



<b>Name:</b>	Vasilis Symeou		
<b>Project title:</b>	Reducing the excretion of phosphorus from growing in finishing pig systems: development of Decision Support Tool		
<b>Institute:</b>	Newcastle University		
<b>Start date:</b>	October 2010	<b>Finish date:</b>	September 2013
<b>Lay summary of project</b> ( <i>in your own words</i> )			
<p>Phosphorous (P) is an important nutrient for both the metabolism and skeletal development of the growing pig. In pig diets P is the third most expensive nutrient after carbohydrates and protein. The high cost of P is due to the low digestibility of plant dietary P, which results in the need to supplement diets with expensive, non-renewable inorganic P to meet digestible P requirements. The low digestibility of plant P also contributes to high P excretion, and excessive amounts can cause water pollution. Water soluble P which may be excreted through the urine and faeces is more environmentally hazardous than non-soluble P which is excreted only in the faeces. Recently, it is also a common industrial practise to supplement phytase enzymes, which has the potential to utilise the otherwise indigestible plant dietary P.</p> <p>For both these reasons we have developed a simulation model to predict more accurately how much P a growing pig requires and match that with the amount of digestible P available from diets based on different feed ingredients. From this, we should be able to advise pig producers on how to maximize feed P digestibility and therefore reduce the amount of P used. A reduction in P use means lower cost to the producer and reduced excretion to the environment. The outcome of this PhD is to help improve the environmental sustainability of pig production and reduce producers' costs.</p>			
<b>A bit about yourself</b> ( <i>one paragraph</i> )			
<p>Being the son of a pig farmer, I have a personal experience of the challenges that the pig industry is facing. I lived through the 2004 transition of Cyprus, from a closed economy with significant farm subsidies to the open market of the EU. I saw the 2008 devastating impact that 4 years of extreme drought had in the livelihood of my father's farm, and I am living the roller-coaster ride of the feed prices, as well as the ever more demanding environmental and welfare EU legislations. I wanted to help pig farms becoming more sustainable, which is the reason I studied environmental science in Nottingham University and now I am applying that knowledge in deriving more sustainable feeding strategies for pig systems.</p>			
<b>What you hope to get out of your PhD</b>			
<p>On completing my studies, I hope to pursue a career in the pig industry as a specialist supporting its activities. I am particularly interested in production efficiency, product quality and the environmental impact of pig system. Even though I consider myself a pig nutritionist, I believe the PhD provided me with a special way of thinking, which does not stop me in taking on challenges within the wider livestock industry.</p>			

**A photograph of your work**



Figure 1. The low digestibility of dietary phosphorus in pig diets, results to high phosphorus excretion and excessive amounts can cause water pollution, namely eutrophication.

Declaration: I hereby give permission for my photo and the information provided to be used by BPEX in any publication, printed or electronic, for the purpose of informing stakeholders about my work.

Signature: Vasilis Symeou

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