

Sample rations for growing goat kids

– these rations were volunteered by 4 different New York State Goat Farms to help prepare for the 2001 Goat Field Day at Cornell University. They are compared here against the 1982 NRC requirements for growing kids. With the exception of the “Goats in the Woods”, kids were all on worm management programs. **Actual ration mixes are shown at the end of this article.**

44 lb buck kid gaining 150g daily (1/3 lb or 10 lb per month). You may want to look at the NRC requirements yourself and see what the requirements would be if we assumed maintenance and medium or high activity instead.

	TDN (g)	CP (g)	NE(Mcal)	Ca (g)	P(g)
Maintenance plus low activity	334	46	.68	2	1.4
150g gain daily	300	41	.6	2	1.4
Total	634	87	1.28	4	2.8

66 lb kid gaining 150 g daily (1/3 lb or 10 lb per month). assuming low activity

	TDN (g)	CP (g)	NE(Mcal)	Ca	P
Maintenance plus low activity	452	62	.92	2	1.4
150 g gain daily	300	41	.6	4	2.8
Total	752	103	1.52	6	4.2

44 lb buck kid gaining 200g daily (so between a 1/3 lb and a 1/2 lb). You may want to look at the NRC requirements yourself and see what the requirements would be if we assumed maintenance and medium or high activity instead.

	TDN (g)	CP (g)	NE(Mcal)	Ca (g)	P(g)
Maintenance plus low activity	334	46	.68	2	1.4
200g gain daily	400	56	.8	2	1.4
Total	734	102	1.48	4	2.8

66 lb kid gaining 200 g daily assuming low activity

	TDN (g)	CP (g)	NE(Mcal)	Ca	P
Maintenance plus low activity	452	62	.92	2	1.4
200 g gain daily	400	56	.8	4	2.8
Total	852	118	1.72	6	4.2

Here are some sample rations from actual producers to compare to the above tables – In most cases these producers were feeding goats that varied in body weight. I have reported their average weights and gains and average feed intake.

1) Arnot Forest Control Group

Buck and doe kids (assorted breeds) on a complete ration. Goats were in woods but had already eaten all the brush and leaves available. This information is from a feed trial done with the 23 control goat kids from 7/19 through 8/09. Prior to 7/19, these control goats had been started on the same TMR at the rate of 3% of their body weight. They lost weight on that level of feeding so ration was increased to 4% of their body weight. They still did not make appreciable gains. A decision was then made to increase the ration intake until they showed no interest in consuming more and record what sort of weight gains were experienced. Goats were weighed the mornings of 7/19 and 8/10. Feed was increased each time the entire group of goats left less than 2 lbs (in total) per day. Goats achieved 90 lbs of feed daily (split into two feedings per day by 8/02 and were leaving 3 lbs daily from then on. I have attempted to subtract out the orts (feed not eaten – the leftovers) here. For the last 8 days, these kids were eating 3.8 lbs each daily. Over the 22 day period, they averaged 2.9 lb daily of this feed or about 6.5% of their initial body weight (it did not appear that wildlife was getting into their mangers). Feed was 89.9% Dry Matter so they were consuming on average 5.9% of their body weight in dry matter. Initial weights on 7/19 averaged 44.3 lbs. Average weight on 8/10 was 54.43. Average weight gain for the 22 days was 10 lbs or about 206 g per day each, i.e. pretty close to ½ lb per day. The total mixed ration contained Decox and Ammonia Chloride.

based on average feed intake -

Feed	lbs fed	g fed	TDN	CP (g)	NE(Mcal)	Ca (g)	P (g)
Arnot Forest TMR	3	1362	872	212	2.04 (1.32)	10.35	4.63

based on feed intake for last 8 days -

Feed	lbs fed	g fed	TDN	CP (g)	NE(Mcal)	Ca (g)	P (g)
Arnot Forest TMR	3.8	1725	1104	269	2..58(1.67)	13.11	5.87

Farm# 1

Thirty eight Boer X buck kids averaging 78 lbs expected to gain ½ lb daily at minimum. They were fed a total mixed ration (TMR). At this body weight, **kids consumed 3 lbs of the TMR daily**. They were also offered pasture (mostly timothy with some legumes) and round bales (mostly timothy with some legumes) free choice. I have assumed here that their dry matter intake was about 5% of body weight or around 4.3 lbs of feeds that are averaging 90%DM (so I have assumed they ate about 1.3 lbs of hay/pasture daily). I have lumped the pasture and round bale forage together and have given figures for them at 90% DM. I have assumed that at this dry matter they averaged 48% TDN and 11.7% crude protein.

Market Kid 18% Pellet. Contains Decox and Ammonia Chloride.

Feed	lbs fed	g fed	TDN	CP (g)	NE(Mcal)	Ca (g)	P (g)
Market Kid Pellet 18%	3	1362	918	248	2.11	13.48	6.5
Grass/Legume Forage	1.3	590	283	69	.55	4.01	1.71
Total	4.3	1952	1201	317	2.66	17.49	8.21

NRC reports the following nutritional requirements for a 77 lb kid growing 200 g daily.

