

Synthetic androstenol: a potential alternative to boar exposure

Supervisor: Dr Will van Wettere

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

Background

It is well accepted that providing gilts and weaned sows contact with a mature boar stimulates ovarian follicle growth, induces and synchronises oestrus, and promotes the expression of oestrus related behaviours (van Wettere and Hughes, 2006). In particular, boar-originating olfactory cues, namely priming pheromones (eg 5-alpha-androstenol), present in saliva are the primary cues responsible for stimulating puberty in gilts and facilitating the return to oestrous cyclicity in weaned sows. There is preliminary evidence indicating that injecting gilts with synthetic 5 - alpha-androstenol (dissolved in ethanol) on a daily basis can promote ovarian follicle growth, and stimulate early puberty attainment. The use of intra-muscular injections of boar pheromones are unlikely to supersede the use of physical boar contact in 'traditional systems'. However, should injectible pheromones prove an effective method of promoting ovarian follicle growth and synchronising oestrus this technology represents an easy to implement strategy of facilitating lactational oestrus (thus negating the need to run boars into and out of the farrowing shed), equally it could potentially be used to increase the efficacy of exogenous gonadotrophin based ovulation stimulation protocols. With regard to the latter, recent studies conducted in our laboratory (Bartlett et al., 2009) demonstrate that the provision of boar contact improves the potential litter size of gilts stimulated to ovulate using PG600.

The current study will investigate whether injecting weaned and lactating sows with 5-alpha-androstenol will promote ovarian follicle growth, resulting either in a pre-weaning oestrus or a reduction in the weaning-to-oestrus interval.

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