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Consumption of BETN, SK, and Crude Fat of Male Bean Goats Experiencing Different Levels of Feed Restriction

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Abstract

This research aims todetermine the consumption of BETN, crude fiber and crude fat of male Kacang goats in the feed restriction phase after experiencing different levels of feed restriction. The research used an experimental method with a Completely Randomized Design (CRD) consisting of 3 treatments and 5 replications, namely: T0: Livestock without food restrictions, T1: Livestock were limited to 100% of their live feed and T2: Livestock were limited to 50% of their live feed. principal. The results showed that BETN consumption of natural grass T0 and T1 was relatively the same, but higher than T2 (P<0.05); On the other hand, BETN concentrate consumption was relatively the same (P>0.05) between treatments; while the total BETN consumption of natural grass and concentrate from treatments T1 and T2 was relatively the same (P>0.05) and lower (P<0.05) than treatment T0. SK consumption of natural grass in treatments T0 and T1 was relatively the same (P>0.05) and higher (P<0.05) than treatment T2; On the other hand, total SK consumption from natural grass and concentrate in treatments T1 and T2 was relatively the same (P>0.05) and lower (P<0.05) than treatment T0. Likewise, natural grass LK consumption T0 and T1 was relatively the same (P>0.05) and higher (P<0.05) than treatment T2. Consumption of BETN and SK concentrate from the three treatments was relatively the same (P>0.05); Likewise, consumption of LK concentrate and total LK from natural grass and concentrate from male peanut goats in the restriction phase of the 3 groupsnot significantly different (P>0.05). Consumption of extract material without nitrogen (BETN) for each treatment is T0 equal to131.66 ± 41.42, T1 was 84.85 ± 38.88 and T2 was 83.70 ± 0.03. Crude fiber consumption (g/head/day) for each treatment was T0 of 42.89 ± 6.33, T1 of 33.73 ± 9.52 and T2 of 26.96 ± 0.03. Crude fat consumption (g/head/day) for each treatment was T0 of 5.52 ± 2.24, T1 of 3.23 ± 1.85, and T2 of 3.53 ± 0.00. Canconcluded thatRestricting feed to 50% of basic life inhibits the growth process of livestock, but does not interfere with the health status of goats as can be seen from the normal physiological status of livestock).

Keywords : Consumption of Extract Materials Without Nitrogen; Consumption of Crude Fiber; Consumption of Crude Fat; Goat Nuts; Restriction of feed

Introduction

The Kacang goat is a local Indonesian breed of goat with the characteristics of a relatively small body, very simple maintenance and a fairly high adaptability to local nature and its reproduction is classified as very high (Murtidjo, 1995). Peanut goats are very popular among people to breed because their body size is not too large, they are easy to care for, they breed quickly, the number of children per birth is often more than one, the distance between births is short (Sarwono, 2010).Increasing the productivity of male Kacang goats cannot be separated from feed. Feed is the main product that must be available in sufficient quantity and quality in order to increase the production of peanut goat livestock. Feed is a mixture of various organic materials given to livestock to meet the need for food substances needed for growth,

development and reproduction. For maximum growth and production, the amount and content of food substances needed by livestock must be adequate (Suprijatna et al ., 2008).

In tropical areas such as East Nusa Tenggara (NTT) there are two seasons, namely the rainy season and the dry season. During the dry season there is a shortage of feed and feed quality. As a result, it will affect the condition and productivity of livestock. On the other hand, during the rainy season, the availability of food is abundant with the nutritional content of the food increasing. Therefore, the growth of Kacang goats is also faster than livestock in the dry season.

BETN is a carbohydrate component that is easily digested and is a good source of energy for livestock. Crude fiber is a carbohydrate component consisting of insoluble polysaccharides (cellulose and hemicellulose, lignin has a very low co-efficiency. The older the plant, the higher the lignin content. Crude fat is an important ingredient in animal feed raw materials. Fat content in Feed can be determined through extracts dissolved in ether, although other substances are also dissolved in it. Therefore, the fat content which is a reference for calculation is more accurately called Crude Fat (LK).

