

chasing children and fowls about the garden but it is a somewhat heavy playmate as it weighs 250 lb. It never leaves the immediate area of the garage despite the absence of fencing. There is now good hope that the animal will survive.

#### ACKNOWLEDGEMENT

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### CHANGES DURING LACTATION IN THE COMPOSITION OF THE MILK OF THE BLACK RHINOCEROS

*Diceros bicornis*\*

by Margaret E. Gregory, S. J. Rowland and  
S. Y. Thompson

**National Institute for Research in  
Dairying, Shinfield, Reading,**  
and Vanda M. Kon

**Department of Pathology,  
Bristol University, Great Britain**

WITH the birth of a second rhinoceros calf at Bristol Zoo, it was possible to obtain samples of rhinoceros's milk during the colostrum period and subsequently at regular intervals throughout sixteen months of lactation. The analysis showed that rhinoceros milk contains very little fat at all times during the lactation cycle.

#### SUMMARY

1. Samples of milk were obtained from a lactating rhinoceros five hours, 12 hours, 28 hours, 52 hours, two weeks and four weeks after the birth of the calf. Subsequently, samples were collected at monthly intervals until the calf was removed after sixteen months.
2. The total solids, fat, protein and lactose contents of the samples were determined. The fat content of the milk was low (0.45 per cent) throughout lactation. That of lactose was lower in colostrum (4.38 per cent) than in mature milk (6.1 to 6.9 per cent), and that of the protein decreased

from 6.4 per cent in colostrum to between 1 and 1.65 per cent in the milk.

3. Variations in the contents of acid, calcium, pantothenate, riboflavin, thiamine, Vitamin B<sup>6</sup>, Vitamin B<sup>12</sup> and biotin in the milk were measured. Those of biotin, Vitamin B<sup>12</sup> and pantothenate showed marked fluctuations from month to month. That of riboflavin remained low in the milk, having been high in colostrum. The Vitamin B<sup>6</sup> and thiamine contents both decreased during the first few months of lactation and then increased gradually.

### ANALYSIS OF THE MILK OF THE OKAPI

*Okapia johnstoni*

by M. E. Gregory, S. K. Kon, S. J. Rowland and  
S. Y. Thompson

**National Institute for Research in  
Dairying, Shinfield, Great Britain**

A BABY okapi was born at Bristol Zoo on 23rd November, 1963, but died three weeks later of aspergillosis on 12th December. The keeper was then able to milk the mother on 12th December and again on 14th December. The sample of milk taken on 14th December was analysed fully.

#### Analysis

Total solids	28.2 per cent
Protein	16.6 per cent
Lactose	4.2 per cent
Fat	4.4 per cent
Vitamin B <sup>12</sup>	0.09 µg/ml.
Thiamine	1.2 µg/ml.
Biotin	0.03 µg/ml.
Nicotinic acid	0.8 µg/ml.
Vitamin B <sup>6</sup>	5.3 µg/ml.
(as pyridoxal)	
Ca pantothenate	21 µg/ml.
Riboflavin	10 µg/ml.
Vitamin A	6.0 µg/g. fat
α tocopherol	19.6 µg/g. fat
Carotenoids	none

The sample taken on 12th December was sour on arrival at Shinfield but the fat was analysed

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