

Study on abortive diseases in the local n'dama bovine breed and proposed control measures at the level of progebe sites (republic of guinea)

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Introduction

One of the main constraints affecting the productivity of the Guinean herd is the high number of abortions in most farms, the causes of which are often not diagnosed. A survey carried out in various regions of Guinea showed a prevalence of bovine brucellosis of 6.9% in 1982. Most of the animals carrying hygromas had a positive response to the 3 serological tests which are, seroagglutination of Wright, the buffered test and the complement fixation. The objective of this study was to identify and determine the prevalence of bacterial, viral and parasitic diseases responsible for abortions in order to implement prophylactic measures.

Material and methods

This survey was carried out in 2013 and focused on animals of the N'Dama breed from multiplier herds in the primary project sites, namely Boké, Gaoual, Beyla and Dinguiraye. Taking into account the moderate size of the herds and their homogeneity, the similarity in the management of the herds, all the animals belonging to the breeders of the same village were considered as a single herd. The sampling unit was the village herd. The survey protocol was based on a targeted sampling of 26 village herds, two of which were based on the livestock market located in the urban commune of Beyla (places where breeders from various origins gather for sale). A total of 366 (33%) multiplier cattle were selected and examined from 1,122 animals sampled.

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Blood samples were taken from the sampled animals for brucellosis and Rift Valley Fever (RVF). Pap smears and preputial scraping were done for trichomoniasis and campylobacteriosis.

In the field, the blood collected was decanted, centrifuged, aliquoted and stored in a refrigerated cooler, then sent to the Central Veterinary Diagnostic Laboratory (LCVD) in Conakry for the serology of brucellosis and Rift Valley fever (FVR).

For bacterial and parasitic samples, samples were collected from bulls by scraping the preputial mucosa with a sterile swab. In females, samples were obtained by scraping the cervix with a sterile swab.

The brucellosis samples were subjected to the seroagglutination plate test, the rose Bengal test (RBT) and the complement fixation reaction (RFC) to confirm the results.

The ID Screen® Rift Valley Fever Competition Multi-species Kit was used for the detection of IgM (indicating a recent infection) and IgG (sign of an old infection) immunoglobulins for RVF.

The samples for the detection of bacteria and parasites were subjected on the one hand to the Gram stain in order to identify the bacteria and on the other hand to the direct method to demonstrate the vegetative forms of trichomonads. The smears were stained with May-Grünwald-Giemsa for confirmation of positive samples by the direct method.

Results

At each site, it was not possible to obtain the same number of samples; this, taking into account the availability of breeders and the clinical cases observed.

The results of analyzes carried out in the village herds and the cattle market showed that trichomoniasis, campylobacteriosis and Rift Valley Fever (RVF) are not present. On the other hand, brucellosis was found in the majority of the sites. It was often expressed clinically by the presence of hygromas (6 cases counted), abortions (often reported) and sterility in infected females.

The overall prevalence of brucellosis found was 11.75% (43 cases out of 366 samples). Out of a total of 26 flocks visited, 11 were positive for *Brucella abortus*, ie 42.31%.

Among animals over 14 years of age, there were no positive 0.00% [0.00-43.91] cases, while for those aged 2 to 5 years, a relatively low prevalence 9, 19 [5.60-14.54] was found. In general, there is no significant difference between the prevalence of different age groups (p-values = 0.2).

The most affected site was that of Moussadou Falikoudou in Beyla with 43.90%. With regard to age, the highest seroprevalence was observed in the same prefecture at the level of the age group of 10 to 13 years, ie 18.37 [9.24-32.50].

Conclusion

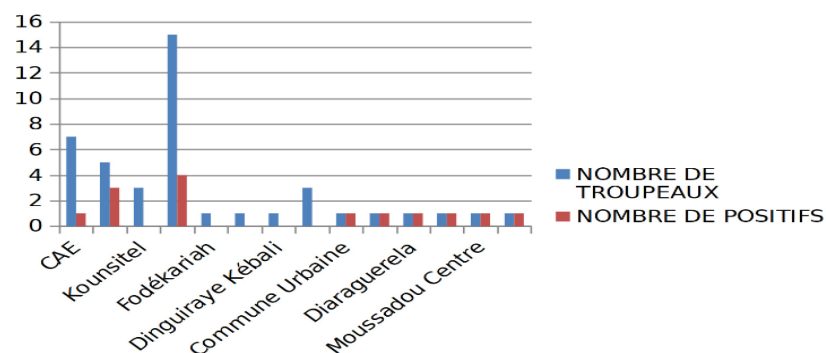
Brucellosis appears to be the main cause of abortions in village herds in the primary sites of PROGEBE-Guinea. Recommendations should be made in order to limit the spread of the disease, on the one hand, in endemic ruminant cattle and, on the other hand, in breeders who are exposed to the infectious agent. They could lead to capacity building of livestock and animal health services in case detection at borders, in livestock parks and at weekly markets.



(Site location map)

Classes d'âge	2 à 5 ans			6 à 9 ans			10 à 13 ans			≥ 14 ans		
	Nombre	Positifs	Pourcentage [IC 95%]	Nombre	Positifs	Pourcentage [IC 95%]	Nombre	Positifs	Pourcentage [IC 95%]	Nombre	Positifs	Pourcentage [IC 95%]
Boké	38	3	7,89	25	0	0	18	0	0	5	0	0
Gaoual	24	3	12,50	36	4	11,11	6	0	0	0	0	0
Dingiraye	40	0	0	20	0	0	0	0	0	0	0	0
Beyla	83	11	13,25	44	13	29,55	25	9	36	2	0	0
TOTAL	185	17	9,19 [5,60-14,54]	125	17	13,60 [8,35-21,16]	49	9	18,37 [9,24-32,50]	7	0	0 [0,00-43,91]

Results table



Number of positive herds by locality

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Biography

Diallo A S graduated from Higher Institute of Sciences and Veterinary Medicine (ISSMV) of Dalaba, Republic of Guinea. He is interested in researches like veterinary medicine, veterinary surgery, veterinary science etc.

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