



PROJECT REVIEW

NAME: Sadie Louise Douglas	
INSTITUTE: Newcastle University	FULL TIME Finished
TITLE: Light Pig Syndrome: what causes it and how can it be overcome?	
AIMS & OBJECTIVES: The aim of the project is to develop treatments for light pigs that will enable them to decrease the deficit in their growth. In order to propose appropriate treatments for these pigs, a protocol will be developed to identify the reasons that might have contributed to the delay in growth and whether pigs would be able to benefit from remedial measures.	

KEY MILESTONES:	TARGET DATE:	ACHIEVED DATE:
Complete a detailed literature review and epidemiological study to identify risk factors which contribute towards light pig syndrome (and associated pen variability).	June 2011	July 2011
Depending on the risk factors identified, develop treatments that would be appropriate for the stage of growth of the light pigs.	December 2011	November 2011
Complete experiments to identify whether these treatments benefit light pigs at different stages of their production life.	September 2013	September 2013
Submit three papers to peer reviewed journals and complete thesis	December 2013	Ongoing (Two papers have already been submitted/published)

PROJECT REVIEW AND COMMENTARY:
<p>During the first two years of the project, results of a risk factor analysis and several experiments indicated that early intervention was necessary to maximise the growth of light pigs, as birth weight and weaning weight are critical indicators of lifetime performance.</p> <p>The final year of my project was focused on designing and conducting trials. Firstly, we investigated the effect of littermate weight and supplementary milk during lactation on performance to finishing. Results indicate that the weaning weight of low birth weight (LBIW) piglet can be increased by grouping them with similar sized littermates during lactation; however the provision of supplementary milk does not affect performance. It was also observed that during the immediate period following weaning until 10 weeks of age, there is a reduction in the performance of LBIW pigs in comparison to pigs with born with normal birth weights (NBIW). My final experiment was designed to investigate the effect of high or standard dietary regimes in LBIW and NBIW pigs post weaning. This experiment has now been completed and results are being analysed.</p> <p>Overall, we have identified the crucial stages of growth for pigs and have successfully identified several treatments that can benefit the performance of light pigs. By identifying successful treatments, this can give farmers more options when deciding how to treat the problem of weight variation. The final stage of this project will be to give recommendations to treatments for light pigs which will benefit their performance to slaughter.</p>

POTENTIAL BENEFIT TO INDUSTRY:
<p>Poor growth has both financial and environmental implications for the Pig Industry, especially because it may be associated with poor food conversion efficiency, but also because of system inefficiencies arising from the culling of very light pigs and from keeping animals for a longer period of time on farm.</p> <p>In addition, lightweight pigs increase the variability within a group and this can be associated with inefficient pen</p>



utilisation in batch systems and/or financial penalties at the abattoir for poor grading specification. Appropriate treatments of light pigs that accrue benefits on their growth will have a higher chance of adoption by the pig industry and will lead to economic, animal welfare and environmental benefits.

SUPERVISOR: Professor Ilias Kyriazakis (Principal Supervisor) and Professor Sandra Edwards

FUNDERS: BPEX

DATED: September 2013

Notes from Seminar: