Organic Replacement Kids on Browse and Grains

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Raising goat kids in an outdoor environment seems to be a healthy way to keep them away from fecal contamination of feed, give them fresh air, encourage physical activity, and improve the land. Will they grow on goldenrod and sumac as their primary forages, though?

Setting up Pasture

Eight doelings from Lazy Lady Farm were transported from a barn in Westfield to a field in Hinesburg on June 18, 2001. They returned to Westfield on October 19 that same year, after 18 weeks. The kids were born over a period from February to March and were about 3-4 months of age when they came to Hinesburg.

One goal was to raise them on growing vegetation supplemented with organic grains so that they reached breeding weight of 80-90 lbs. by late fall. A second goal was to help take down browse species on a plot of land. The goats' owner and I agreed that the labor worth was about $4/day and that she would provide for any grain, minerals, salt or hay necessary beyond that.

They were fenced with 4 sections of ElectroStop. I chose this as the maximum protection against predators and best deterrent to keep the kids in. The area was located on my neighbor's property where I did not want to put up a permanent fence. The fence was energized by a Gallagher M400 where it voltmeter registered between 3000-5000 volts. Grounding was difficult in this stoney area and I connected to any pipes already in the ground as well as the guard rail to a nearby bridge. The neighbor provided the power, which was located by the stream near a pump. The land used to be a tree nursery and the stream had a pump for water and an electrical outlet near the stream. I did not pay any rent for the land as the neighbors saw this a helping them clear their land and giving their 2 year old daughter, Shay, a chance to meet animals.

The cost of setting up the pasture area was $350 including 3 fence sections (I had one already) some underground insulated wire, and an on and off switch. I already had water hose, water buckets, a wooden grain feeder and two plastic calf hutches. I had to turn a wooden picnic table into a hay feeder and spent $10 on seconds' plastic coated wire mesh. The wood I had on hand and the picnic table was free from the neighbor.

Feeding Browse and Feed Quality

When the kids arrived, the predominant species was goldenrod. While it had not bloomed, yet, the plants were very mature. The kids

could have been forced to consume goldenrod as their main forage but I was concerned that they have enough easily digestible forage to start their new browsing careers. Observing that they defoliated every tree and sapling in the field, I began carrying over sumac trees and branches twice a day at every feeding from my property. These branches were placed on a three-sided coral made of sheep panels to keep the leaves off the ground. I noticed that the kids did not eat the sumac once it fell underhoof.

The kids ate 1.5 lbs a day of organic 16% grain. We later provided them with kelp and minerals mixed in with their grain and a trace mineralized salt block kept under the picnic table. I tipped the grain feeder over when they finished to keep their hooves and manure out of the trough as much as possible. They started getting hay in mid-August because I went away for a 2 week vacation and my animal care givers were not taken to spending an hour a day sawing Sumac trees and carting them over to the kids.

Their forages were sampled and sent to the UVM Forage Testing Lab for wet chemistry analysis. (See Table) While I failed to take a sample of the goldenrod, I have provided other analyses from VT and NY. If young, goldenrod can be a good feed. As the plant gets older, like in this case, the kids will eat off the new growing bottom leaves. What the Wet Chemistry Table shows is that sumac bark and leaves are low in fiber and very digestible. Although not directly measured, one can deduce that the remaining dry matter, not accounted for in the fiber, protein and ash, is partly digestible carbohydrates. For example, the 2nd cut hay had 29.2% DM leftover to be devoted to digestible cell contents while the dried sumac leaves had a much higher level at 53.7% DM.

The kids' hooves were trimmed upon arrival and then 2 months and 4 months later. Fecal tests were performed at a local veterinary office in mid-August on 4 kids and all kids were retested from samples taken when they returned to Westfield. The August sampling returned completely negative, which caused me some skepticism. The October fecal tests were performed by Dr. John Barlow, UVM Animal Science Department where he identified low levels of Moniezia (tapeworm), Eimera christenseni (caprine coccidia), and very few ostertagia or haemonchus (barberpole). Only one kid's fecal test could be listed as having a moderate amount of coccidia.

