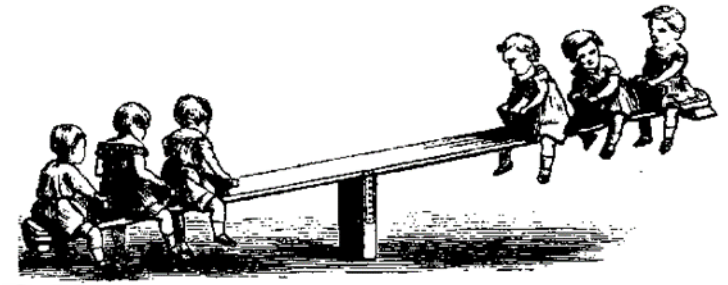
Residual leaf has
died

3-leaf stage

The challenge for the grazing manager

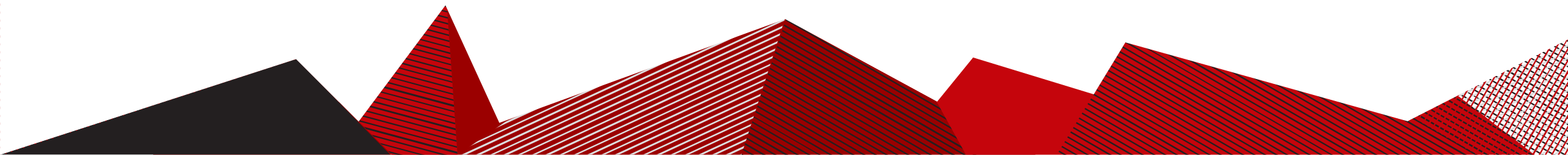


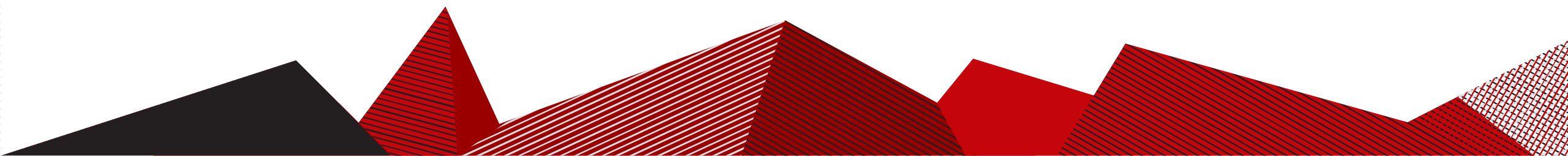
Grazing Gains



