

Triple JJJ Ranch & Artemis Outdoors 5th Annual Whitetail Showcase August 24-25, 2012

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Where Are We Going ...

- Nutritional Needs Diets
- Minerals Copper
- Orphan Fawns





Nutrient Requirements

Diets



Whitetail Deer

• Odocoileus virginianus

Ruminant

Chews Cud

Largest Ruminant?



FIGURE 7-8 A ruminant stomach. (Redrawn after various authors.)









Nutrient Requirements

- National Research Council NRC
- 2007 Nutrient Requirements of Small Ruminants
 - Sheep
 - Goats
 - Cervids
 - Camelids

Requirements ≠ Recommendations

NUTRIENT REQUIREMENTS OF SMALL RUMINANTS SHEEP, GOATS, CERVIDS, AND NEW WORLD CAMELIDS

ANIMAL NUTRITION SERIES

NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES

NRC 2007

National Academies Press (nap.edu) – \$129

Amazon – \$113



Nutrient Requirements

• NRC 2007 – "Small Ruminants"

Sheep	25 pages
Goats	28
Cervids	7
Camelids	3





Requirements Based On



Energy, Protein, Ca, P, Vit A, Vit E Dry Matter Intake (DMI)



Annual Production Cycle – WT Deer



110 lb Doe	DMI (lb/day)	DMI % BW	TDN %	СР %	Gain (lb/day)	Ca:P
Prebreeding, Breed	ing, Early I	regnand		\bigcirc		\bigcirc
Single	2.2	2.1	70	11	.06	1.4
Twins	2.4	2.1	64	11	.06	1.6
Mid-Late Pregnancy	/					
Single	3.1	2.9	64	15	.13	1.5
Twins	3.3	3.1	80	16	.09	1.7
Lactation						
Single	4.2	3.9	79	13	-0.08	1.2
Twins	5.3	4.8	79	14	-0.12	1.1
Young-Mature Mair	ntenance					
Winter	2.2	2.0	70	9	0	1.2
Summer	2.4	2.3	82	10	0	1.2
Bucks – 220 lb						
0.2 lb/day	6.4	2.9	66	9	75 g	1.2
0.33 lb/day	7.0	3.2	66	9	150 g	1.2





Flushing

- Increasing plane of nutrition prior to breeding (2-3-4 weeks)
- Increased ovulation rate (?)

Energy

Not fat animals





Other Nutritional Notes

- TDN (energy)
 - Rumen Impaction (Acidosis)

Corn	90
Oats	75
Good Hay	65
Mediocre Hay	52

- High Protein Periods (13-16%)
 - For Late Pregnancy & Lactation
 - Never less than 9%



Other Nutritional Notes

- Minerals TM Mixture
- 2:1 Calcium : Phosphorus ratio (for the entire diet)

Copper

Trace Minerals







Copper Deficiency

NRC 2007

"Copper is the most common trace element deficient for deer in New Zealand, United States, China, and England."

Copper Deficiency

- Weight Loss, fawn incoordination
- ↓ Reproduction
- Pale, faded, brittle pelage
- Sudden Death (cardiovascular lesions)
- Osteoporosis, Spontaneous Fractures
- Abnormal hoof growth
- Malformed antlers



Interactions





Dietary Levels

Molybdenum

• Sulfur

 $0.10\% \longrightarrow 0.40+\%$

Iron
 30 ppm → 1,000+ ppm



Copper Absorption

- Ratio of Copper : Molybdenum
 6:1 → 10:1
- Alkaline soils -> high Mo in forages
- Test feeds for
 - Cu, Mo, S, Fe



Orphan Fawns





	Deer		
DM	25.0		
СР	34.8		
Fat	41.6		
Lactose	17.6		
Ash	6.0		



	Deer	Cow	Ewe	
DM	25.0	12.8	18.2	
СР	34.8	27.3	24.7	
Fat	41.6	28.9	39.0	
Lactose	17.6	38.3	26.4	
Ash	6.0	5.5	4.7	



	Deer	Cow	Ewe	Human	
DM	25.0	12.8	18.2	12.5	
СР	34.8	27.3	24.7	8.0	
Fat	41.6	28.9	39.0	35.2	
Lactose	17.6	38.3	26.4	56.0	
Ash	6.0	5.5	4.7	1.7	, ,



	Deer	Cow	Ewe	Human	Whale
DM	25.0	12.8	18.2	12.5	57.2
СР	34.8	27.3	24.7	8.0	21.3
Fat	41.6	28.9	39.0	35.2	74.0
Lactose	17.6	38.3	26.4	56.0	2.3
Ash	6.0	5.5	4.7	1.7	2.5



Milk Replacer

- Duplicate mother's milk
- Lactose too much?
 - Scours
- Suckling differences
 - Fawns are hiders (initially)
 - Lambs & Calves are followers



Lactose

- Primary cause of AR scours.
- Feed Tags do not list it.
- Calculate Lactose %:

Lactose =

100 – CP – Fat – Ash





