

Feeding Goats or....

Goat Nutrition: We know some things, but more to learn



University of Idaho
Extension

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Photo from E. Bruce Shankle II, NC Dept. Ag & Consumer Services

USDA Live Goat Grades

- Selection No. 1
- Selection No. 2
- Selection No. 3

Effective Date: October 2001

Selection No. 1

Selection No. 1 live goat have a superior meat type conformation without regard to the presence of fat cover. They shall be thickly muscled throughout the body as indicated by a pronounced (bulging) outside leg, a full (rounded) loin, and a moderately thick outside shoulder.



Selection 1
88 lbs.

Selection 1
Carcass
44 lbs.

50.0% Yield



Selection No. 2

Selection No. 2 live goats have an average meat type conformation without regard to the presence of fat cover. They shall be moderately muscled throughout the body as indicated by a slightly thick and a slightly pronounced outside leg, a slightly full loin, and a slightly thick to slightly thin outside shoulder.



Selection 2
79 lbs.

Yield
46.8%

Selection 2
Carcass
37 lbs.



Selection No. 3

Selection No. 3 live goats have an inferior meat type conformation without regard to the presence of fat cover. The legs, back and shoulders are narrow in relation with its length and they have a very angular and sunken appearance



Selection 3
50 lbs.

Yield
40%



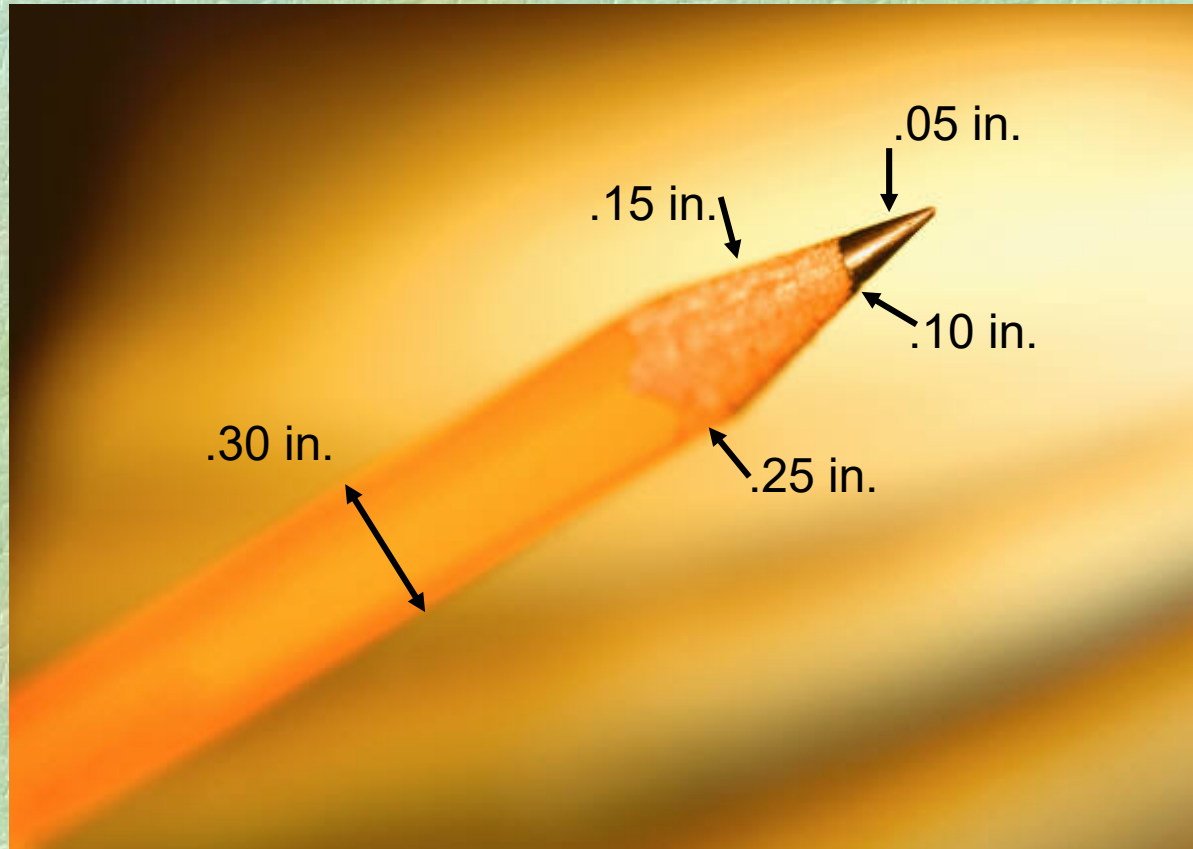
Selection 3
Carcass
20 lbs.

