EXTENSION

Supplementing with Alfalfa

Thursday Ranchers Lunchtime Series

Dana Zook, NW Area Livestock Specialist

Tommy Puffinbarger, Alfalfa County Ag Educator/CED
Dr. Dave Lalman, OSU Beef Cattle Specialist

What Supplement Options are Locally Available?

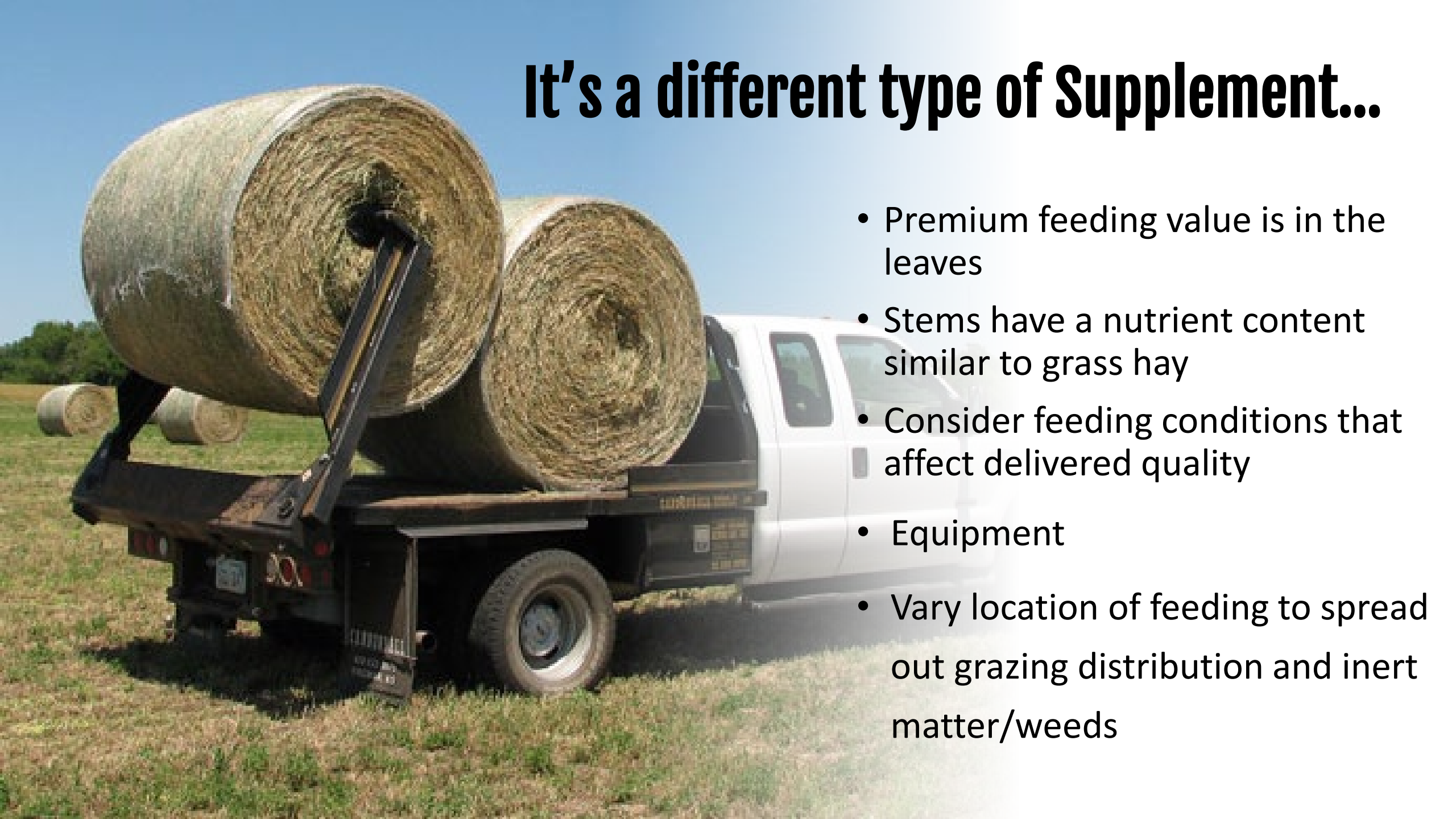
Using Hay?

