

# Optimising Feeding Strategies to Reduce Environmental Impact of Pig Pollution

## Introduction

Phase feeding is a pig-feeding method, whereby nutritional needs are more closely met at each stage of development, to optimise growth and performance. The aim of this project was to review the literature around pig feeding, to see whether the evidence supports phase feeding as an ideal method for reducing the environmental impact of pig feeding without jeopardising performance, cost and other practicalities.

## Aims

The main objective was to produce a literature review summarising what we currently know about pig feeding methods and use this to suggest what action should be taken in the pig industry to reduce environmental impact going forward.

## Methods

I started by using Web of Science to search for relevant scientific literature, looking out for comparisons of nitrogen excretion, growth performance and carcass characteristics. As I collected the papers, I summarised the findings in an excel spreadsheet, which I used as a guide when writing the literature review.



## Results and Conclusions

Comparing phase feeding to alternative pig feeding methods, it remains inconclusive to declare one as definitively superior. While evidence suggests that 3-phase feeding allows for more precise nutrient matching and potential reductions in nutrient excretion, practicalities and cost considerations should also be weighed. Further research is needed to confirm its environmental benefits compared to other feeding approaches.

## Impact and reflections

The literature review provided valuable insights to facilitate informed decision-making among scientists and farmers. By sharing the findings on the Laidlaw Scholars Network and with the Pig Foundation, the aim was to raise awareness of research gaps and inspire further studies for sustainable pig farming practices. The project strengthened my time management, self-discipline, leadership, and commitment to becoming a resilient and impactful scientist dedicated to ethical leadership and advancing scientific knowledge.