Effect of complete feed starch banana weevil pea stone on the beans goats system in vivo against carcass weight and carcass part

Aswandi[1)]; C. I. Sutrisno[2)]; M. Arifin[2)]; A. Joelal[2)]

[1)] *Agricultural Counseling College of Manokwari, Manokwari*
[2)] *Doctoral Program Animal Sciences, University of Diponegoro, Semarang*

Abstract— **The objective of this research is to study the value of benefits in favor of complete feed production performance and carcass weight of any part of the carcass part-goat nuts. The design used in this study. Random Draft Complete. The material used in this study of 12 male goats Nuts averaging initial body weight (15.58 ± 2.601 kg) with a CV: 16.69%, age 10-15 months. At the end of the study 12 goats to know the weight of nuts cut carcass and parts of the carcass. Results of analysis of variance showed that treatment of complete feed on a significantly different (P <0.05) on carcass weight produced goat nuts. Results of analysis of variance showed that treatment of complete feed on a significantly different (P <0.05) against the weight of all the parts ice nuts goat carcass neck, shoulder, breast, leg chump on, ribs, loin, fore shank and the weight of the flank. CF0 and CF3 treatment effects did not provide a very real difference to the weight of carcass parts, but the weight of the carcass are treated CF3 higher than the CF0. This is in line with the expressed**

[Keywords— **banana weevil stone, complete feed goat bean]**

I. INTRODUCTION

Problem of the adequacy of feed for non-ruminant livestock and ruminant always occur in developing countries such as Indonesia. For non-ruminant livestock, feed ingredients, while many are still imported for ruminants which depend entirely on local materials often find it difficult to get the availability of feed ingredients is always continuous.

Search new feed material in the form of agro-products continue to be made and banana cultivation is one of the agro-industry business if managed plantations, but because these plants are the easiest plants to grow and thrive well in Indonesia, the banana plant widely spread everywhere in Indonesia, large banana plantations began to develop, in the early 1990, although not as much as in the countries of Latin America or Africa. Banana weevil is the bottom of the banana plant stem under the soil surface, chemical composition of BK: 6.2-13 .87; PP :2.99-6 .4; Elk :0.96-7 .0; Ski :9.99-16 .1 (Gerona et al. (1987). Flour banana weevil, containing starch (carbohydrate) of 66.2%, crude fiber 2.23% and 5.88% protein (the Department of Agriculture 2005).

Based on the potential nutritional raw materials, the banana weevil can be used as a material source of energy for ruminants. Feed ingredients as a source of energy, protein content of feed materials less roughly 20%, crude fiber is less than 18% (Research and Technology, 2008). Quantitatively the potential banana weevil in Indonesia, until 2005 the banana plantation area of 92307.6 hectares with production of 9,460,928 tons / year of waste reached 8,676,557 tons / year, comprising 40% or 3,470,623 tons / year banana weevil (Department of Agriculture, 2005).

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Raw material weaknesses banana weevil is less palatable and nutrient utilization is low, yet commonly used as a ruminant animal feed ingredients, to overcome this is done through a process of practical and simple technology, improve palatability be approached through feed processing technology into a complete feed. Advantage complete feed using local feed raw materials are cheaper, easier in the distribution because the distance between the processing closer to the location of farmers, besides that it has a competitive advantage compared to feed commercial feed manufactured large industrial scale because it is more efficient in production and transportation costs , easy storage and can reduce operating costs, especially labor (Sunarso et al. 2007). Through a process of practical and simple technology is expected to banana weevil can be utilized as one of the feed raw materials of high economic value in the future.

II. MATERIALS AND METHODS

Experimental complete feed prepared with compotation raw materials from each tuber flour banana crop varieties that have been determined, complete feed mixture composition research experiments are shown in Table 1. The material used in this study of 12 male goats Nuts averaging initial body weight (15.58 ± 2.601 kg) with a CV: 14.06%, age 10-15 months. At the end of the study 12 goats to know the weight of nuts cut Karakas and parts of the carcass.

