Characteristics of Reproductive Tracts of Repeat Breeders in Cattle

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Abstract

The study observed the characteristics and assessed abnormalities in reproductive tracts of repeat breeders in cattle. Fourty (40) herds were sampled during the study and fifty seven (57) repeat breeders were identified. The animals had normal reproductive tracts with good body condition scores (BCS) ranging from 2.5- 4.5. There was no correlation between the ages and the body condition scores of the repeat breeders ($r = -0.4576$. Higher number of repeat breeders were found within the ages of 3 -6. Variation within the ages of the repeat breeders were not significantly associated. Physical and behavioral characteristics observed were: crystal clear eyes; appearing more like a castrated bull; physically strong; active; vibrant; alert; stubborn; wild; temperamental; aggressive and difficult to handle; very sensitive to their environment and have a quick idea of the presence of a stranger which they show by having their ears in erect disposition signaling a sign of insecurity and danger. They always appear as superior animals in the herds; and could even be used as draught or pack animals with a very good output. They could yield better meat compared to none repeat breeders in the herds. Thus, most repeat breeders are not sterile, have normal oestrus cycle every 18-24 days but rather suffer from lowered fertility resulting to huge economic waste due to more services; reduced milk yield; wide calving interval and culling rate. It was concluded that repeat breeders suffer from lowered fertility which results into reduced milk yield, wide calving interval and culling rate.

Key words: characteristics, reproductive tracts, repeat breeders, cattle, body conformation

Introduction

Repeat breeder cows and heifers exhibit normal signs of oestrus every 18 to 24 days but require more than three services to become pregnant (Hafez and Hafez, 2000, NADIS, 2002, Todd, 2008). Ten to 15% of cows and heifers that fail to conceive on time can be classified as repeat breeders (Todd, 2008). There are only few studies that analyzed risk factors using field data (Bartlett *et al.*, 1986, Lafi *et al.*, 1992 and Brooks, 1998). These studies have found factors such as season, herd size, age and nutrition to influence

the incidence of repeat breeding syndrome. Some of the earlier studies, have the weaknesses that the data were restricted to a limited number of herds and animals and that the repeat breeders were not strictly identified according to the definition “absence of detectable abnormalities”. In addition, most of the studies identifying fertility problems are not always related to a specific clinical sign (Katagiri and Takahashi, 2004; Givens, 2006).

There is no reported literature on the characteristics and reproductive tracts of

repeat breeders in cattle in Nigeria. The study therefore aimed at studying the characteristics and reproductive tracts of repeat breeders in some cattle herds of Adamawa state, Nigeria.

Materials and Methods

Forty (40) White Fulani (Bunaji) herds with repeat breeders were surveyed in four selected Local Government Areas (Girei, Yola North, Yola South and Fufore) of Adamawa State between January and April, 2009. Herds with more than 15 female animals were included in this study. A cow or heifer was considered a repeat breeder if she had at least three services and no subsequent calving or more than three services irrespective of subsequent calving. Cow or heifer treated at least once for any chronic reproductive disease such as cystic ovaries, an oestrus, sub-oestrus, endometritis and pyometra was not considered repeat breeder. Data on the physical and behavioral characteristics of the repeat breeders were obtained on herd basis by close observation, examination of the animals, oral interview of the herdsman and the use of farm records where available. The reproductive tracts of the repeat breeders were assessed through rectal palpation. Data on the ages were obtained using dentition as described by Sastry and Thomas (1980). Body condition score (BCS) of the animals were taken as described by Todd (2008) using the six grades 0-5. While parity and milk yield were obtained through the oral interview of the herdsman and the herds owners. The management system adopted by many herds were mostly extensive with few operating semi intensive. The breeding systems used were both natural mating and artificial insemination (AI). Data generated were subjected to

descriptive statistics, chi-square and correlation analysis to evaluate the association and the relationship between the ages and BCS of the repeat breeders.

Results and Discussion

Fifty seven (57) repeat breeders identified from forty (40) herds were examined and were found to have no abnormality of reproductive tracts and were cycling normal with top BCS ranging from 2.5- 4.5 as shown in

Table 1. Grouping Of Repeat Breeders Based On Their Ages, PI, Parity And MY

Age group	PI	Parity	MY
3(13)	2(13)	0	0
4(20)	3(20)	0	0
5(16)	4(16)	0	0
6(8)	4(8)	3	2(1), 2(1)
TOTAL	57	3	3

This agrees with Anitha, *et al.* (2005) and Mohammad and Seyed (2007), who reported that the repeat breeder cows have the best BCS after bulls. There was no correlation between the ages and the body condition scores of the repeat breeders ($r = -0.4576$) as presented on Table 2. The higher the grade and the younger the animals the better the body condition score. Most of the animals fall within 3- 6 years old and that shows they were in their prime reproductive lives. Higher number of repeat breeders were found within the ages of 4 followed by 5, 3 and 6 respectively. Variation within the ages of the repeat breeders were not significantly associated. It also implies that all ages within the repeat breeders are feasible.

Figure 1. Typical repeat breeder having good body conformation with top BCS

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Table 2. Comparison between the Different Ages and Body Condition of Animals

AGE	BCS					TOTAL
	2.5	3	3.5	4	4.5	
3	0	4	4	3	2	13
4	0	5	8	4	3	20
5	0	2	3	9	2	16
6	1	2	3	2	0	7
TOTAL	1	13	18	18	7	57

BCS - Body Condition Score

of the herd is culled annually in developed countries for these reasons which constitute an economic threat to cattle industry.

Out of 120 herd workers interviewed, 90% of them and physical examination revealed that repeat breeders have physical and behavioral characteristics as: crystal clear eyes; physically appearing more like castrated bulls; active; alert; wild; and difficult to handle; very sensitive to their environment and have a very quick idea of the presence of a stranger which they show by having their ears being in erect disposition signaling a sign of insecurity. They always appear as superior animals in the herds as shown in Figures 1 and 2. They are strong and could be used as draft or pack animals with a very good output. They could even yield better meat compared to none repeat breeder female animals in the herds.

Conclusion

In conclusion, most repeat breeders are not sterile, they have normal reproductive tracts with top BCS. They also have normal oestrus cycle but rather suffer from lowered fertility, resulting to huge economic due more services; reduced milk yield; wide calving interval and culling rate.

Figure 2. Typical repeat breeder Leading other animal

Recommendations

If only the repeat breeders and other animals with reproductive problems can be identified, there could be treatment and prevention measures taken. If regular veterinary fertility visits are not used then cows that have had three services and are not pregnant should be checked before serving again. To prevent repeat breeding syndrome in cows; ensure that cows served at the correct time. These means that all staff should know the signs of heat. Milk progesterone testing is also useful; cows in a true heat will have very low progesterone. Farmers should also ensure insemination techniques are as good as possible. This is particularly important, if A.I. is used, do not serve cows previously diagnosed as pregnant without doing a cow side progesterone test to confirm it has a low progesterone and is not pregnant. Ensure that farmers comply to a resynchronization programmes.

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