

Comparison between two technics to assess bull sperm membrane integrity

A.B.M. Almeida¹, M.M.T. Hidalgo¹, L.G.C. Trautwein¹, J.F. Schnitzer¹, F.L.Z. Moraes², M.I.M. Martins^{1*}

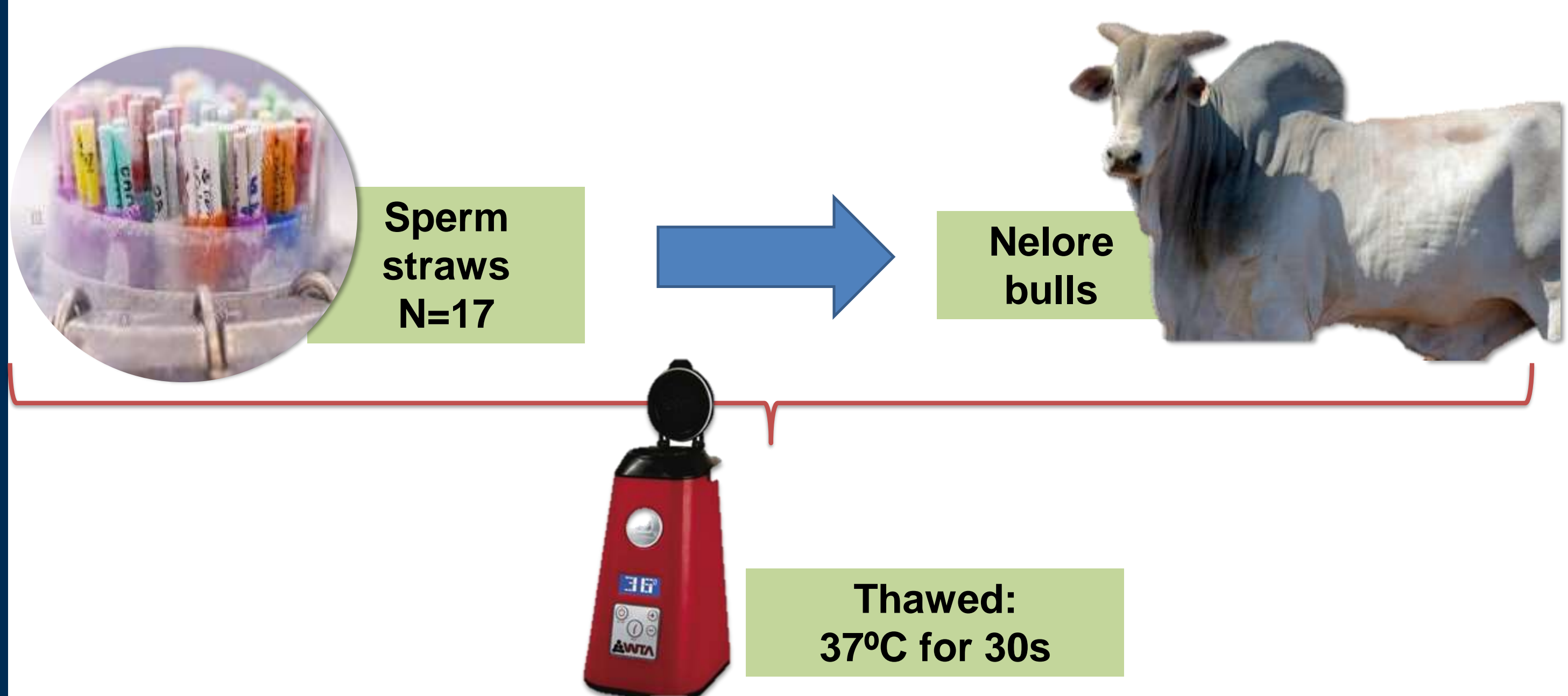
¹LARAA-UEL – Laboratório de Andrologia e Reprodução Animal Assistida da Universidade Estadual de Londrina- Paraná, Brazil ²Self-employed Veterinarian

INTRODUCTION

The plasmatic membrane of sperm cells participates of the sperm capacitation, oocyte fertilization and exerts metabolic exchanges to the extender medium. For these reasons, integrity of sperm membrane is related to sperm motility, and so the evaluation of sperm membrane integrity is considered a relevant part of andrological exam. The sperm membrane integrity may be accessed by using fluorescent probes (expensive and requires equipment such as flow cytometry) or a vital dye, as eosin-nigrosine (cheaper and only requires a optical microscope).

