**Title of Article:** Effect of sucrose and propylene glycol on the vitrification of sheep oocytes.

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**Abstract**

Vitrification solutions containing both permeating and non-permeating cryoprotectants provide better productions of oocytes during freezing and thus contribute to the survival of oocytes. We have investigated the efficency of sucrose in combination with propylene glycol (PROH) on the cryopreservation of the oocytes at the meoisis II (MII) stage. The vitrification of sheep oocytes was performed using 5 M PROH, PROH in combination with sucrose at varying concentrations (5 M PROH + 0.5 M sucrose/1 M sucrose/1.5 M sucrose/2 M sucrose) and 1.0 M sucrose. It was concluded that sucrose in combination with propylene gylcol is most efficient at concentration between 1.0 to 1.5 M. Sucrose was found to aid in the maintainance of the morphological structure of the oocytes vitrified but at high concentrations sucrose has adverse effect on cleavage. Hence sucrose is best used as an additive cryoprotectant when supporting a permeating cryoprotectant, which maintains the integirty of the internal structures through its permeability.