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A Survey of Some Dry Season Feed Materials for Small Ruminants in Ogbomoso, Nigeria

[1]F.G.Sodeinde, J.A, Akinlade, [1]V.O. Asaolu, [2]M.A. Oladipo [1]S.R.Amao and [1]J.A.Alalade
[1]Department of Animal Production and Health
[2]Department of Pure and Applied Chemistry, P.M.B. 4000,
Ladoke Akintola University of Technology, Ogbomoso, Oyo State, Nigeria

Abstract: The study was conducted to find out the feed materials available for small ruminants in the five local government area of Ogbomoso, Oyo State, Nigeria. One hundred questionnaires were administered within the five zones. Data collected were analyzed using descriptive statistics. The results showed that 60% kept goats alone, 20% tended only sheep while 20% kept both sheep and goats, respectively. About 50% got their animals from local markets while others goat theirs as gifts or from contractual agreements. Flock sizes of 1-6 goats and 1-10 sheep were pre dominant among respondents. Fed materials commonly used in the dry season are agro-industrial by-products, by-products of grain processing, peels of crops, crop residues kitchen waste and roughages including pastures and browse plants. Forages are abundant in the wet season, therefore little supplementation is done. The quality and quantity of these materials tend to be affected by the location and season.

Key words: Dry season, feed materials, ogbomoso, oyo state, small ruminants

INTRODUCTION

There is a supply deficit in meat and other animal products in the developing countries of the world including Nigeria which has led to widespread rise in prices of most of these products. This situation has been identified to be due to inadequate and inbalanced nutrition, prevalence of diseases and poor enterprise combination of crop and animal farming and agricultural practice. The most important factor is however the fluctuation in fed supplies situation leading to poor performance of livestock compared to the developed countries inadequate feed supply of feeding of poor feeds is responsible for low livestock productivity in the tropics (Adegbola *et al*., 1990). Feeds for livestock constitute between 50 and 90 of the total cost of production depending on the type of livestock. It is therefore a very important item in the livestock sub-sector. Feed cost for ruminants under intensive management was 55% of the total cost of production (Doma *et al*., 1999).

Inadequate feeding is a major constraint to ruminant production in tropical Africa (Ogwang *et al*., 1994; Samberg *et al*., 1985). An improvement in nutrition through strategic supplementation could, therefore, enhance the productivity of goats Peters, 1988. Supplementation of goats could come through the use of browse species such as *Gliricidia sepium* and *Leucaena leucocephala* which contain more crude protein compared to tropical grasses (Olomu, 1984; Otcher, 1985). Gliricidia and leucaena have been successfully used for small ruminant production systems in alley farming and intensive feed gardens (Olomu, 1984).

The economic value of crops makes it unavailable for livestock feeding. However processing and preparation of these food crops lead to the production of residues and by-products of grain processing, peelings of crops and industrial by-products. The type and quantity of these feedstuffs tend to be location and season specific (Ogwang *et al*., 1994). At present, supplementary feeds are not used optimally as most small farmers do not know its potential for small ruminant production. It has been reported that household wastes and crop residues could be used after processing as feedstuffs as they contain crude protein levels ranging from 1 to 23%, fiber; 2 to 52% and metabolizable energy as high as 20MJ per kg DM and thus small ruminants fed with these feedstuffs are healthier and heavier (Adegbola *et al*., 1990; Onwuka, *et al*., 1997).

The pivotal position of feeds in the correction of the deficit in meat and other animal products cannot be over emphasized and hence the objective of this survey of feed materials for small ruminants was to identify the various feedstuffs available for optimal goat and sheep in Ogbomoso, Oyo State, Nigeria in the dry season.

Corresponding Author: F.G. Sodeinde, Department of Animal Production and Health, P.M.B. 4000,
Ladoke Akintola University of Technology, Ogbomoso, Oyo State, Nigeria

MATERIALS AND METHODS

The survey was carried out in the five local government areas of Ogbomoso, Oyo State, Nigeria. These local government comprised of Ogbomoso North, Ogbomoso South, Orire, Ogo Oluwa and Surulere. Two locations randomly selected per local government were sampled. This gave rise to 10 locations as replicates. The available feedstuffs varies according to these locations. The study was carried out through the use of structured questionnaires. A total of one hundred questionnaires were used, divided and distributed equally among the five local government areas selected for the study. Data obtained from the study were analyzed using descriptive statistics.

RESULTS AND DISCUSSION

Table 1 shows the general information about the respondents expressed in percentages. Rearing of sheep and goats in Ogbomoso and its environs is common among adults of ages 30 and above. Some of these farmers had their first animal at the time of their marriage confirmation. Sixty% of the respondents were females while only 40% were males. This suggests that small ruminant production in this zone is still at the peasant level and considered an occupation for women and children. Most of the respondents had basic education up to secondary level while those with no education also were 31.4%. This clearly shows that small ruminant production in this zone will need the intervention of extension agents that can bring innovations and improve livestock management and production to increase the animal protein intake gotten from these ani1.0
mals (Egunjobi, 1989; Ikwuegbu *et al*., 1994).

