

## **Effects of Superovulation with Follicle-Stimulating Hormone on Embryo Production and Cryopreservation**

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The OPU technology plays a significant role in oocyte collection globally and is the most efficient means of enhancing genetic advancement in cattle through maternal lines. However, studies on cryopreservation and pregnancy rates of embryos produced from oocytes obtained through OPU-IVP and superstimulation are unclear. In this study, we examined the quality and yield of oocytes between the FSH group and the control group, evaluated chromatin configuration, assessed embryo productivity, checked the quality of embryos after freezing and thawing, and ultimately compared pregnancy rates after embryo transfer. Oocytes were collected from 20 control groups and 15 female Hanwoo treated with follicle stimulating hormone (FSH). Reduced doses of FSH (36, 36, 24, 24 mg 12-hour intervals), regulated internal drug release, estrogen and prostaglandin were used for cynchroization and weak stimulation. In vitro embryos were produced through in vitro maturation, fertilization and culture. This study demonstrated that FSH improves the efficiency of the production, freezing, and preservation of embryos during the OPU-in vitro embryo development.