Table 1. Complete feed ingredients and chemical composition of experimental feed

material		treatment	
		R_0 (kg)	R_3 (kg)
	Wheat grass king	70	30
	Banana weevil pea	-	40
	Rice bran	6.4	6.4
	Coconut pulp	4	4
	Tofu pulp	11	11
	L. *lecocephara*	3	3
	Brown sugar	1	1
	Fish meal	1	1
	Dried cassava flour	3	3
	Sodium sulfat	0.3	0.3
	Minerals	0.3	0.3
	Potassium propionate	0,031	0,031
	Jumlah bahan	100	100
Chemical composition			
	Crude protein %	10,70	10,98
	Crude fat %	5.14	4.53
	Crude fiber %	28,71	23.75
	Carbohydrates %	67,10	71,39
	Energy kal/100gr	125.700,6	202.153,5
	Ca %	3,62	2,82
	Phosphorus %	0,21	0,29
	BETN %	38,39	47,64
	TDN %	67	67
	NDF %	67,23	52,67
	ADF %	38,87	48,72

The design of experiments

The design used in this study. Random Complete (RAL). Treatment of complete feed CF3 and CF0, with 6 replications, so that overall 12 experimental units.

Variable Research.

Carcass weights and carcass weights sections, measured demean methods (Forrest et al 1975 in Sirajuddin, 2005).
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The design of experiments

The design used in this study. Random Complete (RAL). Treatment of complete feed CF3 and CF0, with 6 replications, so that overall 12 experimental units.
neck = ranging from cervical vertebrae to-1 up to the 7 th cervical vertebrae. shoulder = start of the seventh cervical vertebrae to mid costae the 5 th and 6 th, breast = start of the sternum straight back up to the projection of the lumbar vertebrae to-6, leg chump on = starting the 9th until the joints of the vertebrae of the patella, ribs = starts from mid costae the 5th and 6th until caste the 12th and 13th, loin = ranging from 13 to caste the vertebrae gumballs to-8,fore shank = start of joint between the hummers and ulna to the corpus radius, flank = starting from the projection end of the 13 costae drawn straight from the end adjacent to the chest and groin.

Analysis of Data

Data obtained from all the variables observed on the third phase of research will be analyzed following the instructions diversity Steel and Terrie (1991), the F test will be at the level of significance of 5% and 1%. If you find any treatment effect is very real, it will be followed by Duncan's multiple test areas.

III. RESULTS AND DISCUSSION

Goat carcass weight of beans.

Peanuts goat carcass weights, the results of analysis of variance showed that the treatment complete feed significantly different at (P <0.05) on carcass weight. Average weight of carcass treatment CF0, CF3 respectively 7.69 kg / day head/90; 10.69 kg / day head/90 goat carcass weights averaging nuts CF3 treatment is higher than the CF0, that an increase in the development of growth, with increased piling the meat on the carcass of the goat bean treated CF3. This suggests that the complete feed containing flour banana weevil rock rich in carbohydrates produce better carcass weight. pigcure 1

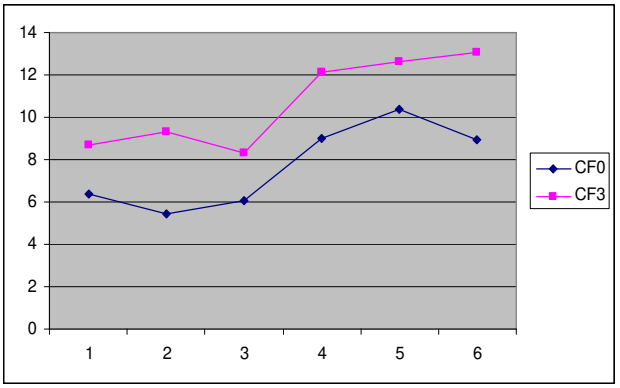

Figure 1. Pregnant Complete feed effect of stone banana cusp flour to crabbed Wight ration of bean goat (day kg/hand/90 day).