Current Recommendations

- 0.1 in. fat over loin at 13th rib
- Overly fat carcasses have a thin layer of fat over the back and a thick pad of fat over the shoulders and ribs.

*From LSUAgCenter.com
Meat Goat Selection, Carcass Evaluation & Fabrication Guide
Judging Meat or Market Goats*

Estimating Backfat by Feel



1987 NRC Nutrient Requirements of Goats

Growing Kids 65 lbs. gaining 0.44 lb/day

Daily feed, lbs.	2.3
TDN, %	65.2
Protein, %	13.6
Calcium, %	0.65
Phosphorus, %	0.32

https://www.langston.edu/goat-research#




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GOAT LIBRARY
Databases, maps, etc.



NUTRIENT CALCULATORS
Requirement and producer



RESEARCH ACTIVITIES
Current projects and areas



CERTIFIED QUALITY
Training and certification



AQUACULTURE
Aquatic program





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Nutrient Requirement Calculators

- ◆ **Technical Version Calculator**
 - ◇ *This Calculator is probably most suitable to individuals with some knowledge of ruminant nutrition and have reasonably accurate values for inputs, such as body weight, body weight change, milk yield and composition, clean mohair fiber growth, diet composition, etc. It is probably most appropriate for nutritionists, graduate students in ruminant nutrition, and extension personnel specializing in nutrition. This calculator reports energy requirements in MegaJoules, protein requirements in grams, and predicted dry matter intake in kilograms. This Calculator is based upon equations derived from research conducted at the Institute to develop expressions of nutrient requirements of goats published in a special issue of Small Ruminant Research (2004, Volume 53, Number 3) published by Elsevier Science. Several ancillary calculators are also available.*
- ◆ **Producer Version Calculator**
 - ◇ *This Calculator is oriented toward extension agents and many goat producers in the United States. This Calculator uses English measures (i.e., pounds), and reports energy requirements in MegaCalories, protein requirements in pounds, and predicted dry matter intake in pounds. Perhaps more importantly, this calculator has default values and optional means of deriving inputs that may not be known. One example is use of heartgirth and genotype to estimate body weight. This Calculator uses the same equations as found in the Technical Version Calculator.*
- ◆ **Foreign Language Versions**
 - ◇ *Technical Version Calculator translated into Arabic, Chinese, French, and Spanish.*

- ◆ JavaScript is: **enabled!**
- ◆ Cookies are: **enabled!**

1. Select the biotype of goat
2. Select the class of goat
3. Select gender of the goat
A. Pregnant goats that are over 95 days pregnant require additional nutrients to maintain pregnancy. [Click here if your goat is over 95 days pregnant](#)
4. Input bodyweight of goat in lbs
If you do not know the weight of the goat, you can measure the heartgirth and estimate the weight by [clicking here.](#)
5. Select the pounds of weight that you expect the goat to gain in a month
(Exclusive of gain due to pregnancy)
6. Nutrient requirements must be adjusted for grazing, walking and browsing activity. [Click here if your goats have access to pasture](#)
7. Enter estimated TDN level of the diet.
8. Enter estimated crude protein level (%) of the diet.

5. Select the pounds of weight that you expect the goat to gain in a month (Exclusive of gain due to pregnancy) 12 lbs per month

6. Nutrient requirements must be adjusted for grazing, walking and browsing activity. Click here if your goats have access to pasture

7. Enter estimated TDN level of the diet. 65

8. Enter estimated crude protein level (%) of the diet. 12

Calculate Requirements Reset Form

Trait	Requirements
TDN energy requirements	1.40 lbs
crude protein requirements	0.38 lbs
calcium requirements	3.42 g
phosphorus requirements	2.39 g