High and Low Consumption of BETN, SK and Coarse Fat of male Peanut goats will decrease during the dry season, due to feed shortages and low feed quality so that consumption of BETN, SK and Coarse Fat is also small.

Feed restriction is a program to provide feed to livestock according to their basic living needs at a certain age and period. This program is based on the assumption that providing unlimited feed (ad libitum) is an artificial condition, while limiting feed for Kacang goats is an effort to return the livestock to a natural condition (Santoso, 2008). Restricting feed will reduce the amount of nutrients obtained by livestock including BETN, SK and Crude Fat. However, how many nutrients are not met is not yet known.

Materials and Methods

Time and Place, Livestock and feed research

This research was carried out from June to September 2022 in a goat pen belonging to the Animal Husbandry study program, Faculty of Agriculture, University of Timor. The livestock used in the research were 15 young male peanut goats, with an average initial body weight of 10-14 kg, with an age range of 12-14 months.

The feed used in this research is complete feed consisting of: ground corn, bran, pollard bran, fish meal and natural grass. Apart from that, livestock are given vitamins and medicines.

Equipment, materials and cages

The tools used in this research were feed containers, drinkers, scales, measuring tape, grass cutting machines, grinding machines or feed chopping machines, buckets, scoops and writing utensils. Apart from that, a proximate analysis tool is used to analyze the nutritional value of feed ingredients and rations.

The cages used in this research were individual cages in an elongated shape with a stilt type. The cage consists of 15 plots with the size of each plot being 140 x 69 cm. The height of the cage is 140 cm. Each plot cage is equipped with a feeder and drinking water.

Research design and procedures

This research uses an experimental method according to a Completely Randomized Design (CRD). The 15 peanut goats used were grouped into 3 groups, each treatment consisting of 5 animals. The three goat livestock groups are respectively as follows:

T0: Animals without feed restrictions (control)

T1: Livestock are limited to feeding 100% according to basic life

T2: Animals are limited to feeding 50% of their basic life

The nutritional content of the feed ingredients that make up the complete feed ration can be seen in Table 1.

Table 1 Composition of nutritional content of feed ingredients that make up research rations

Nutritional Content	Natural Grass	Concentrate
Dry Matter (%)	89,872	87,613
Organic Ingredients (%)	82,793	87,237
Crude protein (%)	4,935	15,487
FI (%)	0.319	3,165
SK (%)	38,053	7.98
CHO (%)	77,539	68,585
BETN (%)	39,486	60,604
MJ/Kg.BK	14,719	16,699
Kcal/Kg.BK	3504.55	3975.87
EM (Kcal/Kg.BK	1918.33	3445.4

Source: results of feed chemistry laboratory analysis, Faculty of Animal Husbandry, Nusa Cendana University (2022)
Description: BK: Dry Material; BO: Organic Ingredients; PK: Crude Protein; LK: Crude Fat; SK: Crude Fiber; CHO: Carbohydrate; BETN: Nitrogen-Free Extract Ingredients; GE: Gross Energy

Cage preparation

The research activities carried out during the preparation period were preparing 15 individual cage types. The cage is made using wood and bamboo. The size of the cage made is 140x69 cm. The cages are made of individual type, equipped with places to eat (made from boards) and drink (plastic buckets). The feeder is in the form of a platform with a width of 35 cm, a length of 150 cm, a depth of 23 cm and a height of 70 cm from the ground.

Feed preparation and Making Complete Feed

Feed preparation is carried out by cutting natural grass/forage. Natural forage/grass is collected around the Kefamenanu area. Natural grass is cut and dried in the sun until dry, then ground using a grinding machine.

The natural grass that has been ground is then mixed with a concentrate consisting of rice bran, ground corn, fish meal and pollard bran. The complete feed that has been prepared is then given to the livestock. Feeding is done twice a day, namely: (08:00 am and 16:00 pm).

