

EFFECT OF REDUCING POWER OF SUGARS IN BOAR SPERM CRYOPRESERVATION

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Introduction and Aims

How sugars protect sperm during cryopreservation is not clear. The aim of this study was to determine if their protective effect could be attributed to their reducing power. The effect of four sugars on the quality of frozen-thawed boar sperm was evaluated. Lactose, maltose and cellobiose presented reducing power, while trehalose did not.

Material and Methods

Cryopreservation

Pool sperm-rich fractions from 3 fertile boars (5 ejaculates/boar)

Freezing extender

20% egg yolk + 80% sugar (310 mM)



Lactose



Cellobiose



Maltose



Trehalose

Freezing at 0.5 mL straws (1 x 10⁹ cells/mL) in a programmable freezer.

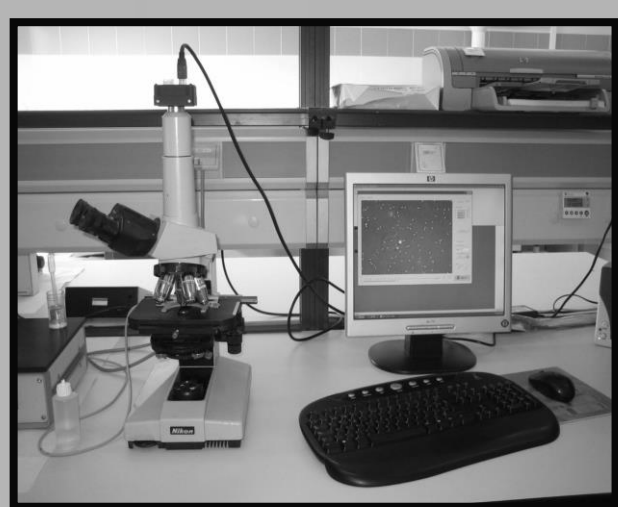
Thawing

Straws were thawed at 37°C for 20 sec

Samples were incubated during 30 min in a waterbath at 37°C

Sperm Assessment

Sperm motility

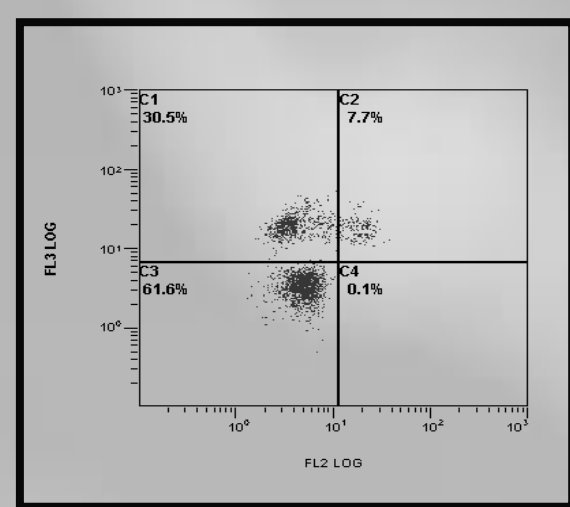