Test, Test, Test!

Protein & Energy

~$14

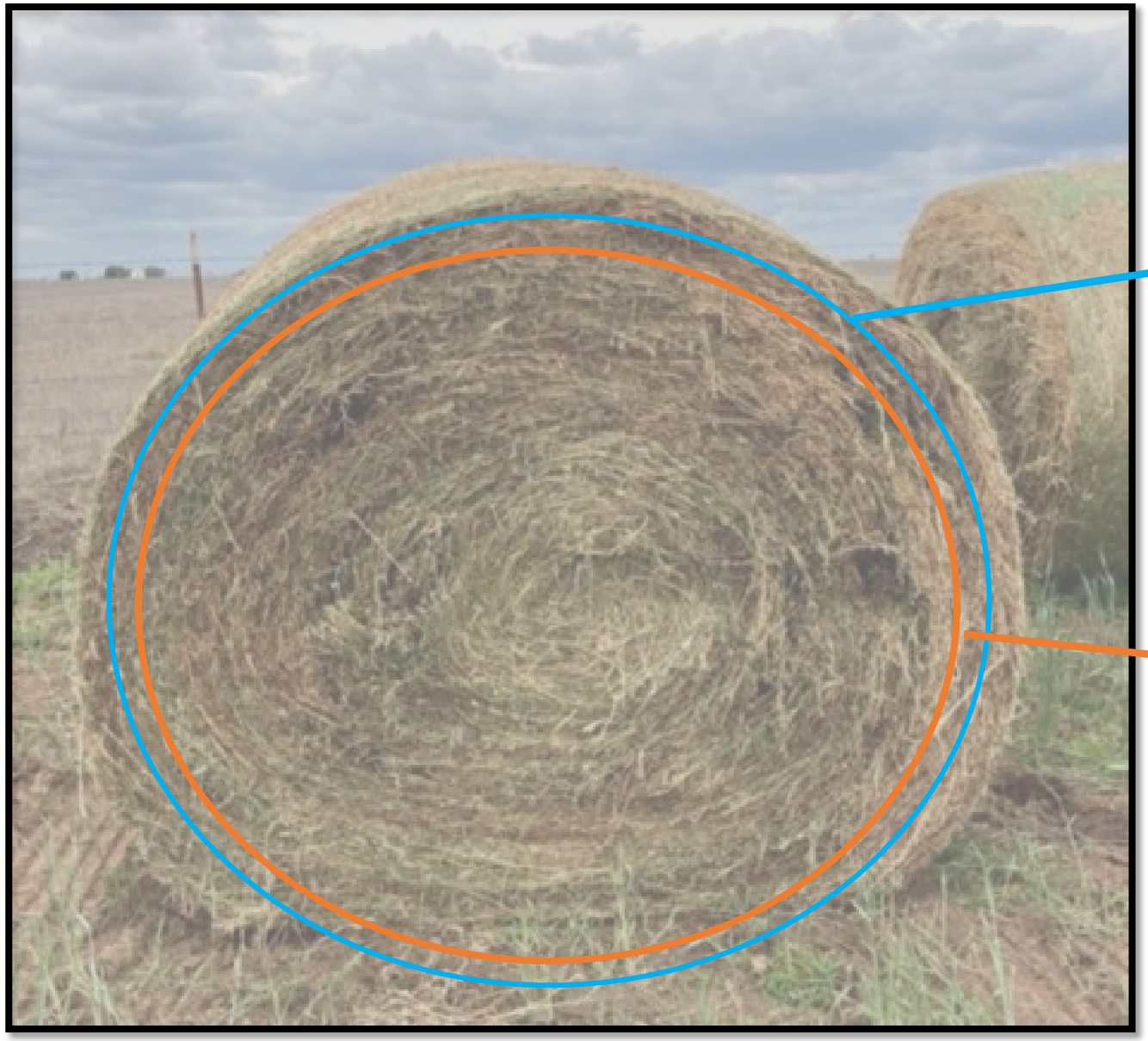
Samples can be sent off from all OSU County Extension Offices