A good quality feed can not be changed the grown cattle are genetically small stature, but feeding in low numbers will not be able to provide body weight gain and carcass growth in an optimal fit with the existing genetic potential of each animal. Superior genetic potential such as speed of growth, a high percentage of carcasses, may be realized only if the animal is able to obtain enough food (Tylutki et al 2004).

Table 2. Effect of complete feed starchy banana weevil stone against the average carcass weight, neck, shoulder, Brest, leg, ribs, loin, shank and flank of goats nuts

No	Variabele	treatments	
		CF_0	CF_3
1	weight carcass (g/head/90 day).	7,69^b	10,69^a
2	neck (g/head/90 day).	850,08^b	1181,58^a
3	shoulder (g/head/90 day).	1974,79^b	2744,89^a
4	Brest (g/head/90 day).	734,05^b	1009,42^a
5	Leg (g/head/90 day).	1343,97^b	1868,07^a
6	Ribs (g/head/90 day).	810,84^b	1127,04^a
7	Loin (g/head/90 day).	1035,47^b	1439,28^a
8	Shank (g/head/90 day).	786,99^b	1093,89^a
9	Flank (g/head/90 day).	164.62	228.79

significantly different at (P <0.05).

The weight of the neck (neck) goat nuts.

The weight of the carcass neck (neck) starting from the cervical vertebrae to-1 up to the 7th cervical vertebrae goat nuts, the average carcass weight of the neck are shown in Table 2 and picture. Results of analysis of variance showed that treatment of complete feed on a significantly different (P <0.05) against the weight of the neck. The average weight of neck treatment CF0, CF3 850.08 g/head/90 consecutive days; 1181.58 g/head/90 day, the average weight of lamb neck nut CF3 treatment is higher than the CF0, that an increase in the development of growth, with increased accumulation of goat meat on the neck of treated peanuts CF3. This showed that the complete feed containing flour banana weevil rock rich in carbohydrates to respond positively to the growth of the carcass neck, although the difference was not significant. However, treatment of complete feed CF0 not give a bad influence on the accretion goat carcass weight of the beans, although the weight of the lower neck of the CF3 treatment. According to Nguyen, et al (2005) in small ruminants of low nutritional value of feed affects the proportions of the tail, neck, lamasery, pelvis, shoulders, chest and thighs, the greatest influence feed of low nutritional value is to lower the weight of the chest, lamasery and pelvis. Hailu *et al* (2009) that the weight of shoulder and neck goats are higher than in females, whereas other carcass parts weights do not provide a very real difference.

Factors affecting growth and carcass parts of its parts including genetic, environmental, food and management maintenance, and the most determine the genetic and feed sufficient quantity and quality (Hailu et al 2009). Magnitude of the weight of carcass components influenced by the nation, gender, genetics, growth rate, the weight of cut and feed treatment (looper *et al* 2005).

Weight shoulder (shoulder) goat nuts.

The weight of the carcass shoulder (neck) goat nuts, starting from the 7th cervical vertebrae until the middle costae the 5th and 6th, the average weight of shoulder shown in table 4. Results of analysis of variance showed that treatment of complete feed on a significantly different (P<0.05) to shoulder the weight. The average weight of shoulder treatment CF0, CF3 1974.79 g/head/90 consecutive days; 2744.89 g/head/90 day, the average weight of lamb shoulder nut CF3 treatment is higher than the CF0. This indicates there is a development on the shoulders of growth in meat goats treated peanut complete feed containing starch tubers banana varieties of stone, although the treatment effect does not provide a significant influence on the weight of the shoulder, however, the average weight-shoulder treatment produced complete feed containing flour banana weevil stone is better than treatment CF0. This is a complete feed guide CF3-containing flour banana weevil carbohydrate-rich rock that gives a positive effect on the development of the growth of meat on the carcass shoulder.

Weight of breast (chest) goat nuts.