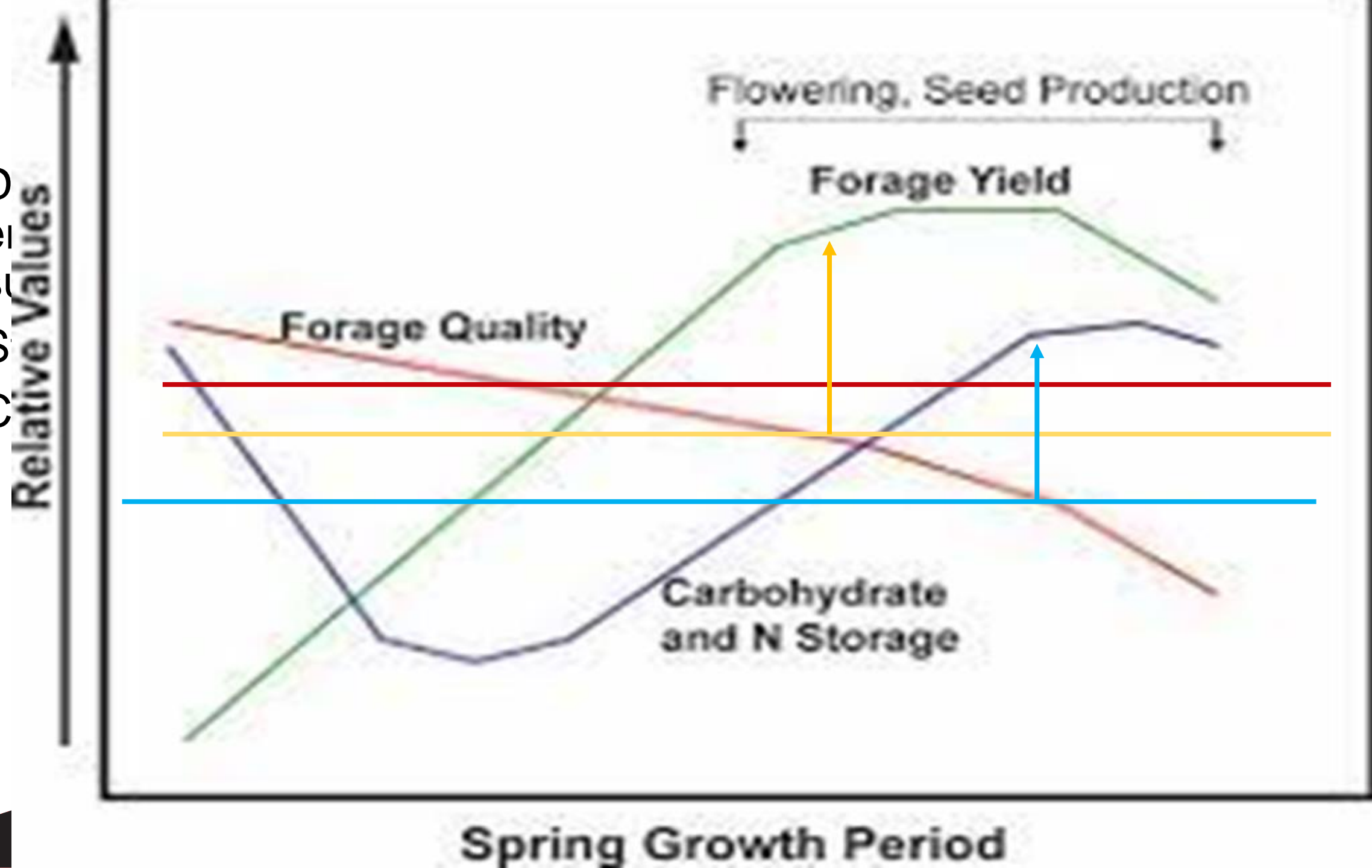
I'll just grow the best quality all the time!

- Ruminant livestock cannot utilize over 17% CP in their diet.
- They HAVE to excrete this from their system.
- This take ENERGY.



