

UDDER AND TEAT DIMENSIONS BEFORE AND AFTER MILKING OF WEST AFRICAN DWARF DOES AT EARLY LACTATION AND AT FIRST PARITY

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INTRODUCTION

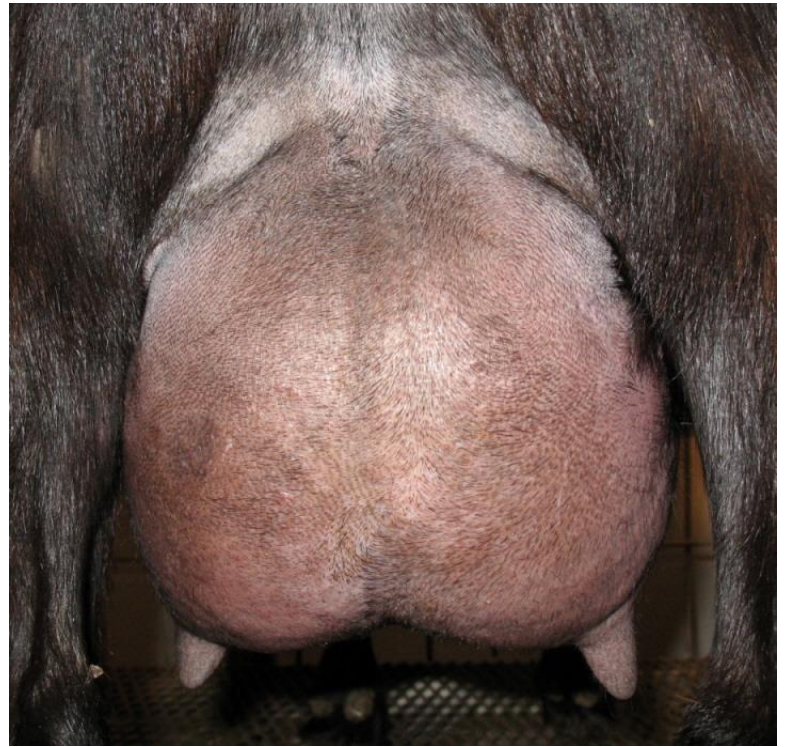
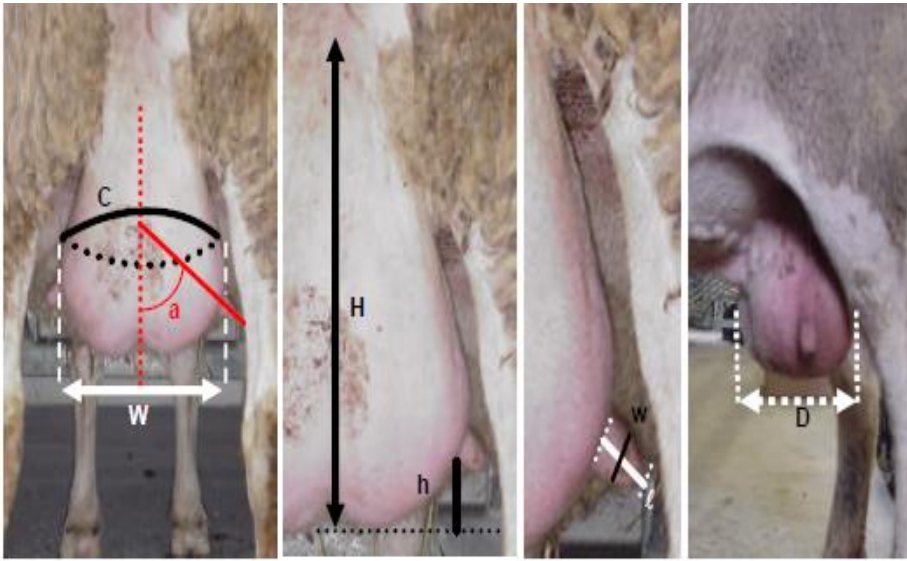
- The udder is a very important physiological and conformational characteristic of all dairy animals.
- Before milking, milk in the udder is distributed between cisternal (always available for milk removal) and alveoli compartment (Tacina and Bruckmaier 2011).