Livestock Adaptation, as well as feeding and drinking water procedures

Peanut goats whose body weights have been weighed are initially placed in individual cages to be adapted to the ration and research pen for 2 weeks or until the ration is consumed by the peanut goats in a constant amount. The aim of livestock adaptation is to adapt livestock to environmental conditions and feed.

Procedures for Providing Feed and Drinking Water

The feed given to goats is according to the body weight of each animal. Feed is given twice a day in the morning at 08:00 and in the afternoon at 16:00. Drinking water is provided continuously in plastic jergens which have been placed next to the eating area.

Research variable

The variables measured in this study were BETN consumption, Crude Fiber consumption, Crude Fat consumption.

1. BETN consumption

   The BETN content can be obtained from the following calculation: BETN (%) =100% - ash (%) - crude protein (%) - crude fat (%) - crude fiber (%). Consumption of extracts without nitrogen: the difference between extracts without nitrogen in the given feed and extracts without nitrogen in the remaining feed. BETN Consumption is Calculated Based on the Formula:

BETN consumption (kg) = DM consumption (kg) × BETN content (%) feed ingredients -amount of remaining feed× BETN consumption (%) feed ingredients
Information :
BK = Dry Material
BETN = Extract Material Without Nitrogen.

2. Crude Fiber Consumption

Crude fiber consumption: the difference between crude fiber in the given feed and crude fiber in the remaining feed. Crude fiber consumption is calculated based on the formula:
SK consumption (kg) = DM consumption (kg) × SK content (%) feed ingredients– amount of remaining feed× SK consumption (%) feed ingredients
Information :
SK = Crude Fiber
BK = Dry Material

3. Crude Fat Consumption

Crude fat consumption: the difference between the crude fat in the feed given and the crude fat in the remaining feed. Crude fat consumption is calculated based on the formula:

LK consumption (kg) = DM consumption (kg) × LK content (%) feed ingredients– amount of remaining feed× LK consumption (%) feed ingredients
Information :
Bk = Dry Material
LK = Crude Fat

Data analysis

The data obtained was tabulated using Variety Analysis (Anova) according to the research design used (RAL). Data analysis used SAS software version 9.2

Results and Discussion

BETN consumption

BETN is a soluble carbohydrate including monosaccharides, disaccharides and polysaccharides which are easily soluble so they have high digestibility.a group of carbohydrates with high digestibility, whereas in proximate analysis what is meant by extract without nitrogen is a group of carbohydrates that are easily soluble by boiling using 1.25% or 0.255 N sulfuric acid and boiling using 1.25% or 0.313 N NaOH solution respectively. each for 30 minutes 30 minutes(Kamal, 1998).

The average value of consumption of natural grass extract without nitrogen (BETN) for each treatment is: (T0) is 30.71 ± 5.87 (T1) is 26.95 ± 6.26And (T2)as big as19.15 ± 0.03g/e/d. The results of the analysis of variance (Anova) showed that the consumption of natural grass extract without nitrogen (BETN) was significantly different($P<0.05$). This illustrates that the BETN consumption value of goats is greatly influenced by feed restrictions. The results of the Duncan Test analysis of BETN consumption of natural grass treated (T0) and (T1) were relatively the sameseen, but significantly different from treatment (T2) ($P<0.05$).

Table 2. BETN consumption (g/e/d) of male Kacang goats experiencing different levels of feed restriction.

Consumption	Treatment			P (sig)
	T0	T1	T2	
Natural grass	30.71 ± 5.87a	26.95±6.26a	19.15 ± 0.03[b]	0.0093
Concentrate	100.95±43.29[a]	57.74 ± 34.90[a]	64.57±0.00a	0.1139

Total	131.66±41.42a	84.69±38.86b	83.72±0.03b	0.0638

Information :a, b Different superscripts on the same row indicate significant differences (P<0.05). T0: Livestock without food restrictions; T1: Livestock are limited to feeding 100% according to basic life; T2: Animals are limited to feeding 50% of their basic life

The high consumption of natural grass BETN in treatment T0 was due to the absence of feed restrictions so that consumption of natural grass was higher than in treatments T1 and T2. The higher consumption of natural grass will cause the BETN consumption value to increase,so thatThis results in the growth process of livestock being faster than livestock that experience feed restrictions.

