

1. INTRODUCTION AND OBJECTIVE

Conservation of endangered goat breeds is of interest to maintain biodiversity.

Cryopreservation of sperm plays a very important role and its results are usually improved by sperm selection using different methods.

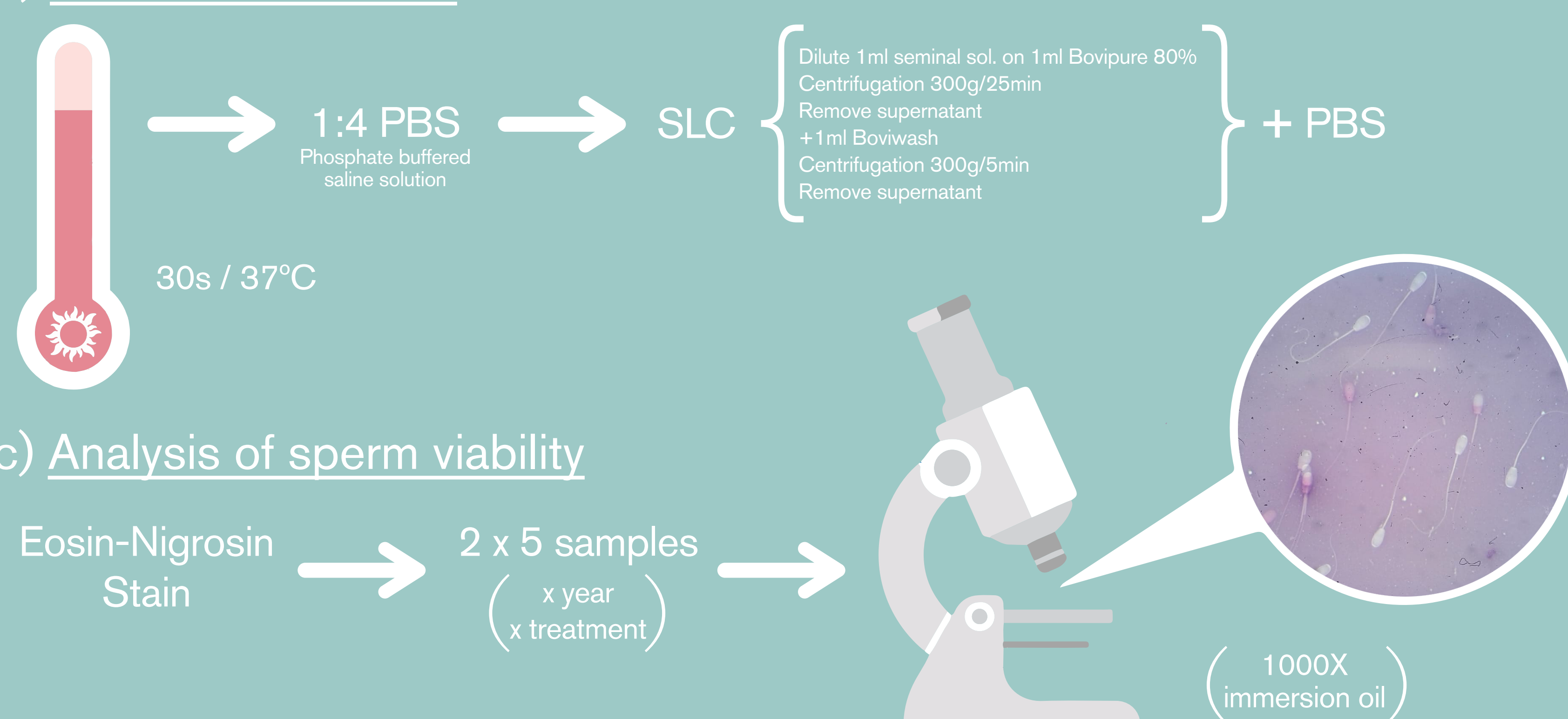
The aim of this study is to determine the efficacy of the selection method by single layer centrifugation (SLC) in thawed goat sperm.

2. MATERIAL AND METHODS

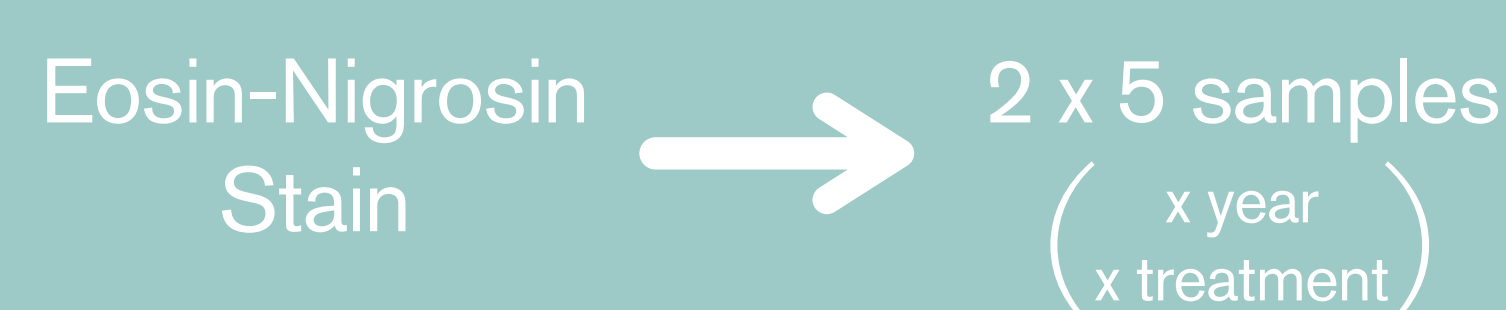
a) Semen collection and freezing



b) Selection with SLC



c) Analysis of sperm viability



d) Statistical analysis



To evaluate sperm quality:

