Accepted Manuscript

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PII: S0093-691X(14)00604-9

DOI: 10.1016/j.theriogenology.2014.11.001

Reference: THE 12986

To appear in: *Theriogenology*

Received Date: 26 September 2014

Revised Date: 29 October 2014

Accepted Date: 1 November 2014

Please cite this article as: Martinez CA, Nohalez A, Cuello C, Vazquez JM, Roca J, Martinez EA, Gil MA, The use of mineral oil during in vitro maturation, fertilization and embryo culture does not impair the developmental competence of pig oocytes, *Theriogenology* (2014), doi: 10.1016/j.theriogenology.2014.11.001.

Revised

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ABSTRACT

This study evaluated the effects of mineral oil overlay during maturation, fertilization and embryo culture on the timing of nuclear maturation, the progesterone concentrations in the maturation medium and the subsequent developmental competence of the oocyte. The results from experiment 1 showed that under the typical humidity of laboratory incubators (95–97%), the culture media osmolality increased in the absence of oil overlay. For this reason, in experiment 2, maturation, fertilization and embryo culture media were incubated with either an oil cover (MO group) or a microenvironment system for maximum humidity (HM group). Under these conditions, the media osmolality was maintained below 300 mOsm/kg. A portion of oocytes (n = 1,414; four