

Project title - Local solutions to a global challenge

Summary

- It is important to reduce dependence on imported soyabean due to its impact on the environment. Home grown ingredients are viable alternatives to soyabean for swine and poultry.
- Subject to future regulatory changes, insect PAP, pork and poultry PAP and “untapped waste streams and co-products” are potential viable candidates.
- The impact on animal performance, nutrient digestibility and emissions as well as the overall impact on cost of production when soyabean is replaced with different home grown sources needs further investigation.
- Feeding strategies such as feed enzymes and synthetic amino acids may play an important role where homegrown protein sources are used to replace soyabean to maintain animal performance and health. There is limited data about how feed additives can be useful complementary tools in soyabean replacement strategies.

Justification

The project aims to generate information and provide solutions that are directly **relevant in practice** where soyabean is replaced by homegrown ingredients combined with strategic applications of different feed additives.

Although PAP is not currently approved for use in pig and poultry feed in the UK, the nutritional value of these ingredients are poorly understood. The EU recently re-approved the safe use of these ingredients due to their benefits in reducing soyabean and phosphate imports and in particular, improving circularity.

Opportunities and Outcome

1. Better understanding and quantification of the effect of home grown proteins on animal performance.

2. Reduce reliance on soyabean in the UK by increasing use of home grown ingredients and complementary alternative strategies.
3. Better understanding of the nutritional value of untapped waste and co-products streams as feed ingredients for swine and poultry.
4. Improve circularity and reduce environment impact
5. Home grown alternatives make a contribution to food self-sufficiency

Research objectives

In a number of complementary research trials, this project will -

1. Collect information, rank the alternatives and publish data on which home grown protein sources are currently available in the UK, including novel options such as grass planting to produce grass protein. Understand what we have grown in the past compared with the present and for what purpose. To improve circularity, investigate and highlight the top 10 untapped waste and co-product streams available in the UK
2. Conduct Life Cycle Analyses in selected alternative proteins sources to gain informed insight into the relative value of these ingredients to soyabean
3. Determine the maximum inclusion levels of home grown ingredients in swine and poultry diets and how they affect performance and gut health. Improve the nutritional value of home grown ingredients using alternative strategies (enzymes e.t.c). A “soya free” diet concept which involves replacing all soyabean in the diet with home grown sources will be determined under commercial farm conditions.
4. Investigate the nutritional value and health, carcass composition, immunity, quality of life of swine and poultry fed PAP sourced from UK processing plants. Investigate UK processor and grower, supermarket, consumer perception regarding the use of PAP in swine and poultry diets.

Length and cost of projects

TBC

Full project proposals will need to be developed around these objectives.