THE TREATMENT OF EIGHT SQUARE-LIPPED RHINOCEROS (*CERATOTHERIUM SIMUM*) WITH AN ANTHELMINTIC

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Received for publication, December, 1962

SUMMARY

The treatment of eight square-lipped rhinoceros (*Ceratotherium simum*) with dimethyl-hydroxy-trichloroethyl phosphonate is described Bots of the genus *Gyrostigma*, and nematodes were passed by mos animals.

INTRODUCTION

There has been considerable activity in Southern Rhodesia during the last two years, in stocking game parks with a wide variety of species. Most of these movements have been from one park to another within the country, to stock new game parks which have hitherto not supported much animal life, and to introducing species to localities where they have become extinct.

Eight square-lipped rhinoceros (*Ceratotherium simum*) were imported from the Umfolosi Game Reserve, Natal, during September 1962, four being released in the Matopos National Park and four in the Kyle Dam Game Reserve. In both these areas the white rhinoceros had occurred in the last century, but from 1880 onwards the decline in their numbers was rapid, and by 1900 only a few stragglers remained[4].

Internal parasitism on a fairly high level in antelope in their natural environment, has been noted to occur at Wankie National Park[1]. Among game introduced from Wankie to Lake McIllwaine and the Matopos Park during the last two years, at least three ostriches, two eland and a giraffe have died of internal parasitism.

Bot fly larvae of the genus *Gyrostigma* commonly occur in white rhinoceros at Umfolosi, and as nematode egg counts on the faeces of the eight animals imported to Rhodesia showed a fairly high level of infestation, it appeared highly desirable to reduce their parasitic burdens to a minimum, in the hope that it might fall below the critical level necessary for their survival in their new environment.

As dipterous fly larvae and nematodes were the main parasites concerned (no evidence of trematodes or cestodes were found) the drug of choice to be used was an organophosphate Neguvon P, containing 75 per cent dimethyl-hydroxytrichlorethyl phosphonate.

Method

The eight white rhinoceros were weighed on arrival in Southern Rhodesia, at vehicle inspection depots; the actual weights of the animals being determined by difference.

The Neguvon P. was mixed with maize and meal gruel, and despite the fact that the rhinoceros were deprived of water for forty eight hours previously, they took several hours to consume the gruel, and in some cases not all of the gruel was consumed.

At the Kyle Dam Game Reserve, one rhinoceros, "Nyoni", was test dosed at a rate of 44 mg/lb. Eighteen hours after dosing he was lying on his side, apparently off his food. No antidote was administered, and the next day he appeared to have recovered completely.

In view of the apparent toxicity, the remaining three were dosed at a level of 44 mg/Kg.

All four animals at the Matopos National Park received a dose of 44 mg/lb body weight.

Faecal worn egg counts were carried out once before and twice after treatment, the technique used being that described by Gordon and Whitlock[2]. The results recorded are a mean of three counts made on each specimen. Attempts were made to recover all dead parasites passed in the faeces, but this was difficult due to the habit of the white rhinoceros to disturb its faeces immediately after defaecation.

Table I

Pre- and post dosing Nematode Egg Counts

Rhinoceros	Weight Kg	Dose gm	*e.p.g. day before treatment	e.p.g. 5 days post treatment	e.p.g. 14 days post treatment	No. of Bots recovered
Chianne.....	786	68	430	130	130	—
Mabaleni.....	848	72	130	100	Nil	—
Umfaan.....	916	80	1,500	100	32	—
Mashayazonke.	841	72	65	Nil	Nil	—
Nyoni.....	1,002	88	310	100	66	21
Ngazana.....	695	30.5	900	180	133	11
Nqoloti.....	785	34.5	1,430	300	266	10
Babs.....	1,000	44	550	133	66	6
Mean.....			664	130	86	

*e.p.g. = Nematode eggs per gramme.

Dose Rates refer to Neguvon P.

Results

Only one animal out of five, dosed at a rate of 44 mg/lb exhibited transient toxic symptoms. None of the three dosed with the lower dose rate of mg/Kg showed any signs of toxicity.

Bot larvae were first noticed in the faeces forty eight hours following dosing, and were still being passed seven days later. The maximum number recovered from one animal was 21. More might have been passed, and either eaten by birds or disintegrated, when the animal desturbed its faeces.

Pre-and post-dosing nematode egg counts are shown in Table I. The counts of "Umfaan" and "Nqoloti" of 1,500 and 1,450 eggs per gramme (e.p.g.) respectively are very high. The mean egg counts of the eight rhinoceros concerned were reduced from 664 to 86 e.p.g.

Discussion

The method of administration appeared to be satisfactory. In most cases not all of the gruel was consumed, but as the dosage was high and effective results obtained, this did not matter.

From experience on Lake Kariba, black rhinoceros (*Diceros bicornis*) settle down to pen feeding after capture far more quickly than white rhinoceros. The black rhinoceros is very fond of ripe paw paws (*Carica papaya*) and will readily accept a half paw paw containing a dose of Neguvon P. The latter is now routine practice with all rhinoceros caught on the Lake Kariba during "Operation Noah".

The results of the pre-dosing faecal egg counts would appear to indicate that parasitism in white rhinoceros at Umfolosi exists at a relatively high level. This might be expected, due to the high concentration of the species in this area.

ACKNOWLEDGEMENT

The authors are grateful to the staff of the Federal Department of National Parks, and Mr. T. Orford for their assistance in this exercise and to Agro-Chem (Pty) Ltd., for supplies of Neguvon "P".

This paper is published with the permission of the Director of Veterinary Services.

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