

Repeat breeding in west african dwarf goats

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RÉSUMÉ

OSUAGWUH (A. I. A.). — Répétition des chaleurs chez la chèvre naine d'Afrique de l'Ouest en gestation. *Rev. Elev. Méd. vét. Pays trop.*, 1984, 37 (1) : 79-81.

Des études ont été effectuées sur le comportement sexuel des chèvres naines d'Afrique de l'ouest durant les chaleurs. Parmi 24 femelles, 6 (25 p. 100) ont présenté des manifestations décelables d'oestrus et ont accepté le bouc après une première saillie. Au total, 15 cas identiques de répétition des chaleurs ont été notés, avec une déviation moyenne et standard de $3,27 \pm 1,03$ par monte. Les accouplements répétés ont manqué de régularité. La corrélation avec la gestation était de $2,73 \pm 0,80$. La durée de toutes les gestations correspondait à la date du dernier refus de monte, ce qui indique que les chèvres naines d'Afrique de l'Ouest n'ont pas montré de signe d'oestrus décelable ou accepté le bouc pendant leur gestation.

Mots clés : Oestrus - Chèvre gestante - Chèvre naine d'Afrique de l'Ouest - Nigeria.

SUMMARY

OSUAGWUH (A. I. A.). — Repeat breeding in West African Dwarf goats. *Rev. Elev. Méd. vét. Pays trop.*, 1984, 37 (1) : 79-81.

Studies were carried out on the sexual behaviour of the West African Dwarf does during breeding. Six (25 p. 100) out of 24 does showed detectable oestrous signs and willingly accepted the buck after a first service. A total of 15 such repeat breeding periods were recorded with a mean and standard deviation of 3.27 ± 1.03 services per breeding period. The repeat services lacked rhythm or regularity. There was a corresponding value of 2.73 ± 0.80 services per pregnancy. The gestation period of all the pregnancies corresponded to the last non-return service date indicating that the West African Dwarf does did not show detectable oestrous signs or accept the buck during pregnancy.

Key words : Oestrus - Pregnant goat - West African Dwarf goat - Nigeria.

INTRODUCTION

Sexual activity in domestic animals usually does not occur during pregnancy. There are however some reports indicating oestrus and willingness to accept the male during pregnancy by some animals. For example some authors have reported the occasional acceptance of ram by pregnant ewe (2, 3). This phenomenon has been associated with follicular growth during pregnancy which is not usually followed by ovulation. Other reports however indicated that pregnant West African Dwarf (WAD) ewe did not come on heat or express oestrous behaviour in the presence of the teaser rams (4).

MCDONALD (3) cited reports of oestrus during pregnancy in other species of animals,

but that ovulation usually does not occur except in the mare. On very rare occasions, ovulation, breeding and conception might occur during an existing pregnancy leading to superfoetation (5, 6).

WILSON (7) reported that pregnant East African Dwarf goats were occasionally willing to accept service. Similar observations had been made in the WAD goats (unpublished data). This phenomenon may introduce some confusion and openings for losses in the management of these animals. For example if a farmer believes that does do accept the male during pregnancy, there is a tendency for him to mistake the case of repeat breeding due to lack of conception for the case of unnecessary servicing during pregnancy. Such a repeat breeder showing

oestrus might erroneously be prevented from mating the buck because it was assumed to be pregnant.

This study was carried out to show whether this phenomenon of servicing during pregnancy occurs in the WAD goat or not, and to determine which of the services during repeat breeding resulted in pregnancy.

MATERIALS AND METHODS

The observations were made during the dry season (November-March) in a typical humid climatic zone in Southern Nigeria.

Twenty-four West African Dwarf adult does weighing from 17 to 28 kg were used for this study. The goat were fed on basal ration of cut grass *Cynodon nlemfuensis*. The forage feeding was supplemented with concentrate routinely used to feed goats in this farm. This has the following composition : yellow maize 62.50 p. 100, palm kernel cake 15.00 p. 100, brewer's grain 20.00 p. 100, mineral/vitamin mixture 0.50 p. 100 and salt 0.50 p. 100.