Trait	Prediction
dry matter intake	2.00 lbs

Select Feed Ingredients



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Concentrates

- | | |
|--|--|
| <input type="checkbox"/> Bakery product, dried | <input type="checkbox"/> Molasses, citrus |
| <input type="checkbox"/> Barley grain | <input type="checkbox"/> Molasses, wood, hemicellulose |
| <input type="checkbox"/> Barley grain, steam rolled | <input type="checkbox"/> Oat grain |
| <input type="checkbox"/> Beet pulp, wet | <input type="checkbox"/> Oat groats |
| <input type="checkbox"/> Beet pulp, dried | <input type="checkbox"/> Oat middlings |
| <input type="checkbox"/> Beet pulp, wet, with molasses | <input type="checkbox"/> Peanut meal, solvent |
| <input type="checkbox"/> Beet pulp, dried, with molasses | <input type="checkbox"/> Peanut skins |
| <input type="checkbox"/> Block, 30% (10 NPN)* | <input type="checkbox"/> Pearl millet, grain |
| <input type="checkbox"/> Blood meal | <input type="checkbox"/> Peas, cull |
| <input type="checkbox"/> Bone meal, steamed | <input type="checkbox"/> Potatoes, cull |
| <input type="checkbox"/> Brewers grains, wet | <input type="checkbox"/> Potato waste, wet |
| <input type="checkbox"/> Brewers grains, dried | <input type="checkbox"/> Potato waste, dried |

Salt

mg/kg Cu, 200,000 IU/lb A, 20,000 IU/lb D)

12-8 mineral (12% Ca, 8% P, 15% NaCl, 2.5% Mg, .1% K, 260 mg/kg Cu, 40 mg/kg Se, 3,800 mg/kg Zn, 100 mg/kg I, 475 mg Fe, 32 mg/kg Co, 200,000 IU/lb A, 20,000 IU/lb D)

Vitamins

Vitamin premix 1 (18,000 IU/lb A, 3,920 IU/lb D, 2.45 IU/lb E)

Vitamin premix 3 (1,000,000 IU/lb A, 500,000 IU/lb E, 1,000 IU/lb E)

Vitamin premix 2 (4,000,000 IU/lb A, 800,000 IU/lb D, 500 IU/lb E)

Vitamin A, 30,000 IU/lb as fed

Vitamin E, 50%

Additives

Deccox (6%, dose = 0.5 mg/kg BW)

Rumensin 80 or 17.6% (dose = 20 g/ton feed)

Your Feed Ingredients Library

Add/Delete Feed Ingredients to Feed Library

Refresh Feed Library and(or) Ration

If your browser does not automatically refresh this page with your newly updated feed library or ration. Please click on the "Refresh Feed Library and(or) Ration" button to manually refresh this page.

Refresh Feed Library and(or) Ration

Input these Feed Ingredients to the Ration



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Enter the amount as fed (lbs) for each feed ingredients. The TDN (%) and CP (%) values for the feed ingredients that you have chosen are also listed in the table. You may modify them, if needed.

Feed Class	Feed Ingredient	Amount (lbs, as fed)	Amount (lbs, DM)	TDN supplied (lbs, DM)	CP supplied (lbs, DM)	TDN (%)	CP (%)	Ca supplied (g, DM)	P supplied (g, DM)
Concentrate	Oat grain	.50	0.45	0.34	0.06	76	13	0.1	0.81
Forage	Alfalfa hay, midbloom	1.5	1.34	0.77	0.23	58	17	8.49	1.45
Minerals	trace mineral	.006	0.01	0	0			0.26	0.16
Running total		2.01	1.8	1.11	0.29			8.85	2.42
Requirements			2	1.4	0.38			3.42	2.39

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Feed Class	Feed Ingredient	Amount (lbs, as fed)	Amount (lbs, DM)	TDN supplied (lbs, DM)	CP supplied (lbs, DM)	TDN (%)	CP (%)	Ca supplied (g, DM)	P supplied (g, DM)
Concentrate	Oat grain	1.3	1.16	0.88	0.15	76	13	0.26	2.1
Forage	Alfalfa hay, midbloom	1.0	0.89	0.52	0.15	58	17	5.66	0.97
Minerals	trace mineral	.006	0.01	0	0			0.26	0.16
Running total		2.31	2.06	1.4	0.3			6.18	3.23
Requirements			2	1.4	0.38			3.42	2.39

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IU/lb D, 500 IU/lb E)

Vitamin E, 50%

Additives

Deccox (6%, dose = 0.5 mg/kg BW)

Rumensin 80 or 17.6% (dose = 20 g/ton feed)

Your Feed Ingredients Library

Add/Delete Feed Ingredients to Feed Library

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Refresh Feed Library and(or) Ration

Your Ration from a Previous Session

The ration below, which is from your most recent session is available.