It's a different type of Supplement…

- Premium feeding value is in the leaves
- Stems have a nutrient content similar to grass hay
- Consider feeding conditions that affect delivered quality
- Equipment
- Vary location of feeding to spread out grazing distribution and inert matter/weeds

Round Bale Anatomy



6-foot bale:
Outer 2 inches:
11%

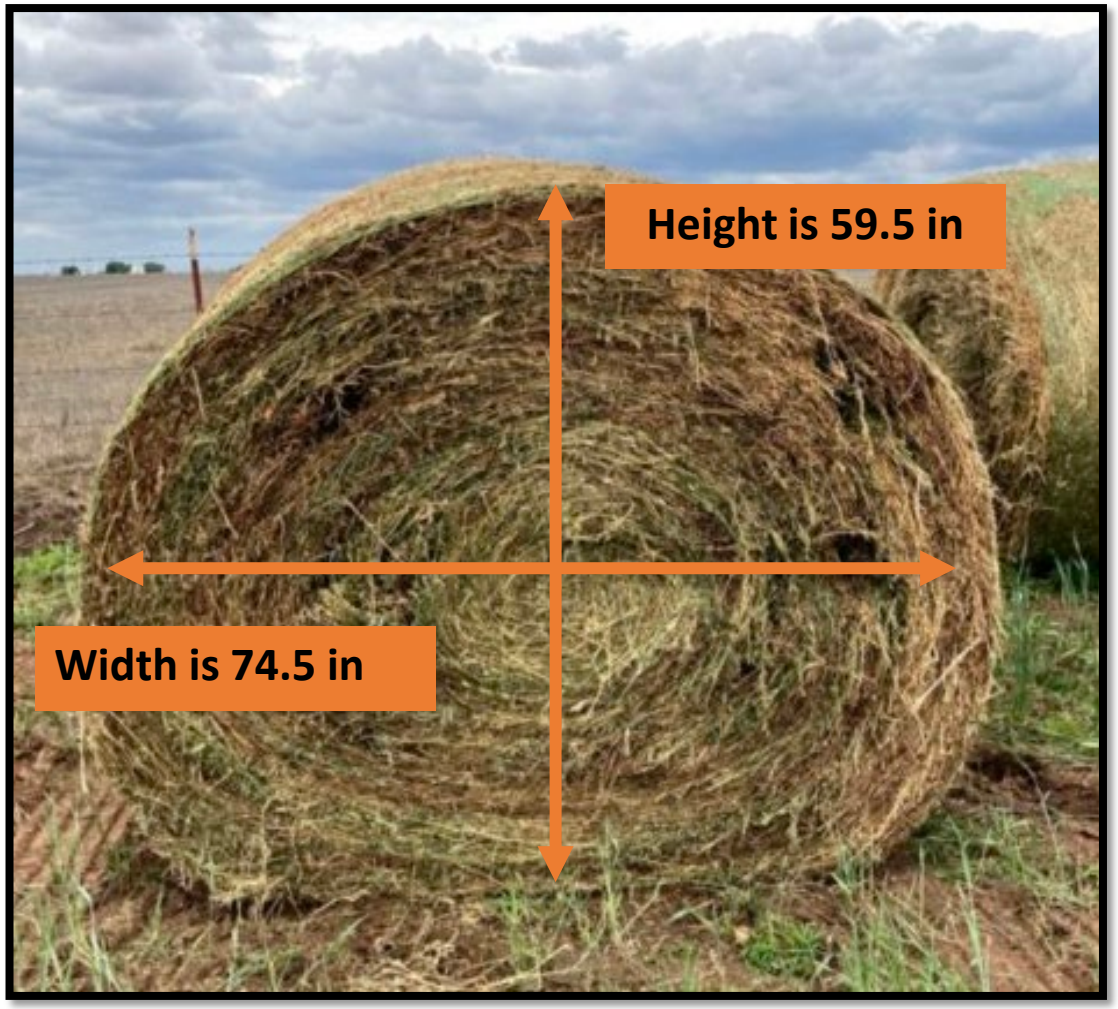
6-foot bale:
Outer 4 inches:
21%

Smart Bale Storage

- Well drained, slight slope
- N-S Direction in tight rows
- 3-4 ft. between rows
- Not stacked
- Exposed to sun at all angles
- No Shade

The Reality of Round Bales

- Hay Analysis
- Knowledge of bale weights essential
- Each cutting will have different characteristics
- How hay rolls off will be different each time
- Each lot of hay should be treated differently
- Estimation and weights should be taken when starting to feed each lot of hay
- Ex> Feed a group and then weigh at coop or at nearest scale



6-foot bale or 5-foot bale?

Alfalfa – A tale of two forages…

GRINDING ALFALFA
less than 18% CP
SUPPLEMENTAL ALFALFA
18% CP +

DRY COW:
8% protein, 54% TDN minimum
LACTATING COW:
10% protein, 58% TDN minimum

		CP	ADF	TDN	$/ton
Alfalfa #10	1st cutting Round Bales	15.4	32.4	63.7	$130-140
