

EFFECT OF *Senna occidentalis* SEED MEALS ON THE GROWTH PERFORMANCE OF SAVANNA BROWN GOATS IN A SEMI INTENSIVE SYSTEM AS A TRAJECTORY TO FOOD SECURITY AND AVERSION OF BANDITRY AND KIDNAPPING.

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ABSTRACT

This study explains a strategic way of producing Savanna Brown Goats in human living areas as a sustainable trajectory to Nigeria's economic recovery and food security of individual and avert the risk of banditry and kidnapping that serve as treat to small ruminants producers in the villages. A semi – intensive management system was used behind the New Postgraduate School, Federal University of Technology, Minna. Niger State. Farm wastes crop remains and residues like *virgina sinensis* hay *manlhorth utillissima* tuber peels, groundnut cake and bonemeal (Yahaya 2014,2018), were formulated into feed with graded levels of inclusion of processed *senna occidentalis* seeds meals (T1 :0%,T2:5%,T3:10% and T4:15%) and fed to the animals. *Seena occidentalis* seeds meals was obtained from the processed seeds of a plant called Negro coffee The result shows The result of growth performance of Savanna Brown Goat fed graded levels of *Senna occidentalis* seeds meals (S.O.S.M) based diets presented in table 1.0. The result obtained showed that diet containing S.O S.M had effect ($P < 0.05$) on the growth performance of goats at week eight (8), week twelve (12) and at the total weight gain. However, the diets had no significant ($P > 0.05$) effect at other weeks. the trajectory of semi intensive management and adoption of *senna occidetalis* seeds meal will give a positive result.

KEY WORDS; Trajectory, Banditry, Farm waste, Kidnapping and Ransom

INTRODUCTION

The high demand for animal protein raise more interest in goat production for meat (chevon) and milk (dairy) production. Goats can convert a lot of home refuse and scavenge refuse heap on a wide range. Goat production is centered in small scanty scattered villages and farm centers. In recent years farmers are no longer safe and comfortable in such villages due to banditry and kidnapping activities to demand for ransom in the Northern Nigeria and middle belt of Nigeria. This paper is aimed at explaining how goat management can be done systematically in Semi-Intensive System in towns and living areas to avert banditry and kidnapping for unaffordable ransom. A technologically managed semi-intensive system can promote goat production to achieve its values and status. In this system the animals are allowed to roam within the run (Babayemi, 2019). The system is economical, security conscious in the hands of thieves and the bandits. The risk of kidnappers is also averted by the farmers to still be in the scheme of production, prevent long and wide distance walk to scavenge for feed (Ibrahim, 2019).

MATERIALS AND METHODS

A goat house was constructed within the old animal production research unit, behind the new Post Graduate School Federal University of Technology Minna, Gidan kwano and fenced to create a run with grasses and legumes, and used for this pioneer work on *senna occidentalis* to raise the twenty-four (24) goats used. The house has dwarf wall, iron poles supporting the zinc roof 3m above the wall to allow free aeration and covered with wire gauze between the poles and the zinc roof, to protect the Goats from Rain and provide shade (Babayemi, 2014). And also covered with curtain to moderate the temperature in the house. The run provides the animals with free movement, feed from the growing and harvested grasses and pastures (Basil, 2017). The animal feed was formulated from farm crop waste Home and farm wastes like, manlhorth utillissima tuber peels, groundnut cake *virgina sinensis* hay and bonemeal with Inclusion of graded levels of processed *Senna occidentalis* labelled T1,T2,T3,T4 representing diets 1,2,3,4. *senna* seed meal from *senna* plant that has no value for human competition and is common within living areas.(Ibrahim 2019).

Experimental Diets

T1 contained 0 % *Senna occidentalis* Seed meal, T2 Contained 5 % *Senna occidentalis* Seed meal, T3 contained 10 % *Senna occidentalis* Seed meal and T4 contained 15 % *Senna occidentalis* Seed meal.

Table 1: Ingredient composition of the experimental diets

Feedstuff/ Diets	T1	T2	T3	T4
Cassava peel	26.83	26.04	25.25	24.48
GNC (ground Nut Cake)	13.08	10.89	8.25	5.55
Negro coffee (senna occidentalis)	0.00	5.00	10.00	15.00
Maize offal	26.83	26.04	25.25	24.48
Brewers waste	26.83	26.04	23.25	24.48
Bone meal	2.00	2.00	2.00	2.00
Di-calcium	1.00	1.00	1.00	1.00
Salt	2.00	2.00	2.00	2.00
Premix	1.00	1.00	1.00	1.00
Calculated Analysis				
Crude Protein	13.998.	14.001	14.001	14.001
Energy (kca/kg)	2323.33	2388.87	2454.43	2518.40

RESULTS AND DISCUSSION

Table 2: Growth performance of Savana Brown Goats Fed Graded level of Seena occidentalis Based

Parameters/ Treatments	T1	T2	T3	T4	SEM	P-Value
Initial weight	10.13	10.25	11.20	11.12	0.30	0.49
Weight gain	2.12 ^{ab}	2.30 ^{ab}	2.52 ^a	0.97 ^b	0.24	0.05
Week 1	10.25	10.42	11.33	11.63	0.33	0.41
Week 2	9.95	9.67	11.87	11.08	0.32	0.33
Week 3	10.05	9.80	11.05	12.33	0.47	0.22
Week 4	10.10	9.83	11.08	11.45	0.31	0.19
Week 5	10.12	10.33	11.62	11.28	0.32	0.28
Week 6	110.10	10.48	11.92	11.30	0.34	0.23
Week 7	10.32	10.78	12.17	11.08	0.32	0.21
Week 8	10.45 ^b	10.03 ^{ab}	12.42 ^a	11.23 ^{ab}	0.31	0.14
Week 9	10.90	11.33	12.60	11.40	0.29	0.20
Week 10	11.17	11.63	12.81	11.63	0.29	0.20
Week 11	11.57	12.02	12.98	11.85	0.27	0.27
Week 12	12.25 ^{ab}	12.55 ^{ab}	13.72 ^a	12.08 ^b	0.27	0.05

The ingredient table X-Rays the stuffs used to formulate the feed and the inclusion levels of Seenna. The calculated analysis of crude protein and the energy levels of the feed are shown. The result of growth performance of Savanna Brown Goat fed graded levels of Senna occidentalis seeds meals (S.O.S.M) based diets presented in table 1.0. The result obtained showed that diet containing S.O S.M had effect ($P < 0.05$) on the growth performance of goats at week eight (8), week twelve (12) and at the total weight gain. However, the diets had no significant ($P > 0.05$) effect at other weeks.

The result at week twelve (12) showed that goats on treatment 1, 2 & 3 had similar ($P > 0.05$) outcome on growth performance. Similarly, goats on treatment 1, 2 and 4 also had similar ($P < 0.05$) result on growth performance when compared to those animals in treatment 4.

CONCLUSION AND RECOMMENDATION

With the result of weight, cheap cost of feeds and the availability, reduced labor cost, security within the vicinity, Semi Intensive system is recommended as the most appropriate system of keeping goats as complete confinement affect Goat Performance, to avert the fear of Banditry and still get what is needed with the confinement.

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