



## PROJECT REVIEW

<b>NAME:</b>	Kelly Westmacott	Full Time	Year 1
<b>INSTITUTE:</b>	University of the West of England, Bristol		
<b>TITLE:</b>	Development of novel technology for boar taint detection to assist with the production of taint-free pork		

### AIMS & OBJECTIVES:

- My project aims to characterise a device which can measure the level of boar taint in the fat tissue of pigs.
- The device will be able to simultaneously detect boar taint compounds, and give user-friendly read outs.
- The intention is that the results will be produced rapidly to allow for the carcass to be sorted correctly before reaching the end of the abattoir line; preventing tainted meat reaching the consumer.

### KEY MILESTONES:

	TARGET DATE:	ACHIEVED DATE:
Introduction to the literature, familiarisation with techniques	May 14	May 14
Completion of health and safety induction, risk assessments for lab procedures submitted	May 14	May 14
Initial studies to determine the detection mechanism for the device	June 14	June 14
Characterisation of device parameters with various types of techniques	July 14	July 14
Literature review for potential interference compounds (vitamins, hormones and amino acids)	August 14	August 14
Analysis of potential interferences: vitamins	February 15	February 15
Analysis of potential interferences: amino acids	May 15	Ongoing
Preparation of GC reference technique	June 15	April 15
Testing of adipose tissue by both techniques	April 16	Ongoing

### PROJECT REVIEW AND COMMENTARY:

This novel technology capable of determining boar taint in pork needs to be compared with a known analytical method to produce data which will validate its accuracy; demonstrating its ability to be used in an industry setting.

I have generated calibration data for the different types of techniques available to this technology; this data has been used to determine the detection limits and precision levels that these techniques can achieve. I have also produced a detailed literature review regarding the compounds that could potentially be encountered during analyses; some of these compounds have been investigated and to date those examined do not show any interfering effects. If any interfering effects are identified suitable methods will be investigated for their mitigation.

In parallel, fat tissue samples will be investigated with the novel technology and the traditional method 'Gas Chromatography'.

### POTENTIAL BENEFIT TO INDUSTRY:

This research is linked to these priority areas: (i) Applied economics: the project will contribute to production of boar taint-free heavier pigs and, hence, lead to an increase in the income margin for pig producers' (ii) Food Quality: the technology will allow the producer to state that their meat is free from taint. Both of these aspects will improve the competitiveness of the UK pig industry.

<b>SUPERVISOR(S):</b> Prof John Hart, Prof Olena Doran, Dr Adrian Crew	<b>FUNDERS:</b> BPEX, JSR Genetics, UWE	<b>DATED:</b> 06/10/14
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