

OSU Advanced Cow/Calf Camp Nutrition Exercise

September 10st, 2019

You currently have fifty cows that weigh 1200 pounds on average and you plan on most of them calving on March 1st, 2020. In the past your nutrition strategy was to feed two pounds of 20% cubes starting on November 1st and then feed four pounds per head once they calved (because that is you're your daddy use to do). However, you learned a lot during your time at the OSU Cow/Calf Boot camp and you are trying to improve your operation's bottom line.

Therefore, you have stockpiled some good Bermudagrass that you know will allow you to graze your cows without supplementation until November 15th, 2019.

Along with your Bermuda, you also stockpiled some native range. By your calculations you have enough available forage to get your cows until December 15th, 2019. However, you know that this native grass is not going to meet your cow's requirements since it is most likely only going to include 5% crude protein (CP) and 56% total digestible nutrients (TDN) with about 80% dry matter.

You have also purchased three batches of hay from your neighbor, Mr. Pete, and they came from three different hay fields. His fancy baler ensures that each bale weighs 1000 lbs. each. He did provide the forage analysis for each field.

1. Iba Field - Bermudagrass – 150 bales
2. Ol Central Pasture - Bermudagrass Hay – 75 bales
3. Pickens Pasture - Bahiagrass/Bermudagrass Mix Hay – 55 bales

You have also done some price shopping on supplements and have come up with the following prices from your local feed store.

1. 20% Cubes = \$260/ton
2. 37% Cubes = \$345/ton
3. Corn Gluten Feed = \$248/ton
4. Corn = \$215/ton

Your job is to evaluate your forages and determine the best strategy to feed them, and then use the Forage Supplementation Program to determine the supplement that best fits your forage to meet your cow's requirements. In the end you will develop a supplementation plan that best fits your forage supply and cow's nutrient needs.

EXAMPLE:

Forage Option #1)

Supplementing Period		Stage of Production	Intake	lbs. Needed/Cow	lbs. Needed/Herd	lbs. of Forage Available	Days of Forage	Choice of Supplement	lbs./hd/d	Cost \$/hd/d	Total lbs. of Supp. Needed	Total Cost
Start	End											
Beginning of Feeding Period	End of Feeding Period	Stage of production of the cow	Predicted As-Fed Intake	Predicted Intake + 20% for Waste	lbs. Needed/Cow x Number of Cows	Number of Bales x Bale Weight	lbs. of Forage Available ÷ lbs. Needed/Herd	Cheapest Supplement or Best Fitting Supplement	As-Fed lbs. of Supplement Required per cow per day	Supplement Cost per Cow per Day	(lbs./hd/d x Number of Cows) x Days of Forage	(Cost/hd/d x Number of Cows) x Days of Forage

Forage Option #1) Prairie Mix

Supplementing Period		Stage of Production	Intake	lbs. Needed/Cow	lbs. Needed/Herd	lbs. of Forage Available	Days of Forage	Choice of Supplement	lbs./hd/d	Cost \$/hd/d	Total lbs. of Supp. Needed	Total Cost
Start	End											
1/1/2019	3/1/2019	Last Trimester	29.7 A.	35.64 B.	1782 C.	50,000 D.	28.1 E.	Gluten F.	0.24 G.	\$0.03 H.	336 I.	\$42.00 J.

- A.) Predicted As-Fed Intake from Forage Supplementation Program
 B.) 29.7 pounds As-Fed Intake x 1.20 = 35.64 pounds needed per cow per day
 C.) 35.64 pounds per cow per day x 50 cows = 1782 pounds needed for herd per day
 D.) 50 bales x 1000 pounds per bale = 50,000 pound of hay available
 E.) 50,000 pounds of hay ÷ 1782 pounds of hay needed for the herd per day = 28.1 day of a
 F.) Using the Program, which supplement is the cheapest (highlighted in orange)?
 G.) The program will give the supplementation lbs. required of the supplement you pick "As-Fed lbs. Req."
 H.) The program will give the supplementation cost for the supplement you pick "Supp. Cost \$/hd/d"
 I.) 0.24 lbs./hd/d x 50 cows x 28 days of forage
 J.) \$0.03/hd/d x 50 cows x 28 Days of Forage

Forage Option #1) Stockpiled Native Range

Supplementing Period		Stage of Production	Intake	lbs. Needed/Cow	lbs. Needed/Herd	lbs. of Hay Available	Days of Forage	Choice of Supplement	lbs./hd/d	Cost \$/hd/d	Total lbs. of Supp. Needed	Total Cost
Start	End											
11/15/2019	12/15/2019	Mid-Gestation										

Forage Option #2)

Supplementing Period		Stage of Production	Intake	lbs. Needed/Cow	lbs. Needed/Herd	lbs. of Hay Available	Days of Forage	Choice of Supplement	lbs./hd/d	Cost \$/hd/d	Total lbs. of Supp. Needed	Total Cost
Start	End											

Forage Option #3)

Supplementing Period		Stage of Production	Intake	lbs. Needed/Cow	lbs. Needed/Herd	lbs. of Hay Available	Days of Forage	Choice of Supplement	lbs./hd/d	Cost \$/hd/d	Total lbs. of Supp. Needed	Total Cost
Start	End											

Forage Option #4)

Supplementing Period		Stage of Production	Intake	lbs. Needed/Cow	lbs. Needed/Herd	lbs. of Hay Available	Days of Forage	Choice of Supplement	lbs./hd/d	Cost \$/hd/d	Total lbs. of Supp. Needed	Total Cost
Start	End											