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- Total motile sperm

- Progressively motile sperm

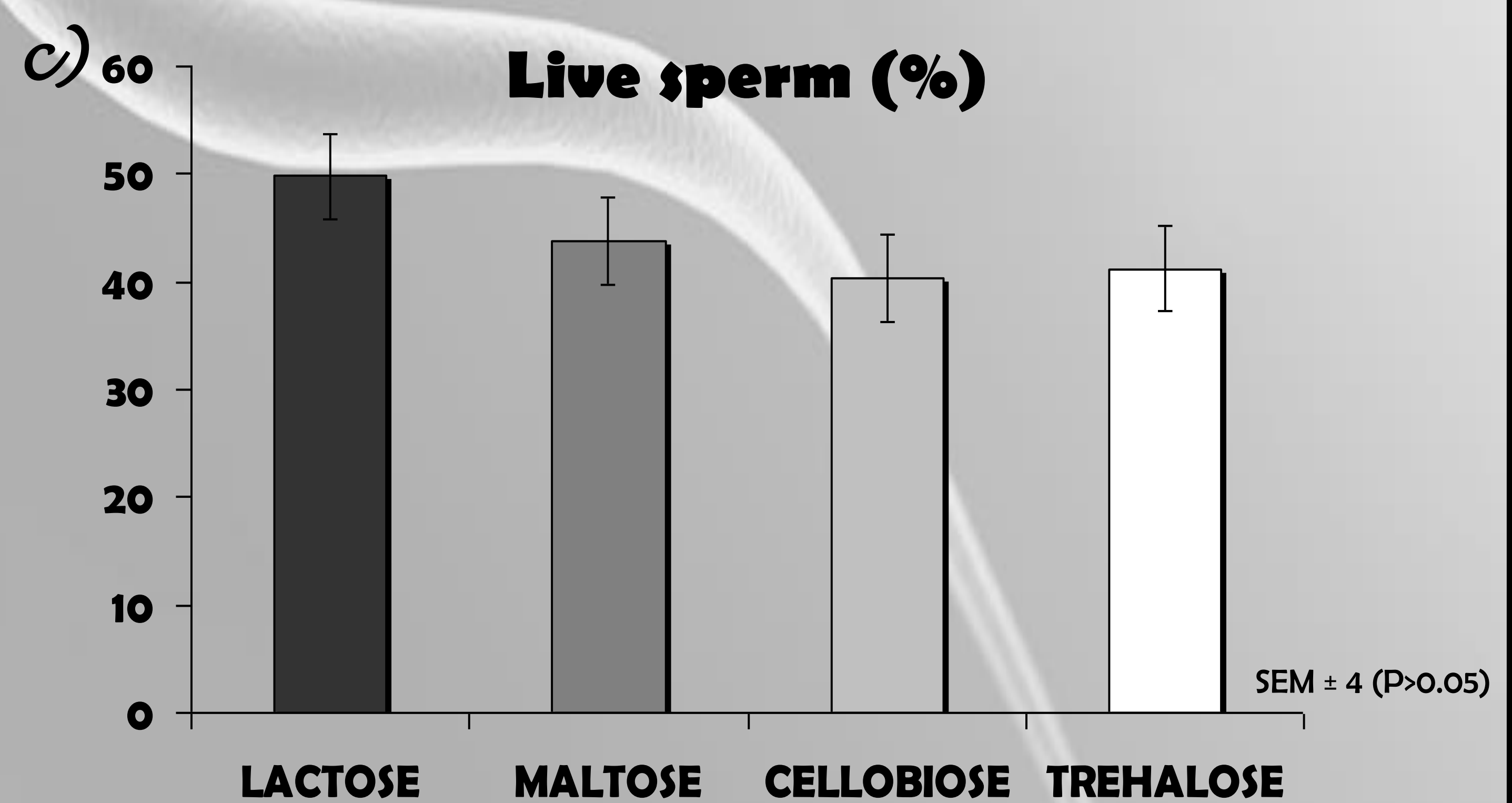
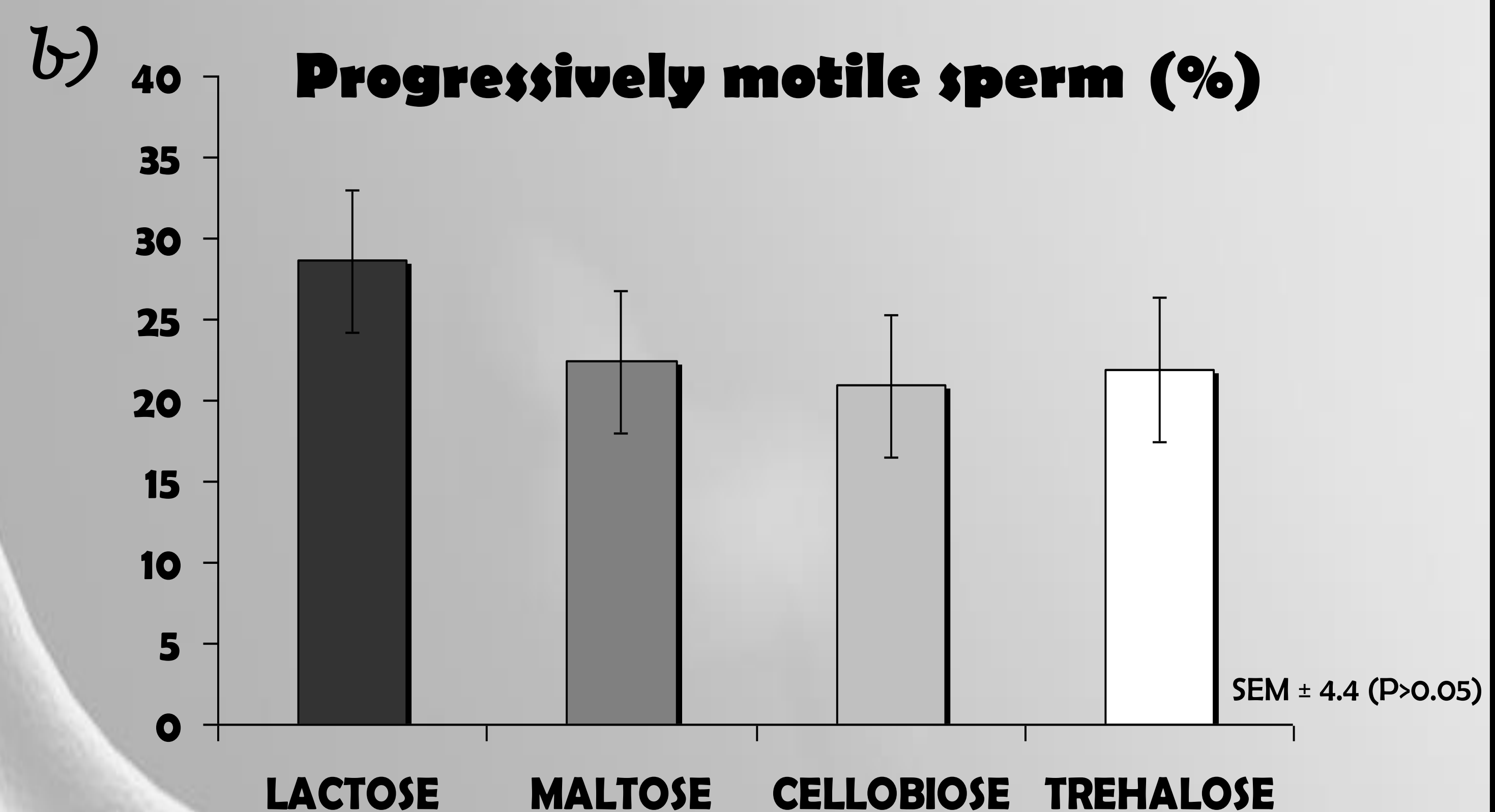
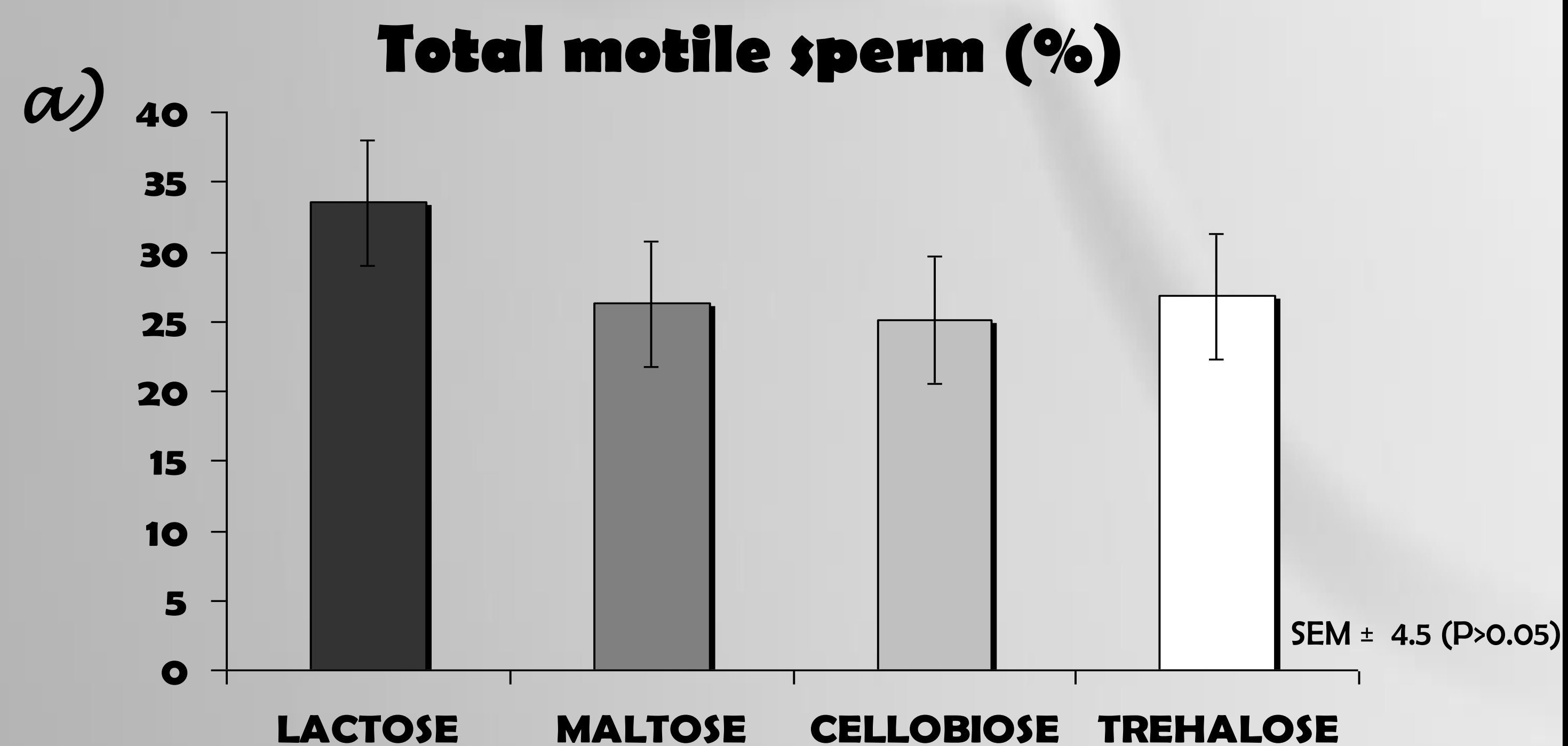
Live sperm



flow cytometry
(SYBR14/propidium iodide)



Results



The different treatments did not have any significant effect on the percentage of post-thaw motile or viable spermatozoa (P > 0.05).

Conclusion: The cryoprotective effect of the sugars for boar semen is not attributed to their reducing power