Alfalfa #2	2nd cutting Big Squares, stacked inside	15.0	44.3	54.4	$130-140
Alfalfa #4	2nd Cutting, Round Bales	19.6	32.9	63.3	$180
Alfalfa #9	3rd Cutting Small Squares	22.9	25.4	69.1	$180+

Considering Vitamin A in Alfalfa

Important for:

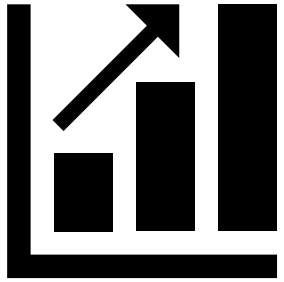
- Bone formation, growth, energy metabolism, skin and hoof tissue maintenance, eye health

Deficiency associated with:

- night blindness, reproductive failure, skeletal deformation, skin lesions

Sources of Vitamin A:

- Beta Carotene - Green growing forages
- High Quality, new crop hays
- Mineral Supplement



Winter/drought requires supplementation of Vit. A

Supplementing Vitamin A to Beef Cattle. 2018. Brian Freking and Dave Lalman.
https://extension.okstate.edu/fact-sheets/supplementing-vitamin-a-to-beef-cattle.html

Vitamin A in Alfalfa

	Growing Steers and Heifers*	Stressed Steers and Heifers*	Gestating Cows*	Lactating Cows*	Alfalfa, Early Bloom	Locally sourced 20% Cubes
Vitamin A, IU/lb. of feed DM	1000	2250	1300	1800	1300	10,000
Vitamin A, IU per day	12500	15000	34000	54000		

*Daily requirements are calculated based on 500-pound growing or stressed calves and 1,200-pound cows.