The low consumption of BETN in treatments T1 and T2 was caused by restrictions on feed so that consumption of natural grass and nutrients was inadequate for needs, which would result in the livestock growth process being slow. The low consumption of dry feed ingredients including natural grass BETN is due to the limited intake of feed ingredients obtained by livestock so that the consumption of BETN and nutrients obtained by livestock is also inadequate and if the availability of feed ingredients is abundant then the nutrition obtained by livestock will also be adequate.

The average value of consumption of extract materials without nitrogen (BETN) from concentrate for each treatment is: (T0) equal to100.95±43.29, (T1) is equal to57.74 ± 34.90and (T2) of 64.57±0.00g/e/d. The results of analysis of variance (Anova) showed that consumption of concentrate extract without nitrogen (BETN) was not significantly different (P>0.05). The results of the Duncan Test analysis show that the consumption of concentrated BETN in the T0 T1 and T2 treatments is relatively the same or it can be said that the consumption of BETN in livestock treated with or without feed restrictions has the same BETN concentrate consumption value.

Even though it was relatively the same, quantitatively the consumption of BETN concentrate in treatment T0 was due to the absence of feed restrictions so that concentrate consumption was higher than in treatments T1 and T2. Higher consumption of concentrate will cause the value of BETN concentrate consumption to increase, thereby affecting the livestock growth process.

The low consumption of BETN concentrate in treatments T1 and T2 was due to feed restrictions so that the consumption of concentrate and the nutrients obtained were inadequate for livestock needs, which would result in the livestock growth process being slow. Therefore, livestock in this treatment require more feed intake to catch up with the growth lag experienced during the cutting phase.

The average value of total consumption of extract materials without nitrogen (BETN) for each treatment was: (T0) was 131.66 ± 41.42, (T1) was 84.69 ± 38.86 and (T2) was 83.72 ± 0.03g /e/h. The results of the analysis of variance (Anova) showed that the total consumption of extract materials without nitrogen (BETN) was not significantly different (P>0.05). This illustrates that the BETN consumption value of goats is greatly influenced by feed restrictions. The results of the Duncan Test analysis showed that treatments T1 and T2 were relatively the same, but significantly different from treatment (T0) (P>0.05). Where BETN consumption in treatments T1 and T2 is lower than treatment T0.

The high total BETN consumption in treatment T0 was due to the absence of feed restrictions so that total BETN consumption was higher than in treatments T1 and T2. On the other hand, livestock treated with T1 and T2 are caused by food restrictions which will impact the growth process of the livestock.

High and Low BETN Consumption of Male Bean goats will decrease during the dry season, due to a shortage of feed and low feed quality so that BETN and nutrient consumption is also inadequate compared to during the rainy season where there is an abundance of feed

and the quality of the feed increases so that the consumption of BETN and nutrients obtained by livestock is more adequate.

Factors that influence goat feed consumption include type of livestock, environmental temperature, palatability, taste, physiological status, amount of feed available, nutritional content of feed, form of feed and production.The ability of livestock to consume feed is greatly influenced by what they are producing, body weight, milk, wool and so on (Kartadisastra, 1997).Hadi et al. (2011) stated that feed containing easily soluble fractions in the rumen will be easily degraded by rumen microbes, which will increase consumption. Based on the research results, it is estimated that the total consumption of BETN dissolved in the rumen is not much different so that the results are non-significant between treatments. Anwar (2008) stated that BETN is used as energy by microbes in their growth. An increase in microbial activity in degrading substrates will also affect energy consumption (BETN).

The results of this study differ from the statement from Pond et al. (1995), stated that the range of BETN consumption in goats was 424.7-455.1 g/head/day. This shows that differences in BETN consumption with this study are due to differences in goat breeds, body weight, and differences in feed treatment given to livestock.