As for the influence of the feeding on the observations made, the composition of the concentrate used as supplement to grass is the standard concentrate used in the University of Ibadan Teaching and Research Farm considered adequate for the WAD goat. It may however be desirable to monitor the effect of such nutritional level and season on the reproductive performance of the WAD goat in future studies. Fresh clean water and salt licks were also provided.

Breeding :

The animals were randomly allocated to six groups. There were four does per group. All the groups were bred by one healthy and sexually active WAD buck. For oestrus detection, the does were teased in the morning and evening by a vasectomised buck. Both the intact and the vasectomized buck were housed in a separate pen from the does. Any doe detected to be on heat in the morning was separated and mated in the evening and if oestrus was observed in the evening mating was allowed the following morning. The service was repeated if the doe still remained on heat the following day. Monitoring of oestrus continued throughout the experiment. All service dates were recorded for each animal including repeat services.

Pregnancy diagnosis :

Estimation of the age of the gestation period was based on the last non-return-heat service date, and examination of the dams for pregnancy commenced at about 105th day of gestation. The techniques used for pregnancy diagnosis included ballotment, belly and udder enlargement and radiology.

Kidding : The does were allowed to kid naturally. The calculation of the gestation period was based on the non-return service date.

RESULTS

Out of the 24 does used, 6 (25 p. 100) were observed to show oestrus and willingly accepted the male after the first service. The details of such services are shown in table 1. The records shown in the table do not reveal any rhythm or cycle in sexual behaviour during this period. The oestrous cycle was estimated to be 19.03 ± 8.97 hours. Fifteen repeat breedings were recorded with a mean and standard deviation of 3.27 ± 1.03 services per breeding period. A corresponding value of 2.73 ± 0.80 per each pregnancy was also recorded. The gestation period was based on the non-return service date, a range of 143-153 days.

TABLE 1. — Service records of the West African Dwarf goats showing repeat breeding.

Animal No.	Breeding Interval (days)	No. of breeding
0181	23	2
0185	18, 90 and 15	4
0159	19	2
0155	5, 12, 4, 7 and 3	6
0165	8, 12, 10, and 21	5
0160	25	2

DISCUSSION

The gestation period of the does in the present work agrees with the results obtained in unpublished studies on the gestation period of the WAD does. Since the calculation of the gestation period, was based on the non-return service date, it showed that the pregnant WAD does do not show detectable oestrous signs or accept the buck. This is in agreement with similar report on the WAD ewe (4). WILSON (7), however, reported the willingness of the pregnant East African dwarf does to accept the male in a

manner similar to the present observations. But the fact that the observed sexual activity of the WAD does lack rhythm and regularity and also that the repeat breeders received more services per breeding period than the non-repeat breeders creates some doubts on possible ovulation following such oestrus. It has been

observed that the goat is the least studied of domesticated ruminant animals (1). The sexual behaviour of the goat is yet to be fully elucidated. The study of the reproductive endocrinology of this animal may provide the answer. This type of study may be facilitated by oestrous synchronization.

RESUMEN

OSUAGWUH (A. I. A.). — Repetición del celo en la cabra enana de Africa del Oeste en preñez. *Rev. Elev. Méd. vét. Pays trop.*, 1984, 37 (1) : 79-81.

Se efectuaron estudios sobre el comportamiento sexual de las cabras enanas de Africa del Oeste durante el celo. Entre 24 hembras (25 p. 100) presentaron muestras evidentes de celo y aceptaron el cabrón después de una primera monta. En resumen, se notaron 15 casos idénticos de repetición del celo con una desviación media y standard de $3,27 \pm 1,03$

por cubrición. Los apareamientos repetidos faltaron de regularidad. Era de $2,73 \pm 0,80$ la correlación con la preñez. El momento de todas las preñes correspondía con la fecha del último rechazamiento de monta, lo que indica que las cabras enanas de Africa del Oeste no han presentado muestras de celo evidente o aceptado el cabrón durante la preñez.

Palabras claves : Celos - Cabra en preñez - Cabra enana de Africa del Oeste - Nigeria.

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