TELENG EPIDIDYMAL SPERM

ROM WHITE RHINOCEROS (Ceratotherium simum) TREATED WITH DIFFERENT CRYODILUENTS

INTRODUCTION

The collection, organizer values and use of spermatazed from good quality or trophy White chinoceros could contribute to the maintenance of genetic variation within the species. Little is known about chinoceros epididymal sperm characteristics and organizer value.

OBJECTIVES

The aim of this study was to evaluate the motifity of White chinocenos candal epidogmal sperm using two cryoditients, and included the sperm viability after cold storage. Sperm morphology and mutifity of different fertifity level bulls over evaluated

MATERIALS AND METHODS

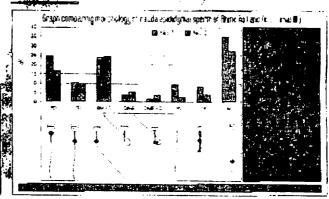
lestes were collected from two hunted responses bulls in bauch person lessens in large in the mostled and No. 2 were standarding and breeding builts. respectively less the percent hour after death, transport of ships [- 47] and processing hegan 3 hours them all - thems were frozen in 0.25ml strates at 50kMrsperm/ail Straus were concled to 400 at the latter for 8 hours, then placed in liquid fly vaporum for 20 mm and stored in liquid fly Sperm treatments were exampled for propressor mobility at pre-tre-ze and of postathau. In a mobile freezing epidodyma space of refine to treated with either Cours extrem 100 or Inladi (Minitude), supplementer (*) े or शि% fet al calf serum (PCS) Total 1 ... aducted using the epididymides !- " lu.Z. epididymis A (time = 0 to rote or reputidigines B. extracting sperm at governous ats of 0, 6, 12 and 18 h. respectively, asky ledadyl + 5% PCS. During the intervals, epididymis 8 was stored at 4°C. The last trial (Trial III) examined the morphological Sold and No. 2. differences among sperm from rhmos No.1 and No.2. Sperm were fixed in gluteraldehyde and evaluated at 100X using light microscopy.

K. Lubbe', R.L Smith', P. Bartels and F.A Godke²

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Department of Animal Science Logical States (V. Bato



RESULTS





CONCLUSIONS

In this study there was a marked difference in motifity between breeding and non-breeding crafe charles

There was a noticeable difference between epickeymodes of rhino flo. I with one epididynas having half the size of the other which contained no sperm.

There was no detectable difference in sperm morphology between the two bulls

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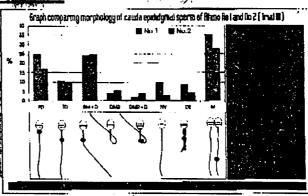
MATERIALS AND METHODS

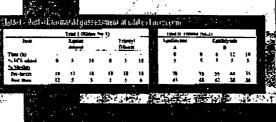
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K. Lubbe¹, R.L Smith¹, P. Bartels, and E.A Godke²

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FREEZING EPIDIDYMAL SPERM FROM WHITE RHINOCEROS (Ceratotherium simum) TREATED WITH DIFFERENT CRYODILUENTS

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The aim of this study was to evaluate the motility of White rhinoceros caudal epididymal sperm using two cryodiluents, and included the sperm viability after cold storage. Sperm morphology and motility of different fertility level bulls were evaluated. Testes were collected from two hunted rhinoceros bulls in Tswalu Desert Reserve in Kalahari. Rhinos No.1 and No. 2 were nonbreeding and breeding bulls, respectively. Testes were collected 1 h after death, transported on ice (~8°C) and processing began 3 h thereafter. Sperm were frozen in 0.25 ml straws at 150 x 10°sperm/ml. Straws were cooled to 4°C and equilibrated for 6 h, then placed in liquid N₂ vapor for 20 min and stored in liquid N₂. Sperm treatments were evaluated for progressive motility at pre-freeze and at post-thaw. Trial I included freezing epididymal sperm of rhino No.1, treated with either equine diluent (OP) or Triladyl[®] (Minitube), supplemented with 0, 5 or 10% fetal calf serum (FCS). Trial II was conducted using the epididymides from rhino No.2, epididymis A (time = 0 h only) and for epididymis B, extracting sperm at given intervals of 0, 6, 12 and 18 h, respectively, using Triladyl + 5% FCS. During the intervals, epididymis B was stored at 4°C. The last trial (Trial III) examined the morphological differences among sperm from rhinos No.1 and No.2. Sperm were fixed in gluteraldehyde and evaluated at 100X using light microscopy.

Table 1. Post-thaw motility assessment of White rhino sperm

	Trial I (Rhino No.1)						Trial II (Rhino No.2)				
Item	Equine diluent			Triladyl diluent			Epididymis A	Epididymis B			
Time (h)	-	-		-		-	0	0	6	12	18
% FCS added % Motility:	0	5	10	0	5	10	5	5	5	5	5
Pre-freeze	20	12	10	10	18	10	70	75	55	44	35
Post-thaw	12	5	5	1	5	6	43	48	42	38	30

Table 2. Morphology of caudal epididymal sperm of rhinos No.1 and No.2 (Trial III)

	No.1	No.2		No.1	No.2
Morphological features	(%)	(%)	Morphological features	(%)	(%)
Proximal droplet	24.8	16.6	Distal midpiece reflex + droplet	1.9	4.1
Translocating droplet	10.5	9.7	Nuclear vacuole	9.5	2.7
Bent midpiece + droplet	23.8	25.0	Dag effect	8.6	4.1
Distal midpiece reflex	3.8	5.6	Miscellaneous	35.2	27.8

In this study, there was a marked difference in sperm motility between breeding and nonbreeding male rhinos. There was a noticeable difference between the epididymides of rhino No.1, with one epididymis being half the size of the other, which contained no sperm. There was no detectable difference in sperm morphology between the two bulls. There tended to be a difference between pre-freeze and post-thaw sperm motility in Trials I and II. The results at this stage suggest Triladyl + 5% FCS would be suitable for freezing the sperm of a White rhino breeding male.

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