

4A-102: Evaluation of Algal Meal as an energy and protein source in pig diets

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Background

Micro and Macro Algae are now a focus of developing a sustainable resource that can be used to supply a substantial part of the diet of all phases of pig production. The production of Algae is rapidly gaining acceptance as a method of reducing the carbon output of many heavy industries that produce significant carbon output to the environment. The Algal product that is produced as a byproduct is available to the animal industries as a feed ingredient. Despite the potential use of algae as a valuable protein source for animals, there has been very little work research on the evaluation of algae as a feed ingredient for animals over the past 20-30 years.

Methodology

A total of 80 male weaners (PrimeGro™ genetics) were weaned at an average age of 26 days (average weight 7.2 kg ± 0.89 kg) and transferred into individual weaner pens. Pigs were offered a commercial starter diet for an initial 5 day period to acclimatise to solid feed and the new environment. After this acclimatisation period, all pigs were individually weighed and allocated to one of the test diets:

1. 0% Algal meal control diet
2. 10% Algal meal diet (Algal meal sourced from Multiculture grown at James cook University)

The 10% addition of the Algae to the diet was a direct replacement for Canola meal in the diet. The control diet was designed to be slightly above the estimated requirements in terms of amino acids for the age and weight of pig when kept in ideal conditions. All weaners were individually weighed at entry (day -5), day 0, day 7, day 14 and day 21 with individual feed intakes calculated during these time periods.

Key Findings/Conclusions

The inclusion of algal meal once formulated correctly into the diet is unlikely to have any major negative effects on the performance of the piglets although the higher level of scouring would need to be examined in a commercial environment and formulated correctly into the diet. The high level of chloroplasts in Algae maybe causing this effect and this would be an important area to investigate.

Potential Users of Information (including value assessment)

The potential users of the system include researchers and nutritionists that are looking at the potential of Algae for animal feed.