Ingredient	% of the diet (DM basis)	Cost
Oat grain	undefined	undefined
Alfalfa hay, midbloom	undefined	undefined
Trace mineralized salt 1 (9-10% Ca, 6% P, 35-40% NaCl, 1% Mg, 1% K, 1% S, 125 mg/kg Co, 150 mg/kg I, 5,000 mg/kg Fe, 10 mg/kg Se, 160,000 IU/lb A, 40,000 IU/lb D, 150 IU/lb E)	undefined	undefined

Input these Feed Ingredients to the Ration

1987 NRC Nutrient Requirements of Goats

Growing Kids 65 lbs. gaining 0.44 lb/day

Daily feed, lbs.	2.3
TDN, %	65.2
Protein, %	13.6
Calcium, %	.65
Phosphorus, %	.32

Langston University Nutrient Requirements of Goats

60 lb. yearling goat ½ Boer

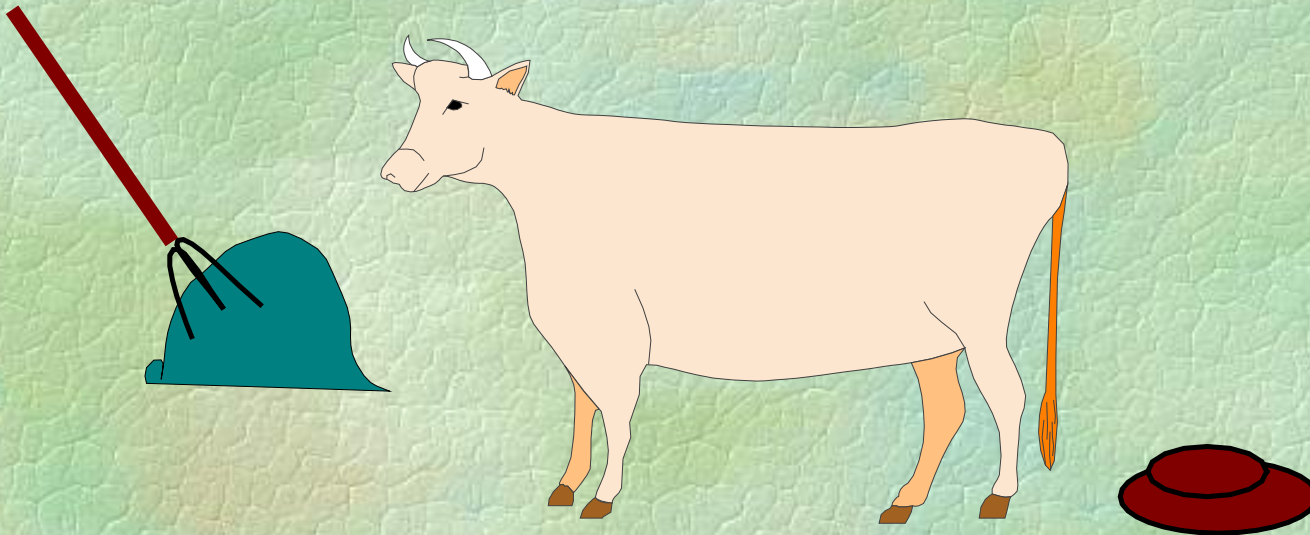
Daily feed, lbs.	2.0
TDN, %	70
Protein, %	19
Calcium, %	.38
Phosphorus, %	.26

If fed 3.0 lbs./day, crude protein requirement = 12.6%



Photo from: http://images.businessweek.com/ss/07/01/0111_cloned_foods/image/goat_03.jpg

Total Digestible Nutrients (TDN)



10 lbs. hay

4 lbs. manure

10 lbs. fed - 4 lbs. manure = 6 lbs. digested

$$\frac{6}{10} = 60\% \text{ TDN}$$