- Percentage of alive and dead spermatozoa
- Integrity of acrosome
- Morphological abnormalities.
Head abnormalities (microcephaly, macrocephaly, pyriform head and alone heads), cytoplasmic droplets and tail abnormalities (rolled up, short, hairpin and final spiral)

3. RESULTS

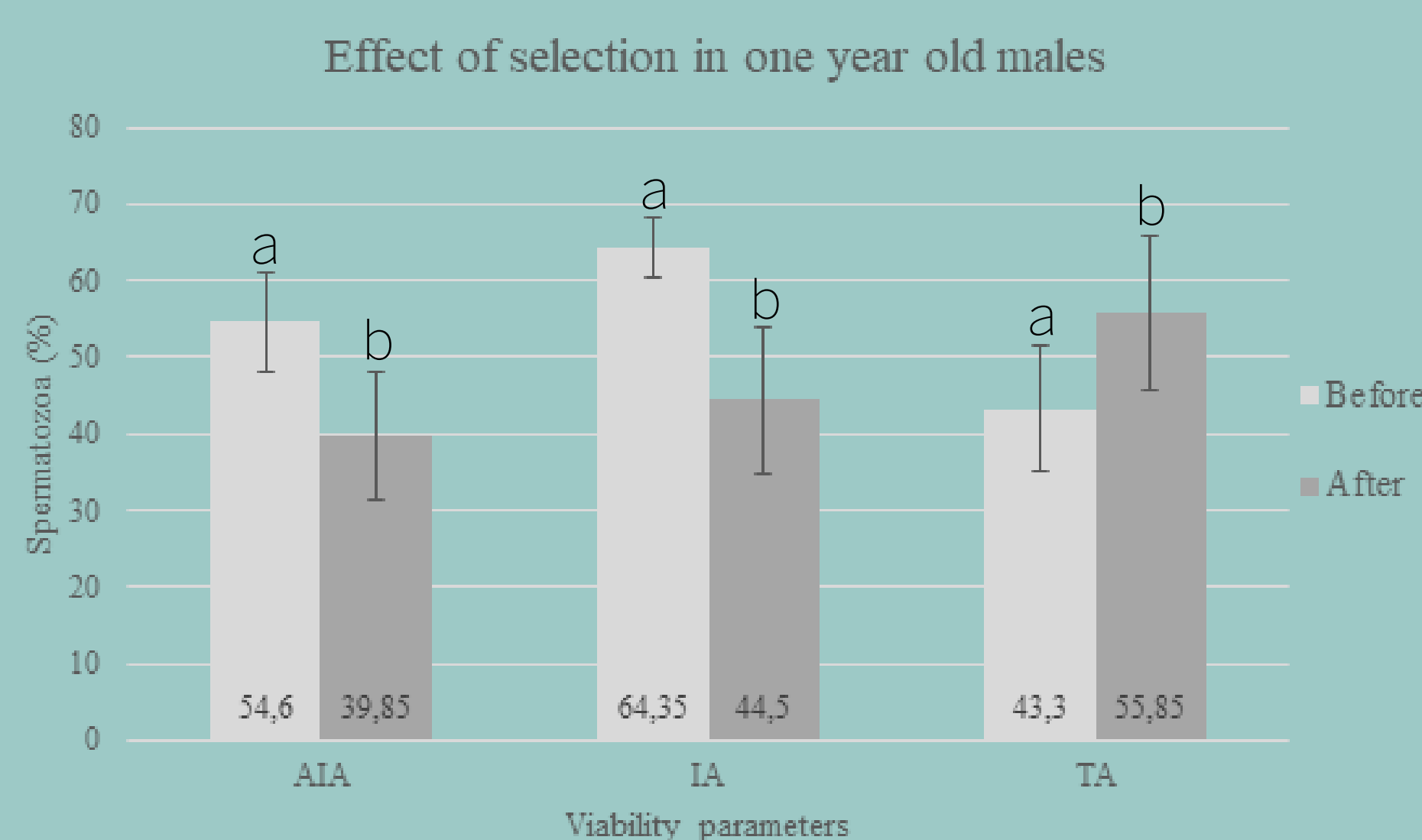


Figure 1. Percentages (mean \pm standard deviation) of alive spermatozoa with intact acrosome (AIA), integrity of acrosome (IA) and total abnormalities (TA) before and after selection of one-year old buck. Different letter (a, b) in each parameter indicates a significant difference ($p < 0,05$).