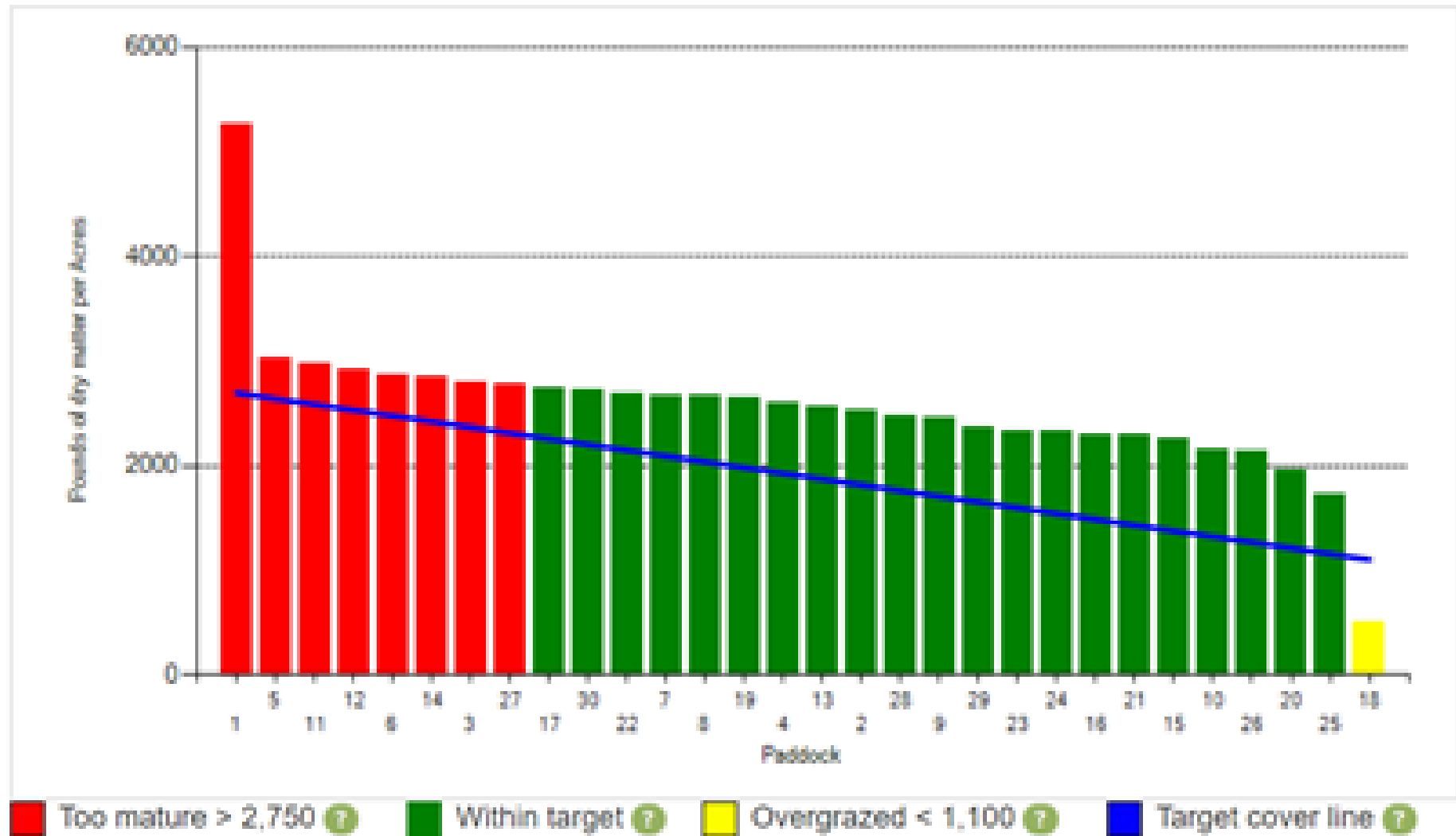


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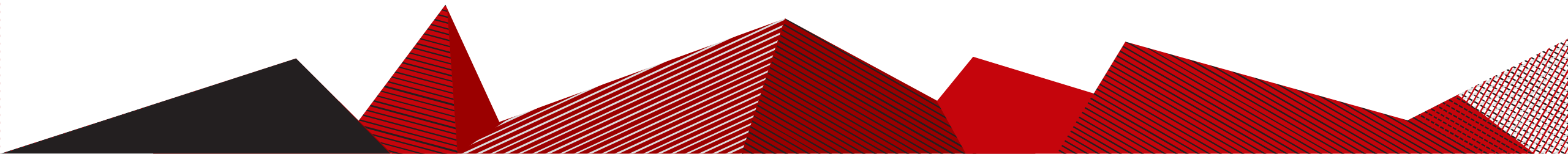
Visualizing the grazing farm

Select date: 07/09/2021



Grazing Planners working with producers

- Livestock needs change – adjust what we graze
- Forage quality changes – graze the next best paddock, or supplement as needed.
- Listen and Understand what your client's goals are
- Design a grazing system that meets their needs
- Help clients understand how to operate their system





Suggested retail price: \$3.50

Understanding forage quality

Don Ball
Mike Collins
Garry Lacefield
Neal Martin
David Mertens
Ken Olson
Dan Putnam
Dan Undersander
Mike Wolf



<https://fyi.extension.wisc.edu/forage/files/2017/04/FQ.pdf>



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