The weight of the breast (chest) goat nuts, starting from the sternum straight back up to the projection of the lumbar vertebrae to-6, the average breast carcass parts are shown in Table 5. Results of analysis of variance showed that treatment of complete feed on a significantly different (P <0.05) against the weight breast. The average weight of the treatment breasts CF0, CF3 734.05 g/head/90 consecutive days; 1009.42 g/head/90 day, the average weight of breast goat nuts CF3 treatment is higher than the CF0. This indicates there is a development growth in the breast meat in goats treated peanut complete feed containing starch tubers banana varieties of stone, although the treatment effect does not provide a significant influence on the weight of the breast, but the average weight of breast treatment produced complete feed containing flour banana weevil stone is better than treatment CF0. Although the treatment effect does not provide a significant influence on the weight of the breast, however, the average weight of breast treatment complete feed containing flour banana weevil stone is better than treatment CF0. This is a complete feed guide CF3-containing flour banana weevil carbohydrate-rich rock that gives a positive effect on the added weight of the carcass breast

Weight of leg chump on (thigh) goat nuts.

Weight of leg chump on (thigh) goat nuts, starting from the 9th until the joint patellar vertebrae, the average weight of the leg chump on is shown in Table 32. Results of analysis of variance showed that treatment of complete feed on a significantly different (P<0.05) against the weight of leg chump on. The average weight of leg chump on treatment CF0, CF3 1343.97 g/head/90 consecutive days; 1868.07 g/head/90 day, the average weight of lamb leg chump on peanut CF3 treatment is higher than the CF0. This indicates there is a development on the growth of meat on a lamb leg chump on peanut treated complete feed containing starch tubers banana varieties of stone, although the treatment effect does not provide a significant influence on the weight of the leg chump on. Although the treatment effect does not provide a significant influence on the weight of the leg chump on but nevertheless the average weight of leg chump on treatment of complete feed containing flour banana weevil stone is better than treatment CF0. This is a complete feed guide CF3-containing flour banana weevil carbohydrate-rich rock that gives a positive effect on the added weight of the carcass leg chump on.

The weight of the ribs (ribs) goat nuts.

The weight of the goat bean ribs, starting from mid costae the 5th and 6th until costae to-12 and 13, averaging the ribs are shown in Table 2. Results of analysis of variance showed that treatment of complete feed on a significantly different (P <0.05) against the weight of the ribs. The average weight of ribs treatment CF0, CF3 1127.04 g/head/90 consecutive days; 810.84 g/head/90 day, the average weight of lamb ribs beans CF3 treatment is higher than the CF0. This indicates there is a development growth in the meat goat ribs in peanut treated complete feed containing starch tubers banana varieties of stone, although the treatment effect does not provide a significant influence on the weight of the ribs, but ribs so the average weight of the resulting treatment of complete feed containing flour banana weevil stone is better than treatment CF0. Although the treatment effect does not provide a significant influence on the weight of the ribs, but ribs treatment the average weight of complete feed containing flour banana weevil stone is better than treatment CF0. This is a complete feed guide CF3-containing flour banana weevil carbohydrate-rich

rock that gives a positive effect on the added weight of the carcass ribs.

Weight of loin goat nuts.

The weight of the loin lamb beans, ranging from 13 to costae the vertebrae limbless to-8, the average loin section are shown in Table 2. Results of analysis of variance showed that treatment of complete feed on a significantly different (P <0.05) on loin weight. The average weight of loin treatment CF0, CF3 1439.28 g/head/90 consecutive days; 1035.47 g/head/90 day, the average weight of lamb loin pea CF3 treatment is higher than the CF0. This indicates there is a development growth in the loin meat in goats treated peanut complete feed containing starch tubers banana varieties of stone, although the treatment effect does not provide a significant influence on the weight of the loin, loin and yet the average weight of the resulting treatment of complete feed containing flour banana weevil stone is better than treatment CF0. Although the treatment effect does not provide a significant influence on the weight of the loin, but the average weight of loin treatment of complete feed containing flour banana weevil stone is better than treatment CF0. This is a complete feed guide CF3-containing flour banana weevil carbohydrate-rich rock that gives a positive effect on the added weight of the carcass loin.

Weight of fore shank goat nuts.