BETN is a soluble carbohydrate including monosaccharides, disaccharides and polysaccharides which are easily soluble so they have high digestibility. High BETN consumption also reflects the increasing amount of carbohydrates that can be utilized by the livestock's body. The high consumption of BETN nutrients is caused by consumption factors. The higher the feed consumption, the higher the nutrient content that the livestock will obtain. According to Widhiastuti (2009) cited by Indriani et al. (2013), high digestibility accelerates the rate of feed flow in the post-rumen organs and causes the stomach to empty quickly. Furthermore, Tuturoong et al. (2014) stated that the rate of rumen microbial synthesis is positively correlated with the availability of easily digestible carbohydrates, the more easily digestible carbohydrates in the feed consumed, the higher the rumen synthesis rate.

Crude Fiber Consumption

Crude fiber is the residue of food or agricultural products after being treated with boiling alkaline acid, consisting of cellulose with a small amount of lignin and pentose. Crude fiber is also a collection of all fibers that cannot be digested. The components of this crude fiber consist of cellulose, pentose, lignin and other components. This component of crude fiber has no nutritional value, but this fiber is important for facilitating the process of digestion in the body so that the digestive process runs smoothly (Peristalsis) (Hermayanti et al., 2006).

Table 3. Crude Fiber Consumption g/e/h of male Peanut Goats experiencing different levels of feed restriction.

Consumption	Treatment			P (sig)
	T0	T1	T2	
Natural grass	29.60±5.65a	26.13±6.11a	18.46±0.03b	0.0095
Concentrate	13.29±5.70a	7.60±4.60a	8.50±0.00a	0.1139
Total	42.89±6.33a	33.73±9.52b	26.96 ± 0.03b	0.0083

Information :a, b Different superscripts on the same row indicate significant differences (P<0.05). T0: Livestock without food restrictions; T1: Livestock are limited to feeding 100% according to basic life; T2: Animals are limited to feeding 50% of their basic life

The average value of natural grass crude fiber consumption for each treatment is: (T0) equal to29.60±5.65,(T1) of 26.13±6.11and (T2) is equal to18.46 ± 0.03g/e/d. The results of analysis of variance (ANOVA) showed that consumption of natural grass crude fiber was significantly different (P<0.05). This illustrates that the crude fiber consumption value of

Peanut goats is greatly influenced by feed restrictions. The results of the Duncan Test analysis showed that the consumption of natural grass crude fiber in treatments T0 and T1 was relatively similar (P<0.05), but significantly different from treatment (T2) (P<0.05).

High consumption of natural grass crude fiber in the treatmentT0 is caused by the absence of feed restrictions so that consumption of natural grass is higher than treated livestockT1 and T2. The higher consumption of natural grass will cause the consumption value of crude fiber to increase, thereby affecting the livestock growth process. The low consumption of natural grass crude fiber in treatments T1 and T2 was due to feed restrictions so that consumption of natural grass crude fiber and nutrients was inadequate for needs, which would have an impact on the growth process.

The average value of concentrated Crude Fiber consumption for each treatment is: (T0) equal to13.29 ± 5.70, (T1) is equal to7.60±4.60and (T2) is equal to8.50±0.00g/e/d. The results of analysis of variance (Anova) showed that consumption of concentrated Crude Fiber was not significantly different (P>0.05). The results of the Duncan test showed that the consumption of concentrated crude fiber in the T0 T1 and T2 treatments was relatively the same, or it could be said that the consumption of crude fiber in livestock treated with feed restriction and without feed restriction had the same value of concentrate crude fiber consumption.

Even though it is relatively the same, quantitatively the consumption of crude fiber in treatment T0 is due to the absence of feed restrictions so that consumption of concentrated crude fiber is higher than in treatments T1 and T2. Higher consumption will cause the consumption value of concentrated crude fiber to increase, thereby affecting the livestock growth process. Low consumption of crude fiber inT1 and T2 treatments are caused by feed restrictions so that the consumption of concentrate and nutrients obtained is inadequate for the livestock's needs, which will result in the growth process being slow.