Pickworth et al. 2012 Concentration of pro-vitamin A carotenoids in common beef cattle feedstuffs. J Anim Sci. 2012 May ; 90(5): . doi:10.2527/jas.2011-4217

Table adapted from OSU Factsheet Supplementing Vitamin A to Beef Cattle. 2018. Brian Freking and Dave Lalman. https://extension.okstate.edu/fact-sheets/supplementing-vitamin-a-to-beef-cattle.html

Research

Performance and forage utilization by cows receiving increasing amounts of alfalfa as a supplement

KSU Study, Vanzant and Cochran 1994

Cows (1100 lbs.) on dormant range supplemented with Alfalfa

- Alfalfa Quality : 19.4% CP and 47.9% ADF
- Alfalfa hay supplemented daily from one of 3 levels
- Alfalfa Supplementation - 5.28, 7.92, or 10.56 lbs.

Performance and forage utilization by cows receiving increasing amounts of Alfalfa as a supplement

KSU Study, Vanzant and Cochran 1994

Conclusions:

- Conception rate unaffected by level of alfalfa supplementation
- Interval to conception was reduced with higher alfalfa levels
- Weaning weights of calves' greatest from cows receiving most Alfalfa

Cows in good condition → 7.92 lbs. or 0.72% BW

Cows needing to gain weight: → 10.56 lbs. or 0.96% BW

Things to Consider with Supplemental Alfalfa

KSU Study, Vanzant and Cochran 1994

- Level of supplemental alfalfa might interact with the stage of gestation

- 2nd and 3rd stages of gestation – less room in rumen due to fetus
- When alfalfa is used to supplement there is less room for other forages which causes a substitution effect

- Later stages of Gestation - Grazing decreased with increasing Alfalfa supplementation

Things to Consider with Supplemental Alfalfa

NW OK Producers

- Decreased grazing defect is less noticeable with alternative or every 3rd day supplement
- Think about balance of distance, forage, cow needs
- Reality: Some producers supplement high quality alfalfa 30 lbs. per head every 3rd day and don't see an effect on grazing – "spoiled cow syndrome"

What is the Supplemental Need?

Animal Nutrient Requirements

Subtract Value of forage/hay

= Nutrient Excess or Deficiency

=

Supplemental Need of the Cow Herd

Alfalfa Supplementation Example

Dry Cow (1300 lbs.) to (Feb. Calving) on Native Range 32 lb. Consumption Rate (DMI)		
	CP (lbs.)	TDN (lbs.)
Requirement of 1300 lb. Cow	2.3	16
Nutrient Quality of Dormant Native Range	1.0	13
Deficiency	1.3 lbs.	3 lbs.

Supplement	Description	CP	ADF	TDN	$/ton
Alfalfa #4	2nd Cutting, Round Bales	19.6	32.9	63.3	$180
20% Cubes	¾ Cube	20			$313

Cost per lb. based on Cost of Protein

The comparison…

19.6% Alfalfa	20% Cubes
19.6% Protein	20% Protein
$180/ton	$313/ton
392 lbs. CP/ton	400 lbs. CP/ton
$0.45 per lb. CP	**$0.78 per lb. CP**
($180/392 lb.)	($313/400 lb.)

Cost per lb. based on Protein Requirement

	CP (lbs.)	TDN (lbs.)
Requirement of 1300 lb. Dry Cow	2.3	16
Nutrient Quality of Dormant Native Range	1.0	13
Deficiency	1.3 lbs.	3 lbs.

19.6% CP Alfalfa

6.6 lbs. Alfalfa/day

(1.3/.196)

$0.60 per day

($0.09 x 6.6)

20% CP Cubes

6.5 lbs. cubes/day

(1.3/.20)

$1.04 per day

($0.16 x 6.5)

Which would you choose?

Take Home

1. Protein supplements don’t necessarily need to come from a sack or feed bin.
2. Feeding accuracy take a little extra time but can be achieved.
3. Thinking outside the box regarding supplements can reduce cost.
4. Know your grass and your cows! A blanket plan may not always be successful.

Dana Zook

O | 580.237.7677
E | dana.zook@okstate.edu
316 E. Oxford
Enid, OK

Facebook:
https://www.facebook.com/nwosuext
Blog/Podcast:
http://spotlight.okstate.edu/experience/

Extension Experience

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