MATERIALS AND METHODS

- Twelve Lactating does in their first parity between the age of 1-2years of weight range between 16-20kg was used for the experiment for six weeks at the Directorate of University Research Farms (DUFARMS), Federal University of Agriculture Abeokuta, Ogun state, Nigeria.
- The animals were managed under an intensive system with zero grazing (cut and carry) and fed a mixture of palm kernel cake, soybean meal, wheat offal, cassava peel, limestone, salt, premix and bone meal.

MATERIALS AND METHODS

- Eight morpho-biomtrical traits of the udder were taken on each lactating animal in the morning before milking and after milking.
 - Udder length (ULBF,ULAF), Width (UWBF,UWAF), Udder circumference (UCBF,UCAF), Udder width (UWBF,UWAF), and Teat circumference (TTCBF,TTCAF),Teat length (TTLBF,TTLAF), Teat width (TTWBF,TTWAF), Distance between teat (DBTTBF,DBTTAF), Height of teat from ground (HTTGBF,HTTGAF) with a flexible tailor's tape before they were hand milked and after milking



C= Udder circumference, W = Udder width, H= Udder Height, w = Teat width, I = Teat length, T = height of teat from ground.

MATERIALS AND METHODS

- **STATISTICAL ANALYSIS**

- Data were subjected to Descriptive statistics. T test analysis was used to compare before and after milking. Correlation analysis among parameter was also conducted.

RESULTS AND DISCUSSION

Table 1: Descriptive statistics of udder parameters before and after milking

Parameters	Udder dimensions
UCBF	31.05 ± 0.45
UCAF	26.00 ± 0.46
ULBF	9.38 ± 0.16
ULAF	7.90 ± 0.15
UWBF	14.19 ± 0.35
UWAF	13.09 ± 0.52
TTCBF	3.93 ± 0.04
TTCAF	3.92 ± 0.03
TTLBF	2.11 ± 0.04
TTLAF	1.95 ± 0.05
TTWBF	1.44 ± 0.07
TTWAF	1.44 ± 0.06
DBTTBF	7.79 ± 0.14
DBTTAF	6.10 ± 0.51
HTGBF	16.23 ± 0.34
HTGAF	17.24 ± 0.36

Table 2: Pearson correlation coefficient of udder circumference before milking and some udder and teat dimensions

Udder and teat dimensions	Correlation coefficient
UCBF	1.00
UCAF	0.35**
ULBF	0.32**
ULAF	0.03
UWBF	0.19
UWAF	0.13
TTCBF	0.05
TTCAF	-0.03
TTLBF	0.16
TTLAF	-0.25*
TTWBF	0.18
TTWAF	-0.10
DBTTBF	0.61**
DBTTAF	0.25*
HTGBF	-0.09
HTGAF	-0.22

Table 3: Stepwise Regression equation of udder circumference before milking on some udder and teat dimensions

	Prediction equation	R ²
Step 1	$Y=16.48 + 1.89\text{DBTBF}$	0.37
Step 2	$Y=11.03+0.25\text{UCAF}$ $+ 1.75\text{DBTBF}$	0.43
Step 3	$Y=14.47 + 0.26 - 1.71(\text{TTLAF})$ $+ 1.72\text{DBTTBF}$	0.53

Table 4: Comparison of udder parameters before and after milking

Parameters	Before	After	P value
UCC	29.8	24.8	P<0.0001
UDL	8.7	7.1	P<0.0001
UDW	13.2	10.5	P>0.05
UDV	99.5	99.5	P>0.05
TTC	3.9	3.9	P>0.05
TTW	1.1	1.3	P>0.05
TTA	84.2	84.2	P>0.05
DBTT	7.3	5.5	P<0.01
HTG	15.5	17.9	P<0.01

CONCLUSION

- Udder circumference was strongly associated with distance between teat and teat length .
- Udder circumference, udder length, distance between teat and height of teat from the ground tends to regress after milking.

REFERENCES

- Tančín V. and Bruckmaier M., (2001). Factors affecting milk ejection and removal during milking and suckling of dairy cows. Vet. Med. - Czech, 46, Pp: 108-118.
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