Total Supplementation Cost



Soil, Water & Forage Analytical Laboratory

Oklahoma State University Division of Agricultural Sciences and Natural Resources
 045 Agricultural Hall
 Stillwater, OK 74078
 Email: soiltesting@okstate.edu
 Website: www.soiltesting.okstate.edu

FORAGE ANALYSIS REPORT

Andrea St. John
 ROGERS CO EXT OFC
 200 S Lynn Riggs Blvd
 2nd Floor
 CLAREMORE, OK 74017
 (918) 923-4958

Name : Pistol Pete
 Location : Iba Field
 Bermuda

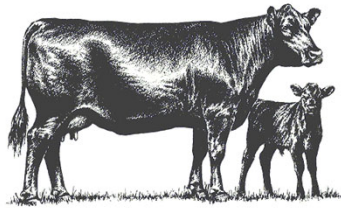
Lab ID No.: : 736321
 Customer Code : 66
 Sample No. : 7123
 Received : 8/28/2014
 Report Date : 9/9/2014

TEST RESULTS FOR: Bermudagrass

TEST	DRY BASIS	AS RECEIVED	AS FED*
Dry Matter %	88.9		
Moisture %	11.1		
Crude Protein %	9.2	8.2	8.2
ADF %	39.2	34.9	34.9
TDN %	58.3	51.9	51.9
---NET ENERGY---			
Maint.(MCal/lb)	0.57	0.51	0.51
Lact.(MCal/lb)	0.60	0.53	0.53
Gain.(MCal/lb)	0.31	0.28	0.28
---MINERALS---			
P %	0.14	0.13	0.13
Ca %	0.41	0.37	0.37
K %	1.33	1.18	1.18
Mg %	0.22	0.19	0.19
S %	0.20	0.18	0.18
Na %	0.05	0.05	0.05
Cu (ppm)	5.3	4.7	4.7
Fe (ppm)	193.73	172.2	172.4
Zn (ppm)	24.88	22.11	22.14
Mn (ppm)	85.21	75.74	75.83
	3.48	3.1	3.1

* The As-fed values are calculated assuming a moisture content of 11%.

Signature





Soil, Water & Forage Analytical Laboratory

Oklahoma State University Division of Agricultural Sciences and Natural Resources
045 Agricultural Hall
Stillwater, OK 74078
E-mail: soiltesting@okstate.edu
Website: www.soiltesting.okstate.edu

FORAGE ANALYSIS REPORT

HASKELL CO EXT OFC
105 SE 3rd St. Ste. A
COURTHOUSE ANNEX
STIGLER, OK 74462
(918) 967-4330

Name : Pistol Pete
Location : Pickens Pasture
Bahia/Bermuda

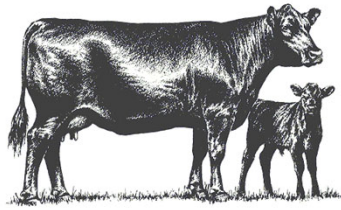
Lab ID No.: : 760002
Customer Code : 31
Sample No. : 5198
Received : 3/16/2015
Report Date : 3/23/2015

TEST RESULTS FOR: Bermudagrass

TEST	DRY BASIS	AS RECEIVED	AS FED*
Dry Matter %	82.5		
Moisture %	17.5		
Crude Protein %	7.6	6.3	6.8
ADF %	51.1	42.1	45.5
TDN %	49.1	40.5	43.7
---NET ENERGY---			
Maint.(MCal/lb)	0.43	0.35	0.38
Lact.(MCal/lb)	0.49	0.41	0.44
Gain.(MCal/lb)	0.18	0.15	0.16

* The As-fed values are calculated assuming a moisture content of 11%.

Signature





Soil, Water & Forage Analytical Laboratory

Oklahoma State University Division of Agricultural Sciences and Natural Resources
 045 Agricultural Hall
 Stillwater, OK 74078
 Email: soiltesting@okstate.edu
 Website: www.soiltesting.okstate.edu

FORAGE ANALYSIS REPORT

Andrea St. John
 ROGERS CO EXT OFC
 200 S Lynn Riggs Blvd
 2nd Floor
 CLAREMORE, OK 74017
 (918) 923-4958

Name : Pistol Pete
 Location : Ol Central Pasture
 Bermuda

Lab ID No.: : 895113
 Customer Code : 66
 Sample No. : 8318
 Received : 9/6/2018
 Report Date : 9/13/2018

TEST RESULTS FOR: Bermudagrass

Printed 11-8-18

TEST	DRY BASIS	AS RECEIVED	AS FED*
Dry Matter %		89.0	
Moisture %		11.0	
Crude Protein %	7.7	6.8	6.8
ADF %	41.0	36.5	36.5
TDN %	56.9	50.7	50.7
---NET ENERGY---			
Maint.(MCal/lb)	0.55	0.49	0.49
Lact.(MCal/lb)	0.58	0.52	0.52
Gain.(MCal/lb)	0.29	0.26	0.26
---MINERALS---			
P %	0.13	0.12	0.12
Ca %	0.43	0.38	0.38
K %	0.94	0.83	0.83
Mg %	0.24	0.21	0.21
S %	0.17	0.15	0.15
Na %	0.02	0.02	0.02
Cu (ppm)	5.6	5.0	5.0
Fe (ppm)	173.80	154.7	154.7
Zn (ppm)	37.48	33.37	33.35
Mn (ppm)	137.22	122.17	122.12

* The As-fed values are calculated assuming a moisture content of 11%. * DL : Detection Limit.

Signature