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This is the author's manuscript

Original Citation:

Availability:
This version is available http://hdl.handle.net/2318/1780076 since 2021-03-15T11:07:16Z

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Effect of EGF on fertilizing potentials of cryopreserved beef bull semen

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AIM OF THE WORK
Evaluate the effects of EGF on the viability and integrity of frozen sperm from Piedmontese bulls

MATERIAL AND METHODS
• Ejaculates of 4 Piedmontese breed bulls ——— POOL
• Weekly withdrawal for 8 consecutive weeks same bulls
• Dilution with Bullcell
• Experimental groups addition of EGF at concentrations of 0, 50, 100, 200 and 400 ng / ml.
• Programmed freezing up to -150 °C
• Storage in liquid nitrogen (-196 °C)

• Motility and Velocity CASA - T0 T1 T2 T3 e T4 - Motility (total and progressive) Speed (curvilinear, average, linear)
• Vitality and acrosomal status ——— Trypan Blue & Giemsa
• Integrity of the plasma membrane ——— HOS test
• DNA integrity
• Apoptosis
• Mitochondrial activity
• Penetration of cervical mucus
• Antioxidant activity ——— SOD Colorimetric Kit

CONCLUSIONS
The EGF significantly (p<0.05) improve the different velocity parameters after the different incubation periods mainly with the concentrations 100, 200 and 400 ng/ml. EGF significantly improved the sperm vitality (p<0.01) and decreased sperm apoptosis (p<0.05) with the concentrations 100, 200 and 400 ng/ml without affecting acrosome, plasma membrane and DNA integrities. In conclusions, incorporation of EGF especially at concentrations 100 and 200 ng/ml could improve the vitality parameters of cryopreserved bull semen.

Further studies would be needed to verify the positive effect of EGF on low fertility bulls.

We thank ANABORAPI for their technical assistance.