The 1st Ukrainian-Polish Scientific Forum
AGRO BIO PERSPECTIVES
29–30 September 2021, Lviv, Ukraine

POST THAWING QUALITY OF BULL SPERAMTOZOA IN DILUENT WITH ADDITIVS OF MICROELEMENTS LINKED WITH POLYMER-TRANSPORTER

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Introduction (font 66)

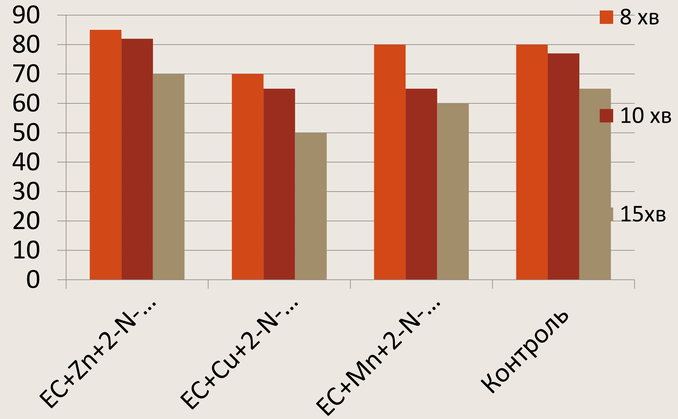
- The aim of the work was to establish optimal regimes for sperm cryopreservation when using nanocomplexes in environments. A study was conducted to improve the freezing by adding polymers from pseudo-amino acid (PPAA) with Zinc, Mangan and Cuprum to diluent for cryopreservation of bull sperm.The effect of micronutrients (Cu^{2+}, Zn^{2+}, Mn^{2+}) in the polymer-transporters on the survival and fertilization capacity of sperm bulls was investigated.

Material & Methods (font 66)

. To assess the validity of the Complexes N-derivative PEG-400, ejaculates from 2 to 5 ml, concentration-0,7 - 1,2×10^9cells/ml and sperm activity 7.0 - 8.0 points were chosen. The ejaculates of sperm, rarefied lactose-yolk-glycerin environment, are divided into three parts with the addition of N-derivatives PEG 400 (N-PEG 400) with content of 1 ml solution: Zn -0.0319 mmol; Cu-0.0222 mmol; Mn-0.0359 mmol. In prototype sperm added 0.01 ml of micronutrient solution in the polymer in concentrations and 100 times lower in ml diluted ejaculate. In prototypes of rarefied sperm determined sperm survival, dynamic indicators, respiratory activity and restorative ability of thawed sperm, activity of enzyme markers of fertilizing the ability of sperm –succinatedehydrogenase and cytochrome oxidase.

Results

It has been established that respiratory activity and restorative abilities of thawed sperm by adding to the dilution of polymers with trace elements depend on the freezing regime. In this case, when you add 0.01 ml of Zn^{+2} N-derivative 400-PEG per ml of sperm, the maximum value (1.11±0.21 ng-atom/min 0.1 ml), when exposed in nitrogen vapors 8 minutes. Respiratory activity of thawed sperm is high (1,59±0,31ng-atom /min× 0.1 ml C) when the Cu^{+2}N-derivative 400-PEG is introduced into rarefied ejaculate and exposition in nitrogen vapors for 5 minutes and for Mn^{2+}-8min. The restorative capacity of defrosted sperm in the presence of the Cu^{+2} N-derivative 400-PEG is no different and is 0.01 - 0.02 mv/min × 0.1 ml C, for the 400-PEG (1.11±0.21 mv/min×0.1ml C) when exposed to nitrogen for 8 minutes, and for Mn^{2+}-N-derivative 400-PEG - 10 minutes.



Conclusions

High sperm survival and mitochondrial activity are ensured by the addition of 400-PEG- 8 min derivatives 400-PEG to the rarefied sperm-derived spermosifia sperm. Between the activity of enzymes (succinate dehydrogenase and cytochrome oxidase) in the ejaculates of bulls and indicators of their quality and fertilizing ability of sperm established a positive connection. The activity of SDH and CCO is positively correlated with sperm survival (r = 0.60-0.68) and the number of living sex cells (r = 0.40-0.44).