

Effect of clarified Tris egg yolk extender supplemented with strawberry juice (*Fragaria Spp.*) on some characteristics of chilled and frozen cattle semen

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Abstract: Recently, investigations on semen extenders, natural antioxidants which present substantially in fruits are used for semen preservation either in chilled or frozen semen. The aim of this study is to explore the effect of clarified tris egg yolk extender to which added different concentrations of strawberry juice (1-6%) as a cryoprotective agent for cattle semen preservation. Tubes containing 5 ml tris and 20 % (V/V) egg yolk (except the control) were centrifuged to separate LDL fraction. Tris with LDL fraction were transferred to other tubes to which the different concentrations (1- 6%) of strawberry juice from 10 % stock solution. Semen was collected from 5 mature cattle bulls; weekly / 5 weeks. Evaluation of pooled ejaculates has been done for dilution processing. Semen samples were diluted in TCYF as control (0% SB) and in the different concentrations from the 10% stock SB juice (1 to 6%). Diluted semen were equilibrated for 4 h. at 5 °C; then packed into 0.25 ml straws. The straws were frozen in a vapor 4 cm above liquid nitrogen (LN₂) for 10 minutes and then dipped in LN₂. Sperm motility of chilled cattle semen was evaluated 2 hours after cooling and chilling up to 6 days. Frozen straws were thawed at 37°C/ 60 s. The motility, alive, abnormality and membrane integrity (HOST) percentages were studied. In chilled semen, the concentrations from (1-5%) strawberry in tris extender showed higher sperm motility at 6 days post chilling. In frozen semen, the concentrations 1, 2, 4, 5 and 6% exhibited higher sperm motility. The best motility was at concentration 4 %. While 3 % gave the best alive and sperm abnormalities percentages. HOST % was maintained in all concentrations as compared to control.

In conclusion, we propose that clarified tris extender containing different concentrations of strawberry as cryoprotective improved semen characteristics is both chilled and frozen semen.

Keywords: Tris egg yolk extender, strawberry juice (*Fragaria Spp.*), chilled cattle semen, frozen cattle semen.