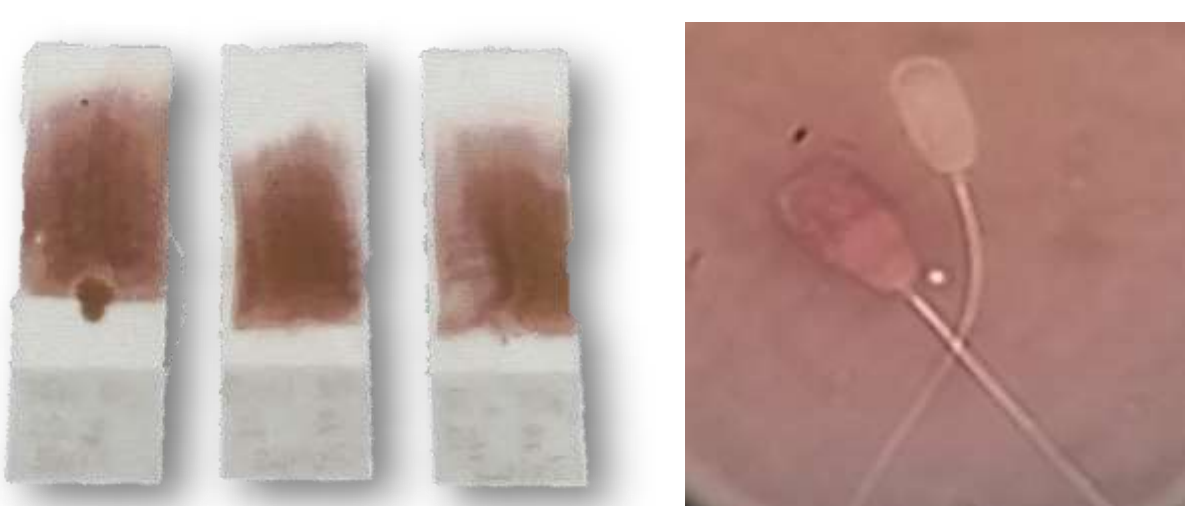
→ This study aimed to compare the assessment of plasmatic membrane integrity under eosin-nigrosin dye and propidium iodide performed in flow cytometry.

MATERIAL AND METHODS



Sperm membrane integrity evaluation:

Group 1:



-Eosin-nigrosin
-Optical microcopy

Group 2:



-Propidium iodide
-Flow cytometry

Statistical analysis:



Student's T test
P<0.05

Significance
level 5%

RESULTS

No difference was detected for the bulls sperm membrane integrity between the sperm dyed in eosin-nigrosin evaluated under optical microcopy, with the sperm analyzed by Propidium iodide in the flow cytometry (P>0.05). The results are exposed in the Table 1.

Table 1- Bull sperm membrane integrity results from eosin-nigrosine dye and from PI evaluated by the flow cytometry (mean ± SD)

Group 1: Eosin-nigrosin	Group 2: PI	P value
92.17%± 3.41	90.30%± 4.62	0.188

PI: Propidium Iodide

CONCLUSION

Since there was no difference in using eosin-nigrosin or PI under flow cytometry, we can conclude that the eosin-nigrosin is a valid and reliable method to assess the integrity of plasmatic membrane of bulls' sperm.

Acknowledgment: To CAPES for granting the post-graduation scholarship.