No kid ever had diarrhea or disease symptoms. Sometimes I saw lameness and sloth but no illness.

The kids were weighed with the assistance of two human kids, Mahamed and Dylan. We did this about every week during the summer and stretched it to every two-four weeks by the end of the period. We

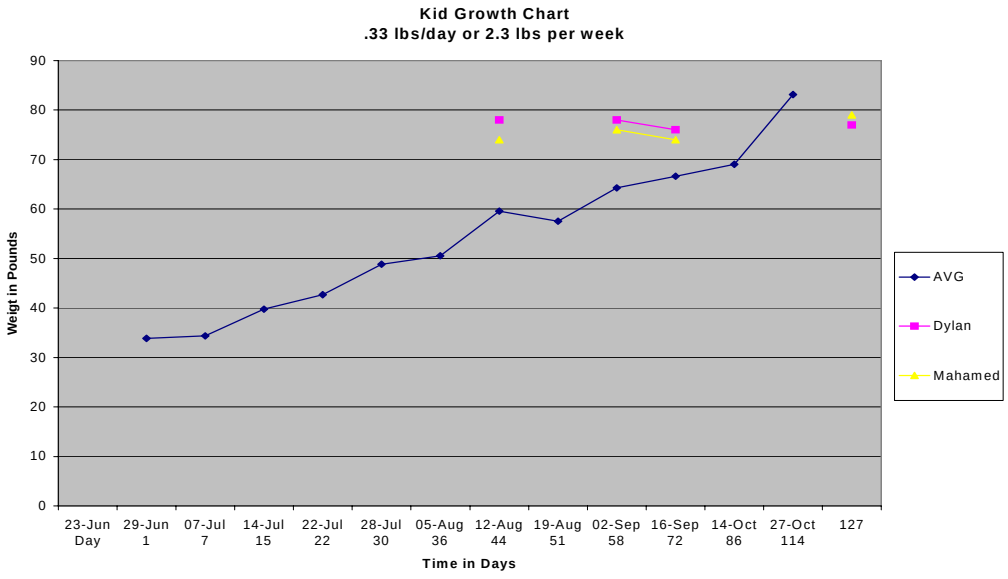
decided to compare the goat kids' growth with the human kids' growth and so, we weighed Mahamed and Dylan periodically. The 13 and 11 year old kids did not seem to grow as compared to goat kids going through the same physiological stage. The goat kids were much better feed converters than the homo sapiens. [See Kid Growth Chart above.]

The kids consumed about 1512 lbs of organic grain @ $.12/lb.=$181.44
11 bales of 2nd cut hay @ $2.50/bale = $27.50
7 bales of 1st cut hay @ $1.75/bale = $12.25
Salt block @ $7.95
4 fecal tests @ $46.20

Feed costs = $229.14/126 days = $1.82/day/8 kids = ~$0.23/day/kid
Labor value = $4/day X 126 days = $504
Other = $46.20 (fecal tests)

Assuming that they would have eaten about 2/3 of a bale per day without browse, we would have had to have purchased 83 bales. The sumac saved us almost $150 or $1.20 per day.

The average daily gain was .33 lbs./day converting to about 2.3 lbs. per week of growth. They all seemed to grow at the same rate with the runts putting on less pounds total. At the time of delivery on October 19th, 6 kids weighed between 78 and 90 lbs. with the two runts being 58 and 66 lbs. respectively. The replacements were destined to be with the



buck in December so, it was possible to get the two runts up to weight in the ensuing 2 months time. I spoke with the owner in mid-December and all the kids were with the buck, the runts having caught up.

I asked her if she thought this contract-raising of all her replacements was worth it. She said the cost was high for her but that they came back in extremely good condition and had been given much more attention in hoof trimming and feeding than she could have given them. She was raising their siblings for meat at her farm on the same level of concentrate and on pasture and those kids lagged behind in weight about 10 lbs. per head. She felt that the benefit for her was the decreased work-load and the increased growth rate attained by the replacements.

Follow-Up

I called the farmer the following summer and all but one of the kids had kidded. Surprisingly, it was one of the larger doelings and not one of the runts.