The average value of Total Crude Fiber Consumption for each treatment is: (T0) equal to42.89 ± 6.33, (T1) 33.73 ± 9.52, and (T2) 26.96 ± 0.03g/e/h. The results of analysis of variance (Anova) showed that total crude fiber consumption was significantly different (P<0.05). This illustrates that the total crude fiber consumption value of goats is greatly influenced by feed restrictions. The Duncan Test results showed that the Total Crude Fiber Consumption in treatments T1 and T2 was relatively the same (P<0.05) but significantly different between treatments (T0).The high total value of crude fiber consumption in treatment (T0) was due to the absence of feed restrictions so that total crude fiber consumption was higher than treatments T1 and T2.

Crude fiber consumption is also influenced by palatability, energy levels, protein and amino acid concentrations, forage composition, environmental temperature, growth and lactation and body metabolic measures (Elita, 2006). Palatability is defined as the response given by livestock to the feed given. Palatability is the attractiveness of a feed or feed ingredient to create appetite and be eaten directly by livestock (Widiarti, 2008). Feed that contains a lot of crude fiber causes the passage of the feed to be slower, so that the space in the digestive tract of the feed will decrease (Parakkasi, 1999).

SK consumption in this study was higher than the report by Toharmat et al. (2006) who obtained a range of crude fiber consumption in goats of 9.86-14.28 g/e/d. This shows that there are differences in breeds of goats, the feed they are given and differences in climate or research location.

Price et al. (1989) stated that if the consumption of crude fiber is high, it will be more difficult for it to be degraded by the rumen, thereby reducing energy digestibility. This was confirmed by Parakkasi (1995) who stated that with the help of rumen microbes, it will increase the digestibility of foodstuffs containing structural carbohydrates (building carbohydrates), high lignin and silica content will be more difficult to digest, resulting in more energy from these foodstuffs. that comes out of feces. Hafiah (2009) added that the fiber fraction is often

found in the form of bonds with lignin to form lignicellulose and lignocellulose so that it becomes more difficult for the rumen to digest. According to Chozaemi (2012), feed with high crude fiber can cause livestock to take longer to eat and for ruminants the rate of degradation in the roticulo-rumen slows down.

According to De carvalho et al. (2010), the crude fiber content in the feed used greatly influences crude fiber consumption. A crude fiber composition that is too high can reduce consumption levels and if the crude fiber composition is too low it will have a negative impact on fermentation activity in the rumen. The low crude fiber content will facilitate the penetration of rumen microbes (bacteria, protozoa and fungi) to digest feed nutrients. This means that the lower the crude fiber content in the feed, the higher the crude fiber digestibility. (Pamungkas et al., 2013).

During the feed restriction or feed shortage phase, there is usually a decrease in energy, minerals and protein contained in forage and concentrate so that as a result the forage experiences a shortage of feed volume due to scarcity of feed ingredients in the form of forage. This will affect the growth process, productivity and increase in livestock weight.

Crude Fat Consumption

Crude fat is an important source of stored energy. Crude fat functions as a high-density energy source. Fatty acids will produce higher energy compared to other nutrients such as carbohydrates or protein when metabolized in the body (Winadan Susana, 2013).

The average value of crude fat consumption of natural grass for each treatment is: (T0) of 0.25 ± 0.05, (T1) was 0.22±0.05 and (T2) was 0.15±0.00g/e/d. The results of the analysis of variance (Anova) showed that the crude fat consumption of the treatments was significantly different at P<0.05). This illustrates that the crude fat consumption value of goats is greatly influenced by feed restrictions. The results of the Duncan Test showed that the consumption of natural grass crude fat in treatments T0 and T1 was relatively similar but significantly different from treatment (T2) (P<0.05).

Table 4. Crude fat consumption g/e/h of male Peanut goats experiencing different levels of feed restriction.