Table 2 shows the scope of small ruminant production. 44% of the respondents practiced extensive system of livestock production as contrasted tot eh 46% who practiced semi-intensive system. This result obviously disagrees with the widely reported traditional extensive systems prevalent in tropical Africa (Adegbola *et al*., 1990). This observation might be due to the profection reasons. Most of the farmers (55%) acquired their foundation stock from the local market and this obviously shows the importance of these small ruminant market as channels of acquiring foundation socks. This made it a bit difficult to trace the genology or history of the animals under investigation. In improving these stocks therefore, the farmers are improving these stocks therefore, the farmers are to be tutored to keep records of production, though some of them were able to give verbal records, but were not too adequate. Other

Table 1: General information on the respondents

Criterion	Response	No. of respondents	Percentage
Age			
	10-19	4	4
	20-29	2	2
	30-39	29	22
	40-49	29	29
	50 and above	33	33
Sex			
	Male	40	40
	Female	60	60
Education			
	Primary	5	7.1
	Secondary	28	4.0
	Tertiary	15	21.4
	None	22	31.4

Table 2: Scope of small ruminant production

Criterion	Response	No. of respondents	Percentage
System of livestock	Intensive	10	10
Livestock	Semi-intensive	46	46
Production	Extensive	44	44
Source of	Purchase from		
Initial	Local market	55	55
Stock	Gift	35	35
	Contractual agreement	10	10

respondents got their stocks as gifts (35%) and on contractual agreements (10%) in which case the offsprings are shared by the parties involved. This idea of sharing also contributes to the low number of animals per head and which eventually affects both income and farm strength. This might have being responsible for the low percentage of farmers under intensive system (10%) and mostly low income farmers (FAO, 1989; Ademosun, 1988).

Table 3 shows the list of feed materials fed to sheep and goats by farmers in each local government area sampled. Forages, shrubs, cassava peels, yam peels, maize residues and sorghum residues were found predominant in all areas. Feedstuffs like plantain peels, palm kernel cake and groundnut tops were fed in the other three local governments except the North and South local areas. Kitchen waste and banana peels found to be part of the feed materials used in these other two local governments (North and South) but not in use in the others. These varieties of feed materials reveals that there are common feed materials while some are specific to the township (Adu *et al*., 1986).Those in the rural places do not believe in feeding ruminants with kitchen waste because they believe these waste can be fed to other animals like dog instead of ruminants, that have abundant of grasses to consume. This act had a reflection on the appearance of the animals because some of them had deteriorated health condition and stunted growth because of the imbalance in the mineral profile (Anon, 1988; Lapkini, 2002).

Table 4 shows the list of feed materials fed to small ruminants by farmers in the five local governments of Ogbomoso, Nigeria. They include crop residues, peels of

Table 3:List of feedmaterials fed to sheep and goats by Farmers in the different local governments

Orire	Ogo-Oluwa	North	South	Surulere
Cassava peels	Yam peels	Kitchen waste	Kitchen waste	Cassava peels
Yam peels	Sorghums residues	Pawpaw waste	Cassava peels	Cowpea foliage
Maize starch residues	Millet residues	Plantain waste	Plantain waste	Groundnut foliage
Grasses shrubs	Maize stover	Maize residues and stover	aize residues	Maize residues
Shrubs	Corn cobs	Sorghum residues	Cowpea wastes	Millet residues
Cowpea residues (foliage)	Grasses shrubs	Cowpea wastes	Banana peels	Millet residues
(cotyledon)	*Melinia arborea*	*Stylosanthes sp.*	Soyabeans waste	Grasses
Sorghum grains and foliage	*Melinis minuflora*	*Centrosema sp.*	Sorghum waste	Plantain peels
Groundnut tops	Cassava peels	Banana peels	Grasses	Palm kernel
Palm kernel cake	Palm kernel cake	Grasses	Shrubs	Shrubs

Table 4: List of feedmaterials fed to small ruminants by farmers

Crop residues	Peels of crops	Industrial by-products	Grain processing
Maize stover	Cassava peels	Cowpea cotyledons	By-products
Sorghum stover	Yam peels	Cassava starch	Maize residues
Millet stover	Plantain peels	Chaff	Sorghum residues
Groundnut top	Banana peels		Grain chaffs
Cowpea foliage	Potato peels		Millet residues
Kitchen waste			
Roughages			
Grasses	Legumes/Browse plants		
Panicum maximum	*Cajanus cajan*		*Gliricidia sepium*
Pennisetum purpureum	*Glycine max*		*Tithoniadiversifolia*
Cynodon dactylon	*Vigna unguculata*		*Melinisminutiflora*
Imperata cylindrical	*Arachis hypogea*		*Melinia arborea*
		Leuceana leucocephala	

crops, industrial by-products, by-products of grain processing and roughages. The aforementioned are the feedstuffs which are still unexploited in Ogbomoso and its environs except suggestions have being made on the inclusion of these feedmaterials in ruminant feeding as strategies to improve the feeding of these animals most especially during the dry season when the quality of herbage is low and animals tend to loose weight (Bankole and Babayemi, 2004; Olurem and Iterikang, 2005).

The use of household waste combined with cassava peels or other crop by products of small scale commercial food processing in small ruminant feeding most especially for livestock owners without access to land and fodder crops have also being suggested by (Egunjobe, 1989; Olayiwola, 1985; Olayide, 1989) farmers in urban and peri-urban centers. Household waste especially kitchen waste can be a good source of mineral in the animals diet. The predominantly fed feedstuffs were maize starch residue, cassava peels and pasture plants. This could be explained by the fact that majority of the male farmers were food and tree crop farmers while the females were into the processing and marketing therefore making the products available to their animals Olukos, 1989. These list of feedstuffs are different from the ones fed especially in the Northern part of Nigeria (Groundnut haulms, cowpea hay and husk, reveal offal, straw materials *Andropogon* sp., *Pennisetum* sp. and *Azacirachila* sp.).

CONCLUSION

Feed materials available to farmers in Ogbomoso especially in the dry season include cassava peels, roughages, maize stovers, chaff, cowpea cotyledons and kitchen wastes.

Therefore, animal growth rate can be improved if a fadama can be set up to complement these available concentrate feeds.

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