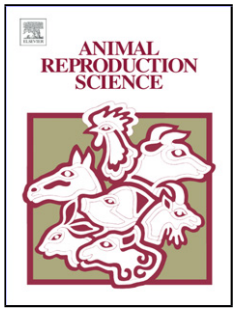

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Oocyte developmental competence is improved by relatively greater circulating progesterone concentrations during preovulatory follicular growth

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ABSTRACT

This study evaluated the effect of progesterone priming during follicular growth on oocyte competence to undergo oocyte cleavage and embryo development in sheep. Two experiments were performed on a total of 195 females that either received or did not receive a progesterone treatment (CIDR-type device) during the first follicular wave, beginning soon after ovulation (i.e., Day 0 of the experiment). On Day 3, the follicular population and oocyte quality (Experiment 1 and 2) and the competence of oocytes for cleavage and embryo development (Experiment 2) were evaluated after laparoscopic ovum pickup (LOPU) and *in vitro* fertilization. In Experiment 1, in a 2 x 2 factorial study the progesterone priming treatment (treated or not) was or was not associated with a single dose of FSH in a slow-release hyaluronic acid preparation given on Day 0. The follicular population on Day 3 and the number and morphology of recovered cumulus oocyte complexes (COCs) were not affected by the progesterone treatment (P = NS) but were improved by the FSH administration ($P< 0.05$). An interaction between both treatments was observed ($P< 0.05$), with more desirable outcome with the females that received both the progesterone and the FSH treatments. In Experiment 2, half of the females received the exogenous progesterone priming, and all females received FSH on