The weight of the fore shank goat nuts, starting from the joint between the hummers and ulna to the corpus radius, the average fore shank section are shown in Table 2. weighted analysis of variance showed that treatment of complete feed on a significantly different (P <0.05) to the fore shank. The average weight of fore shank treatment CF0, CF3 1439.28 g/head/90 consecutive days; 1035.47 g/head/90 day, the average weight of lamb shank nuts CF3 treatment is higher than the CF0. This indicates there is a development growth in the fore shank meat goats treated peanut complete feed containing starch tubers banana varieties of stone. Although the treatment effect does not provide a significant influence on the weight of the fore shank, however, the average weight of fore shank treatment of complete feed containing banana flour stone hump, better than the treatment CF0. This is a complete feed guide CF3-containing flour banana weevil carbohydrate-rich rock that gives a positive effect on the added weight of the carcass fore shank.

Weights flank goat nuts.

The weight of the flank goat nuts, starting from the projection end of the 13 caste drawn straight from the tip of the chest and groin borders, averaging the flank are shown in Table 2. Results of analysis of variance showed that treatment of complete feed on a significantly different (P <0.05) against the weight flank. Average weight of treated flank CF0, CF3 164.62 g/head/90 consecutive days; 228.79g/head/90 day, the average weight of lamb shank nuts CF3 treatment is higher than the CF0. This indicates differences in developmental growth occurs on the flank meat in goats treated peanut complete feed containing starch tubers banana varieties of stone, although the treatment effect does not provide a significant influence on the weight of the flank, but the average weight of the resulting flank complete treatment feed containing flour banana weevil stone is better than treatment CF0. Although the treatment effect does not provide a significant influence on the weight of the flank flank however, the average weight of complete feed containing treated flour banana weevil stone is better than treatment CF0. This is a complete feed guide CF3-containing flour banana weevil rocks are rich in carbohydrates to give a positive effect on the added weight of the carcass flank.

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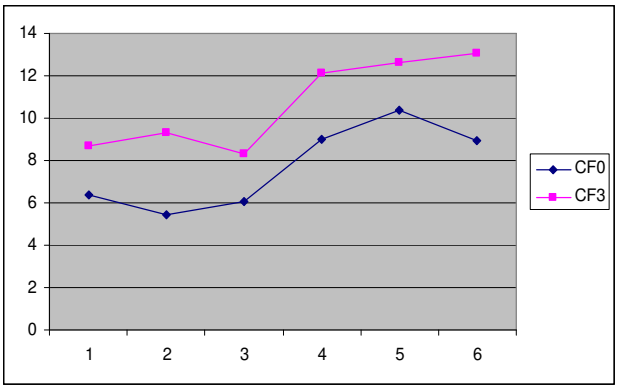

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Weight of breast (chest) goat nuts.

The weight of the breast (chest) goat nuts, starting from the sternum straight back up to the projection of the lumbar vertebrae to-6, the average breast carcass parts are shown in Table 5. Results of analysis of variance showed that treatment of complete feed on a significantly different (P <0.05) against the weight breast. The average weight of the treatment breasts CF0, CF3 734.05 g/head/90 consecutive days; 1009.42 g/head/90 day, the average weight of breast goat nuts CF3 treatment is higher than the CF0. This indicates there is a development growth in the breast meat in goats treated peanut complete feed containing starch tubers banana varieties of stone, although the treatment effect does not provide a significant influence on the weight of the breast, but the average weight of breast treatment produced complete feed containing flour banana weevil stone is better than treatment CF0. Although the treatment effect does not provide a significant influence on the weight of the breast, however, the average weight of breast treatment complete feed containing flour banana weevil stone is better than treatment CF0. This is a complete feed guide CF3-containing flour banana weevil carbohydrate-rich rock that gives a positive effect on the added weight of the carcass breast

Weight of leg chump on (thigh) goat nuts.

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The weight of the ribs (ribs) goat nuts.

