

Pre-mating nutritional manipulation: effects on follicle function, oocyte development and potential litter size

Supervisors: Dr's Will van Wettere and Karen Kind

Contact: email: william.vanwettere@adelaide.edu.au; Phone: 8303 7911

Background

The quality of the oocyte (egg) at the time of ovulation largely determines whether or not it is capable of being fertilised or able to develop normally as an embryo, thus proceeding through to the birth of a live piglet. The quantity and composition of the diet consumed by female pigs prior to mating is known to be a primary determinant of the number and quality of the oocytes shed at ovulation, and thus embryonic survival. With 30% of shed oocytes failing to survive implantation and develop into live piglets and feed grains representing a significant cost of production, there is increasing need to develop feeding regimes which reduce oocyte loss whilst maintaining, or even better decreasing, feed costs. As a consequence, there are projects available investigating the effects of different pre-mating energy sources (i.e. starch, non-starch polysaccharides, fat) on ovarian follicle function, oocyte development and embryo survival.

Techniques and methods involved

Animal handling skills (including collection of blood samples)

Laboratory skills: aspiration of ovaries, in vitro maturation and fertilisation of oocytes

(There may be a Pork CRC scholarship attached to this project)