

## SUMMARY

The aim of this study was obtained pregnancy after the transfer which the use of ethylene glycol before the direct transfer of frozen-thawed in vivo cow embryos, to recipient females.

First of all, 56 in vitro produced cow embryos of good quality were frozen by direct transfer method with ethylene glycol. After thawing, embryos were transferred into TCM-199 + 0.1mM  $\beta$ -Mercaptoethanol+10% Calf Serum (CS) medium to check in vitro survival at 24-48 hours. The re-expansion and hatching rate of blastocysts was 64.28% (36 blastocysts). At the second stage; 8 embryos were collected from superovulated culture cows. Embryos were equilibrated in 15 minutes in room temperature in 1.8M Ethylene glycol + 0.1M sucrose in Dulbecco's phosphate buffered saline (D-PBS) supplemented with 20% heat-inactivated calf serum. Embryos were then loaded individually into a 0.25 ml straw and placed directly into a cooling chamber of a programmable freezer with methyl alcohol precooled to -7 degrees C. After 2 min, straw was seeded, maintained at -7 degrees C for 8 min more, and then cooled to -30 degrees C either at -0.3 degree C/min before being into liquid nitrogen. The frozen embryos were thawed by allowing the straw to stand in air for 5 to 6 sec and then immersing them in a 30 degrees C water bath. Embryos frozen-thawed in the presence of EG were nonsurgically transferred into the uterine horn into the recipient without diluting the cryoprotectant. Synchronized recipient cows with prostaglandine F2 $\alpha$  received one embryo in the horn ipsilateral to the corpus luteum (CL). Pregnancies were diagnosed by rectal palpation

60 days after embryo transfer. Eight frozen-thawed embryos were transferred directly to eight recipients and five recipients gave birth to five normal calves. The pregnancy rate was 62.5%. This result indicated that EG is suitable cryoprotectant in which to store bovine embryos before they are directly thawed to recipients. EG direct transfer method is preferable due to its simplicity and applicability to field conditions.