

REPORT TO THE CHAIRMAN AND MEMBERS OF THE TSETSE AND TRYPANOSOMIASIS CONTROL COMMITTEE ON AN OUTBREAK OF TRYPANOSOMIASIS IN CHISWITI RESERVE, DARWIN NATIVE DISTRICT.

This area was inspected in the early part of June, 1953 by the G.V.O., Bindura, when cattle were called up and checked at the following points:

<u>Chiswiti Reserve</u>	
Kaitano	870 head
Chimbuwe	337 "
Katarira	1035 "
Dande	3352 "
	<hr/> 5594 "

The inspection also included

<u>Mzarabani Reserve</u>	
Hoya	194 head
Mzarabani	126 "
Vareta	182 "

There are other cattle in the southern portion of Mzarabani (Native Commissioner's estimate 495 head) which dip and are inspected in Kandeya Reserve. These were not seen during this inspection.

The G.V.O. during this patrol was very favourably impressed with the condition of the cattle, no reports being received of either sickness or mortality.

The N.C. Darwin reported to G.V.O. Bindura at the end of July that he had heard of sickness and deaths in cattle in Chiswiti.

The G.V.O. immediately arranged to visit Chiswiti from where the deaths had been reported.

Kaitano was the centre found to be infected. At one kraal (Manhondo) 15 head had died recently. Of the 25 remaining, 5 were clinical cases confirmed microscopically (T. congolense).

An adjacent kraal (Chibute) of 20 head showed 4 clinicals of which 3 were confirmed microscopically (T. congolense).

The Kaitano centre is near to Kaitano school which lies where the main road to Mzarabani crosses the Masingwa River. These kraals lie fairly near the collecting centre.

On 11th. August, in company with S.D.V.O. Salisbury and G.V.O. Bindura I proceeded to Chiswiti Reserve to investigate the position and treat the infected cattle. The N.C. had arranged to erect temporary crush pens and races which were in fact ready on our arrival.

The inspection at Kaitano was commenced on the 12th. August. It was

An extensive smear survey was conducted in these and contact kraals, antrycide sulphate being administered at the same time.

225 smears were taken and 294 head treated. The result of the smear examination was as follows:

Kaitano kraal	1 positive (T congolense)
Manhondo "	11 positive (" " )
Chibuto "	2 positive (" " )

Two more deaths had occurred at Manhondo (now 17) and one at Chibuto (now 2). These were the only deaths reported at this centre.

Total cattle inspected	Kaitano	942.
Total positive smears	Kaitano	14 from 3 kraals

Apart from the infected kraals, cattle were generally in fair to good condition, some excellent beasts being seen. G.V.O. Bindura stated that the change in the infected cattle was remarkable since the June inspection.

In the next three days inspections were carried out at :

Katarira	1073 head - 55 smears negative
Chimbuwe	340 " 34 " "
Dande's Store	3331 " No smears.

The facilities at all these places for smearing etc. were very poor indeed and at Dande where a large number of cattle were seen they were impossible.

At each of these three centres cattle were in good to excellent condition, no clinical cases being seen and no deaths were reported.

At each point advice was given to kraalheads on the erection of a proper race for the inspection during the week 19-23rd. August.

During this inspection it is hoped to issue each kraal-head with dip cards to facilitate regular census checks. The cattle coming to Dande's Store will be divided into two groups for inspection purposes.

#### DISCUSSION

The implications of this outbreak depend on its origin which may be one or more of the following:

- 1) An invasion of tsetse fly from the north. No fly were seen or reported; game has been shot out in this area although there are said to be a herd of 40-60 elephant moving between Mzarabani and Chiswiti which are also said not to enter Portuguese territory. The country is suitable for *G. morsitans* and *pallidipes*. *Pallidipes* is not easily attracted

Mzarabani Reserve was an old tsetse fly haunt until shooting became fully effective. From reports of the inhabitants in the area the nearest fly in Portuguese territory is said to be on the Zambesi, some 60 miles from the border.

If such an invasion was occurring from north to south the cattle first infected would be Katarira and Chimbuwe before Kaitano. However if it were from the west to east Kaitano would be the first infected and one would expect to find infection in the Mzarabani cattle. An inspection of these has been arranged for the week 18-23rd, August.

2) Fly carried by humans, animals or mechanical means. This would imply fly established in the reasonable vicinity of Chiswiti or Mzarabani.

From Portuguese territory fly could be carried on a road running from the border direct to Chimbuwe and Kaitano, but in this case Chimbuwe cattle would have been the first infected.

As stated above, it would be more likely that fly would have been carried in from Mzarabani or the crown land lying between it and Chiswiti.

On the Portuguese side there are said to be numerous cattle with no mortality. Some were seen on the border where they water on the Mkumvura, the international boundary, in common with Southern Rhodesian cattle from Katarira.

3) Infected cattle introduced into the herds now affected. Although natives deny movement, this could easily occur as no strict census control is kept on those cattle being non-dipping. Infection could be spread then by biting flies.

However the trypanosome types found to date are all *T. congolense*, not *T. vivax* as one would expect with mechanical transmission.

The nearest infected cattle are presumably in Portuguese territory. It will be noted that the census has increased considerably at Kaitano between two inspections, although other factors could account for this.

If factor 2 was responsible it is probable that the disease will spread to other centres and that the Kaitano cattle will become re-infected when the antrycide protection has worn off in two months time.

With factor 3 the blocking off of infection should lead to the disappearance of the disease at an early date.

With factor 1 heavy and widespread infection would soon become patent in all centres. If this did occur the following measures would be suggested.

1. Renewal of shooting operations in the area and establishment of traffic control points.

basis of 2/- per head every second month. The area is such that transport in the rains would be difficult to impossible, the area being typical mopani veld with black soil and traversed by rivers and spruits. Mzarabani would certainly be impossible from January - March at least.

Long acting drugs like Prothidium or pro-salt might be used but the expense of course would be greater, say 3/6 per dose for pro-salt and 6/- for Prothidium to give a protective period of 3 - 4 months.

Certainly the development of the area for cattle which is planned particularly in Mzarabani would be foolhardy in the presence of fly.

If the fly belt is in fact advancing from Portuguese southwards other reserves which could be involved are Kandeya (25,826 head); Chimanda (6,000 head); Fungwe (6,000 head).

Plans have been made to intensify the census check and inspection of the cattle in these areas.

A full scale smear survey will be conducted in the Mzarabani and Chimanda Reserves.

R.W.Bryson,  
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