Figure 2. Percentages (mean \pm standard error) of alive spermatozoa with intact acrosome (AIA), integrity of acrosome (IA) and total abnormalities (TA) before and after selection of two-years old buck. These parameters showed significant differences ($p < 0,05$).

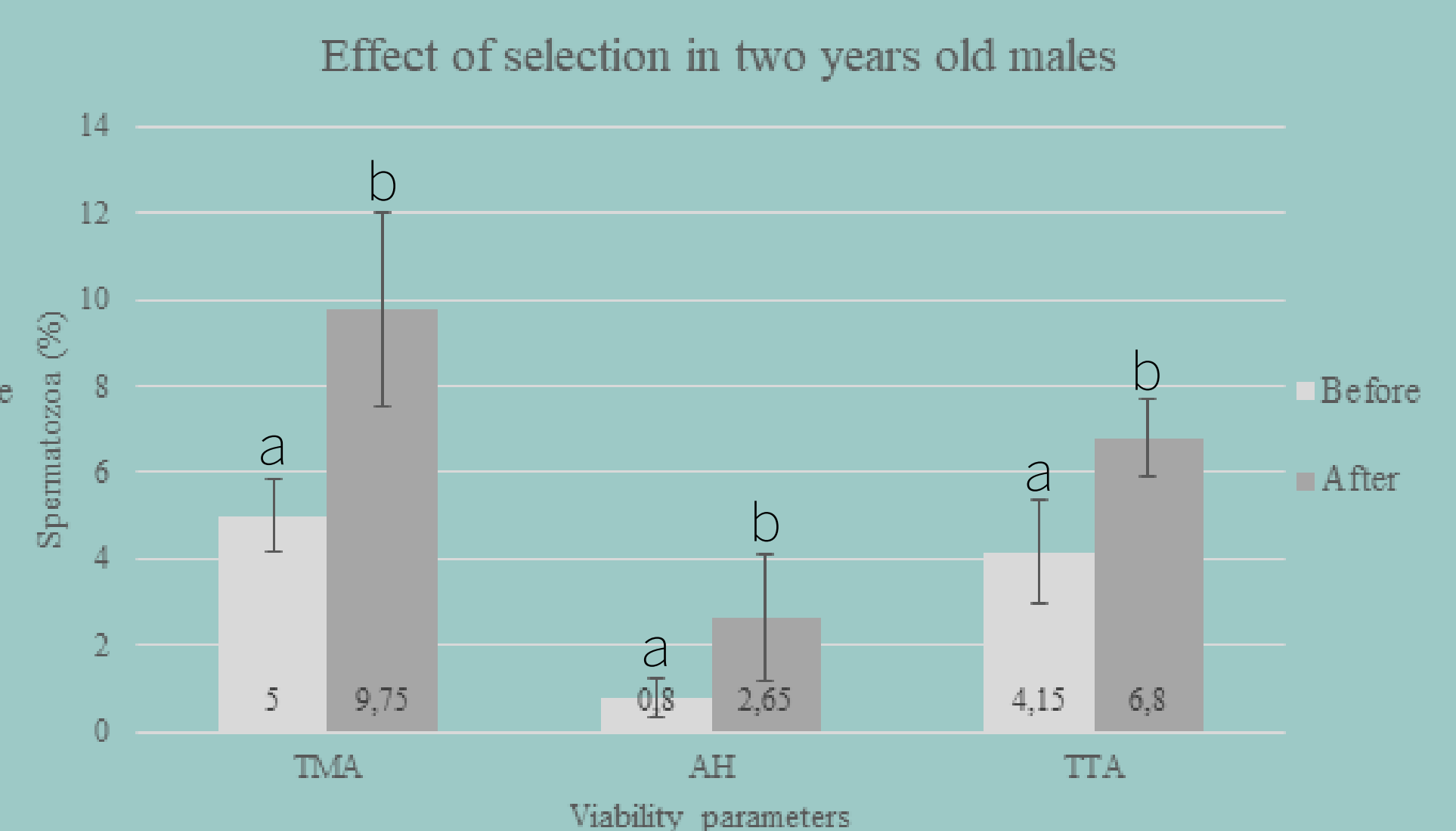


Figure 3. Percentages (mean \pm standard error) of total morphological abnormalities (TMA), alone head (AH) and total tail abnormalities (TTA) before and after selection of two-years old buck. These parameters showed significant differences ($p < 0,05$).

Discussion

In literature, the single layer centrifugation, as a selection method, achieved a positive effect of the treatment.

Possible factors explaining the low efficacy obtained in the present study:

- Centrifugation \rightarrow Causes damages to the spermatozoa and plasmatic membranes
- Manual count \rightarrow Fewer number of observations and in a subjective way
- Colloid \rightarrow Bovipure is designed to be used in bovine \rightarrow Toxic?

4. CONCLUSION

Single layer centrifugation using Bovipure significantly decreased the quality of the thawed buck spermatozoa. In this study, this method of sperm selection does not work in Blanca de Rasquera breed. More studies have to be done to confirm it.