	TDN (g)	CP (g)	NE(Mcal)	Ca	P
Maintenance plus low activity	506	70	1.03	2.5	1.75
200 g gain daily	400	56	.8	4	2.8
Total	906	126	1.83	6	4.2

It appears that the 3 lbs of TMR alone meets these nutritional requirements. However, the additional roughage offered in the form of hay and pasture is probably wise as a health precaution against acidosis, etc.

Please note – all the following rations assume that the goat kids are consuming about 5% of body weight in actual dry matter intake.

Farm #2 – 44lb Boer X wethers to start – goal is to gain at least 10 lb per month

Agway High Energy Lamb Pellets (contain Bovatec and Ammonia Chloride) with poor quality hay (51%TDN, 6.4%CP as fed)

Feed	lbs fed	g fed	TDN	CP (g)	NE(Mcal)	Ca (g)	P (g)
Hi Energy Lamb Pellets	1	454	318	81	.75	6.31	2.36
Grass/Clover Hay, very mature	1.5	681	347	44	.71	3.81	1.09
Total	2.5	1135	665	125	1.46	10.12	3.45

High Energy Lamb Pellets with a better quality grass hay (54%TDN, 12.3%CP as fed)

Feed	lbs fed	g fed	TDN	CP (g)	NE(Mcal)	Ca (g)	P (g)
Hi Energy Lamb Pellets	1	454	318	81	.75	6.31	2.36
Grass Hay	1.5	681	368	84	.77	6.06	1.43
Total	2.5	1135	686	165	1.52	12.37	3.79

High Energy Lamb Pellets with a good quality alfalfa hay (56%TDN, 16.3%CP as fed)

Feed	lbs fed	g fed	TDN	CP (g)	NE(Mcal)	Ca (g)	P (g)
Hi Energy Lamb Pellets	1	454	318	81	.75	6.31	2.36
Alfalfa Hay	1.5	681	381	111	.86	6.81	2.31
Total	2.5	1135	699	192	1.61	13.12	4.67

So one question that may come up is can this excess protein make up for the deficiency in TDN?

Farm #3 – 44 lb Boer X wethers with a goal of gaining 10 lb per month). All kids also received a top dressing of loose trace mineral salts containing Bovatec over their corn.
 Corn with nice quality legume/grass pasture (64%TDN, 15%CP of Dry Matter)

Feed	lbs fed	g fed	TDN	CP (g)	NE(Mcal)	Ca (g)	P (g)
Whole Corn	.5	227	177	20	.42	.05	.61
High Quality grass/legume pasture	2 lbs DM	908	581	136	1.28	8.35	2.72
Total	2.5	1135	758	156	1.7	8.85	3.33

Corn with a poorer quality, mature pasture (61%TDN, 7.2%CP of Dry Matter). Please note that with a mature pasture like this, kids might not be consuming as much as they would with the above hay. The 2 lbs of consumption may be too optimistic. Also, if this pasture has few legumes in it, the Ca:P ratio may get lower than 2:1 , thus, predisposing them to urinary calculi.

Feed	lbs fed	g fed	TDN	CP (g)	NE(Mcal)	Ca (g)	P (g)
Whole Corn	.5	227	177	20	.42	.05	.61
Low Quality grass/legume pasture	2 lbs DM	908	554	72	1.16	4.9	2.09
Total	2.5	1135	731	92	1.58	4.95	2.7

66 lb Boer X wethers in this herd receive 1 lb of corn top dressed with a loose trace mineral salt containing Bovatec plus a high quality grass/legume pasture.

ARNOT FOREST Total Mixed Ration –

Ingredient	pounds
Barley	2476
Soy Hulls	797
Soybean Meal	557
Limestone	54.4
Agway Sheep Minerals	18.1
Ammonium Chloride	9.1
Vitamin Pack	4.5
Decox	4
Vegetable Oil	80
Chopped Alfalfa/Grass Hay	200

Farm # 1 Total Mixed Ration – can also be feed as a high fiber grain to supplement hay or pasture.

Ingredients	Pounds As Fed	% As Fed
Soy Hulls	510	25.5
Wheat Middlings	475	23.8
Corn Meal	300	15
Soy 48%	295	14.8
Distillers Grains	140	7
Gluten Feed	100	5
Molasses	46	2.3
Salt	40	2
Limestone	40	2
Ammonium Chloride	40	2
Decox	13	.625
Selenium .06%	0	.025
R-H Mini Fortified Vitamins	0	.025
Vitamin E-20	0	.025
Flavorizer	0	.025
	2000	

Here is another example of a grain supplement used on same farm in other years for weaned kids and mature bucks. It contains 90% dry matter, .74 mcal energy, 19.5% protein, .98% calcium, .5% phosphorous and is not fortified with selenium.

Ingredients	Pounds As Fed
Iodized Salt	80
Molasses	50
Soy Hulls	510
Soy Meal 48%	295
Wheat Middlings	475
Distillers Grain	100
Ground corn	300
Corn Gluten Feed	100
Limestone	40
Ammonium chloride	40
Bovatec	9
Total quantity	1999