PHENOTYPIC CHARACTERIZSTION OF INDIGENOUS GOAT IN AFIKPO SOUTH LOCAL GOVERNMENT AREA BONYI STATE

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ABSTRACT
The current state of knowledge on the characterization of farm animal generic resources in Nigeria shows that there is still lack of information about the production characters of local breeds Therefore, this study was conducted to characterize goat phenotype and asses the popularity of indigenous goat in Edda, Afikpo South Local Government Area (LGA) in Ebonyi State. A total of eight morphometric linear measurements were obtained using tailor's tape. These included chest girth (cg), body length (BL), wither height (WH), rump height (RH), rump length (RL), rump width (RW), pelvic width (PW), thoracic depth (TD) The objective of this study was to characterize the phenotypes of indigenous West African Dwarf goat in Edda, Ebony state The data collected was analyzed using descriptive statistics The result of the study showed a high significantly (P<0.0001) positive correlation among the morphological traits in WAD doe. The correlation ranged between 0.68 and 0. 99 with the highest correlation of 1found between RH and BH. There is also a high significantly (P<0.0001) positive correlation among the morphological traits of WAD Buck. Between sexes there was no significant difference at 0.05 level of significance was observed.
Keywords: WAD goat, morphometric, Edda

INTRODUCTION

The West African Dwarf (WAD) goat is widely distributed across the rainforest belt of Southern Nigeria. They are short-legged and grid-bodied animals, weighing between 22 and 26kg (Mourad *et al*. 2000). They also present variable coat colours, ranging from black, brown, gray, red and white, and sometimes combinations of these in a variety of patterns (Mourad *et al.,* 2000). The indigenous goats can be improved by mass selection based on the phenotypic characters and also individuals containing superior characteristics can be selected as parents for the next generation. Knowledge on variation of phenotypic traits which have played a basic role in classification of livestock based on size and shapes is important for the characterization of local genetic resources.

MATERIALS AND METHODS

Location and Duration of the study**.** This study was conducted at Afikpo South Local Government Area (LGA) precisely at Edda village. It lasted for fourteen days.

Materials Used

Tailors measuring tape, pen, and notebook was used for data collection.

Experimental Animal

The animal used for this experiment are 200 WAD Goats

Experimental Design

Sample was collected randomly from different villages in Afikpo south

Measurements, Data Collection and Analysis

A total of eight phenotypic linear measurements were obtain using tailoring tape. It was done in the morning before feeding the animals to avoid bias on certain trait due to feed intake.

RESULTS AND DISCUSSION

In Table 1, the result showed that WAD Bucks has the highest coefficient of variation (CV= 81.45) in the CG while the Does has that of (CV= 74.84). The least amount of CV was observed in WAD Does RL with a (CV of 35.84). The result also show that the female goat has the highest mean value in body length (BL=31.53) while the Buck have (BL=31.39). The least standard error (SE) is located at the EL of the Does. SE (EL=0.4) in general the lowest mean value was found in the ear length of the

Bucks (EL=6.89). The body trait with the most average is the BH in Does which have the mean value of (38.82) leaving the male with (37.34).

Table 1:Descriptive Statistics of WAD Goat based on sex

SXE	No Obs		N	mean	SD	SE	CV
Female	43	**BL**	43	31.53	18.11	2.76	57.45
		RW	43	32.72	15.73	2.4	48.07
		HW	43	36.43	16.35	2.49	44.88
		BH	43	38.82	17.07	2.6	43.97
		EL	43	7.11	2.61	0.4	36.77
		RH	43	38.24	17.67	2.69	46.21
		RL	43	15.33	5.5	0.84	35.84
		CG	43	31.73	25.01	3.81	78.84
Male	56	**BL**	56	31.39	18.63	2.49	59.37
		RW	56	31.3	14.57	1.95	46.55
		HW	56	35.84	16.84	2.25	47.00
		BH	56	37.34	17.73	2.37	47.49
		EL	56	6.89	2.58	0.35	37.48
		RH	56	32.66	16.99	2.27	52.04
		RL	56	15.09	6.87	0.92	45.55
		CG	56	24.66	20.09	2.68	81.45

CG=,…..SD=,SE =,CV=

Mean, standard deviation (SD), standard error (SE) and the coefficient of variation (CV) of the body measurement for WAD breed of Goat based on sex

Table 2 presented the correlation between the morphological traits WAD Doe. The result of the study showed a high significantly (P<0.0001) positive correlation among the morphological traits. The correlation ranged between 0.68 and 0. 99 with the highest correlation of 1found between RH and BH. This showed RH and BH has the highest correlation coefficient among the body traits

Table 2: Correlation Coefficient for Dows

	BL	**RW**	**HW**	**BH**	**EL**	**RH**	**RL**	**CG**
BL		0.68*	0.89*	0.93*	0.79*	0.93*	0.79*	0.97*
RW			0.79*	0.74*	0.78*	0.75*	0.80*	0.71*
HW				0.98*	0.75*	0.99*	0.86*	0.90*
BH					0.75*	1*	0.85*	0.93*
EL						0.76*	0.71*	0.81*
RH							0.85*	0.93*
RL								0.80*
CG								

*significant at 0.0001

Chest girth=cg, body length=BL, wither height= WH, rump height =RH, rump length =RL, rump width =RW, pelvic width =PW

Table 3 presented the correlation between the morphological traits WAD Buck. The result of the study showed a high significantly (P<0.0001) positive correlation among the morphological traits.

CONCLUSION

The findings on this study showed that linear body measurement of indigenous goat are used in predictions of future body weight and also to estimate genetic correlation between body measurements. Also phenotypic characterization of indigenous goat is vital for long-term genetic improvement and production.

Table 3: Correlation Coefficients for Bulk

	BL	RW	HW	BH	EL	RH	RL	CG
BL		0.66*	0.93*	0.96*	0.88*	0.62*	0.78*	0.81*
RW			0.80*	0.74*	0.62*	0.88*	0.77*	0.84*
HW				0.99*	0.82*	0.77*	0.82*	0.86*
BH					0.83*	0.73*	0.81*	0.85*
EL						0.47*	0.65*	0.72*
RH							0.71*	0.87*
RL								0.76*
CG								

*Significant at 0.0001 level of significance

Chest girth=cg, body length=BL, wither height= WH, rump height =RH, rump length =RL, rump width =RW, pelvic width =PW

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