# Development of targeted solutions for boar taint

*A Data Management Plan created using DMP Assistant*

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Project abstract:

Boar taint is an off-odour and off-flavour that develops in heated pork products from entire male pigs, which is caused by the accumulation of androstenone and skatole in the fat. To prevent this, male pigs are castrated shortly after birth, but this reduces the production efficiency of the animal and is also an animal welfare concern. The swine industry is thus interested in solving the boar taint problem without surgical castration. Boar taint is a multifactorial issue influenced by numerous physiological processes and varies significantly between individual animals. This variation causes in a wide variability in response to treatments for boar taint. We have previously developed a set of genetic markers that reflect differences in the synthesis and metabolism of androstenone and skatole that are associated with high or low levels of boar taint. This has created an opportunity to tailor management interventions to individual animals as well as identify those animals that do not have high levels of boar taint. In this proposal, we will develop several treatment strategies that are specific to the various systems regulating boar taint development. We will assess how each animal responds, physiologically and behaviourally, to a particular treatment and compare this response to the genotype of the animal. This will allow us to identify genotypes that will favorably respond to our different treatments and also identify genotypes associated with low levels of boar taint, which do not require any interventions. The development of individualized treatments for boar taint has the potential to eliminate the need for castration, which will improve the profitability of swine production and enhance animal welfare.

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Copyright information:

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## Data collection

**Provide an overview of the data that will be generated, collected or acquired to support this project. If data will be acquired from a third party, specify the source.**

The data collected during this project will consist of pig growth performance data (body weight) and laboratory analysis of boar taint compounds (skatole and androstenone) in plasma or fat samples obtained at different ages. There will also be genotying data related to susceptibility for boar taint. This data will be used to divide the pigs into either high or low boar taint groups. Several behavioural measurements will be made on these two groups to estimate sexual activity and aggression. We will determine if there are differences in behavioural measurements between the low and high boar taint groups.
This data is not sensitive in nature

**What method(s) of data collection will be employed?**

Data will be derived recording body weights and observations of animals to measure behaviour. Laboratory analysis of plasma and fat samples will measure levels of boar taint compounds

**What types of data will be included?**

Numeric data

**What software or digital formats will be used to collect, manage and analyze the data?**

MS Excel, MsWord and statistical software (SAS)

**Provide an indication of the scope of the data?**

There will be two separate experiments of about 120 piglets each.

## Data storage

**Estimate the size of data storage that will be required.**

About 2 GB of data will be generated

**Where will your data be stored during the collection, collation and analysis phases of the project?**

All data is stored on a password protected lab computer and also on our lab shared drive on the Animal Biosciences server

**What backup strategy will be employed?**

The data is backed up on our department server system which maintains multiple copies of the data.

**How will your data files be organized? What file naming conventions will you use? A brief overview or example would be adequate.**

Spreadsheets will be generated by the researcher involved for each experiment using a unique naming system for each experiment. These will contain all data generated for each individual pig. The data be in each phase: raw, cleaned collated and final and this will be used as input for the statistical analysis

**What metadata will be developed for your data? Will there be supplemental documentation prepared to assist with the interpretation and analysis of your data?**

There will be a short text description of each spreadsheet that describes what the data is so that others can also interpret the data.

## Data archiving and preservation

**Will you deposit your data in the UG data repository or an external data repository? If you are opting to not archive your data in a repository, where will your data be housed after completion of your project?**

The data will be archived in the UG data repository for long-term preservation. Thesis generated from the data will be deposited in the Atrium

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**Discuss any data transformations that will be needed so your data is preserved in appropriate, non-proprietary formats.**

Reports and thesis will be stored as pdf files, excel data will be converted to csv format.

**If some of your data will not be preserved, how long will you retain it? Will the non-preserved data be destroyed?**

The data will be stored an indefinite period of time unless storage space is required.

## Sharing and reuse

**Will the data that you archive in a data repository be made available for sharing and reuse by other researchers?**

The data will be freely and openly shared through the UG data repository.

**Explain which version of your data or subset of your data will be shared.**

Defended thesis, published papers and final reports

**When will your data be available for discovery by other researchers? Will you impose an embargo on publication of your data? If so, please provide details on the duration of the embargo.**

The data will be available after the study has been published and the student has defended the thesis

**Will you limit who can access your data? If so, who will that be and why are you limiting the data's reuse?**

Final, de-identified data will be openly available. The raw data may be provided to researchers who submit a request to the PI.

**Are there specific license terms you will assign to users of your data?**

## Restrictions/limitations

**Are there limitations or constraints on how you manage your data resulting from legal, ethical or intellectual property concerns?**

no

**Would your data need to be anonymized or de-identified before being shared with others?**

no

## Confidential information

**What information do you want to include in your DMP that should not be publicly shared?**