The weight of the goat bean ribs, starting from mid costae the 5th and 6th until costae to-12 and 13, averaging the ribs are shown in Table 2. Results of analysis of variance showed that treatment of complete feed on a significantly different (P <0.05) against the weight of the ribs. The average weight of ribs treatment CF0, CF3 1127.04 g/head/90 consecutive days; 810.84 g/head/90 day, the average weight of lamb ribs beans CF3 treatment is higher than the CF0. This indicates there is a development growth in the meat goat ribs in peanut treated complete feed containing starch tubers banana varieties of stone, although the treatment effect does not provide a significant influence on the weight of the ribs, but ribs so the average weight of the resulting treatment of complete feed containing flour banana weevil stone is better than treatment CF0. Although the treatment effect does not provide a significant influence on the weight of the ribs, but ribs treatment the average weight of complete feed containing flour banana weevil stone is better than treatment CF0. This is a complete feed guide CF3-containing flour banana weevil carbohydrate-rich

rock that gives a positive effect on the added weight of the carcass ribs.

Weight of loin goat nuts.

The weight of the loin lamb beans, ranging from 13 to costae the vertebrae limbless to-8, the average loin section are shown in Table 2. Results of analysis of variance showed that treatment of complete feed on a significantly different (P <0.05) on loin weight. The average weight of loin treatment CF0, CF3 1439.28 g/head/90 consecutive days; 1035.47 g/head/90 day, the average weight of lamb loin pea CF3 treatment is higher than the CF0. This indicates there is a development growth in the loin meat in goats treated peanut complete feed containing starch tubers banana varieties of stone, although the treatment effect does not provide a significant influence on the weight of the loin, loin and yet the average weight of the resulting treatment of complete feed containing flour banana weevil stone is better than treatment CF0. Although the treatment effect does not provide a significant influence on the weight of the loin, but the average weight of loin treatment of complete feed containing flour banana weevil stone is better than treatment CF0. This is a complete feed guide CF3-containing flour banana weevil carbohydrate-rich rock that gives a positive effect on the added weight of the carcass loin.

Weight of fore shank goat nuts.

The weight of the fore shank goat nuts, starting from the joint between the hummers and ulna to the corpus radius, the average fore shank section are shown in Table 2. weighted analysis of variance showed that treatment of complete feed on a significantly different (P <0.05) to the fore shank. The average weight of fore shank treatment CF0, CF3 1439.28 g/head/90 consecutive days; 1035.47 g/head/90 day, the average weight of lamb shank nuts CF3 treatment is higher than the CF0. This indicates there is a development growth in the fore shank meat goats treated peanut complete feed containing starch tubers banana varieties of stone. Although the treatment effect does not provide a significant influence on the weight of the fore shank, however, the average weight of fore shank treatment of complete feed containing banana flour stone hump, better than the treatment CF0. This is a complete feed guide CF3-containing flour banana weevil carbohydrate-rich rock that gives a positive effect on the added weight of the carcass fore shank.

Weights flank goat nuts.

The weight of the flank goat nuts, starting from the projection end of the 13 caste drawn straight from the tip of the chest and groin borders, averaging the flank are shown in Table 2. Results of analysis of variance showed that treatment of complete feed on a significantly different (P <0.05) against the weight flank. Average weight of treated flank CF0, CF3 164.62 g/head/90 consecutive days; 228.79g/head/90 day, the average weight of lamb shank nuts CF3 treatment is higher than the CF0. This indicates differences in developmental growth occurs on the flank meat in goats treated peanut complete feed containing starch tubers banana varieties of stone, although the treatment effect does not provide a significant influence on the weight of the flank, but the average weight of the resulting flank complete treatment feed containing flour banana weevil stone is better than treatment CF0. Although the treatment effect does not provide a significant influence on the weight of the flank flank however, the average weight of complete feed containing treated flour banana weevil stone is better than treatment CF0. This is a complete feed guide CF3-containing flour banana weevil rocks are rich in carbohydrates to give a positive effect on the added weight of the carcass flank.

1988).

CONCLUSIONS

Complete feed containing starch tubers banana varieties of stone, can improve the performance weighting carcass and other parts of the beans goat carcass.

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