Consumption	Treatment			P (sig)
	T0	T1	T2	
Natural grass	0.25±0.05a	0.22 ± 0.05a	0.15±0.00b	0.0095
Concentrate	5.27±2.26a	3.02 ± 1.82a	3.37±0.00a	0.1139
Total	5.52±2.24a	3.23 ± 1.85a	3.53±0.00a	0.1045

Information :a, b Different superscripts on the same row indicate significant differences (P<0.05). T0: Livestock without food restrictions; T1: Livestock are limited to feeding 100% according to basic life; T2: Animals are limited to feeding 50% of their basic life

High consumption of natural grass crude fat in the treatmentT0 is caused by the absence of food restrictions so that consumption of natural grass is higher than the treatmentT1 and T2. The low consumption of natural grass crude fat in treatments T1 and T2 was due to feed restrictions so that in conditions like this it would have an impact on the livestock growth process. Therefore, livestock in this treatment require more high levels of feed in order to stimulate the growth process.

The average value of concentrated Crude Fat consumption for each treatment is: (T0) equal to5.27 ± 2.26, (T1) 3.02 ± 1.82 and (T2) 3.37 ± 0.00 g/e/d. The results of analysis of variance (Anova) showed that consumption of concentrated Crude Fat was not significantly different (P>0.05). The results of the Duncan Test in the T0 T1 and T2 treatments were relatively the same or it could be said that crude fat consumption in livestock treated with restrictions and without restrictions had the same crude fat consumption values.

Even though it was relatively the same, quantitatively the consumption of concentrated Crude Fat in treatment (T0) had no feed restrictions so that the consumption of concentrated crude fat was significantly higher than in treatments T1 and T2. The low consumption of concentrated crude fat in treatments T1 and T2 was due to feed restrictions so that concentrate consumption and the nutrients obtained were inadequate for needs. Therefore, livestock treated with T1 and T2 require more dry feed ingredients to be able to stimulate and catch up with the growth experienced during the feed restriction phase.

The average value of Total Crude Fat Consumption for each treatment is: (T0) equal to5.52±2.24g/e/h, (T1) was 3.23±1.85g/e/h and (T2) was 3.53±0.00 g/e/h. The results of analysis of variance (Anova) showed that Total Fat Consumption had no significant effect (P>0.05). The results of Duncan's test show that the total consumption of crude fat in the T0, T1 and T2 treatments is relatively the same or it can be said that the consumption of crude fat in livestock treated with or without feed restriction has the same value of crude fat consumption.

Even though it is relatively the same, quantitatively the Total Crude Fat Consumption in treatment T0 is due to the absence of feed restrictions so that the total value of crude fat consumption is higher than the treatmentT1 and T2 pThis is caused by treatmentT1 and T2there are restrictions.

Crude fat consumption as a result of the research was lower than LK consumption according to the report by Haddad et al. (2004) amounted to 59 grams/head/day in weaned Etawa goats during the rearing period given 25% coffee husk flour in the goat ration. The results of this study are also lower than the report by Toharmat et al. (1999), stated that the range of crude fat consumption in goats is 22.4-40.8 g/head/day. This is due to differences in environment, breed of goat, body weight, and feed treatment given to livestock during the research.

Crude fat consumption in goats is influenced by several factors including feed conditions, environment, physiological condition of the animal and the level of fat digestibility in the animal's body. Fat is a substance that is not soluble in water but is an organic material that is soluble in organic matter (Parakkasi, 1999). Crude fat consumption can also be influenced by the chemical properties of the feed, including unsaturated fatty acids and the treatment of the feed during storage (storage feed).

Conclusion

In accordance with the research results, the consumption of BETN, SK and LK of male Kacang goats during the feed restriction phase is relatively the same. BETN consumption for each treatment was: T0 of 131.66 ± 41.42, T1 of 84.69 ± 38.864 and T2 of 83.72 ± 0.03. Crude fiber consumption for each treatment was: T0 was 42.89 ± 6.33, T1 was 33.73 ± 9.52 and T2 was 26.96 ± 0.03. Crude fat consumption for each treatment was: T0 of 5.52 ± 2.24, T1 of 3.23 ± 1.85 and T2 of 3.53 ± 0.00. Therefore, it can be concluded that feed restriction (feed restriction) to 50% of basic life does not hinder the growth process of livestock, but does not also affect the health status of goats (indicated and physiological status is in the normal range).

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