PRELIMINARY RESULTS OF BULL SEMEN FERTILITY AFTER CRYOPRESERVATION WITH LOW DENSITY LIPOPROTEINS (LDL) EXTENDER

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Egg yolk is widely used by artificial insemination (AI) centers for bull semen cryopreservation. Laboratory studies revealed that yolk contains granules that inhibits respiration of spermatozoa or reduce their motility and interferes with microscopic observations. Egg yolk could also be a source of microbial contaminations. So, there have been many attempts to find out which components in egg yolk provides cell protection with the aim to replace egg yolk with it's cryoprotective fraction in order to prepare a clearly chemically defined extender without inconvenients. Many investigations showed that LDL is the cryoprotective fraction of egg yolk. However, in order to extend its use to AI centres, in vivo fertility studies were required. Semen was taken from three bulls and frozen-thawed in two extenders: the LDL extender and a standard tris-egg-yolk extender. The quality of the semen was assessed prior to AI: motility was assessed using Hamilton Thorne ceros 12, and the integrity of the plasma membrane was assessed using the hypo-osmotic swelling test. For the first time, pregnancies were obtained following the AI of cows in the field (n=193) with semen that had been frozen-thawed in the LDL extender. No significant difference (p>0.05) was detected between the success rates of AI between the semen that had been frozen-thawed in the LDL extender (59.2%) and the control extender, Tris- egg yolk (65.3%). In conclusion, these preliminary results showed that the in vivo fertility of semen that has been frozen-thawed in the LDL extender is maintained since gestations are obtained following AI.