



EFPRA

European Fat Processors
and Renderers Association



WAGENINGEN
UNIVERSITY & RESEARCH

Case Study 4

PAP nutritional studies at Wageningen University

EFPRA commissioned two nutritional studies at Wageningen University to investigate the benefits of using PAPs in poultry and pig diets and to obtain up to date nutrient content and digestibility values for these products.

The poultry and pig feeding trials showed PAP based meals are highly palatable, digestible, nutritious and contain a variety of minerals, such as calcium and phosphorus for strong bones and growth development. The studies showed animal welfare benefits too with reduced feather picking and drier litter observed. Inclusion of our up-to-date values for nutrient content and digestibility of PAP in feed comparison tables allows for their optimal use in poultry and pig diets.

The poultry study aimed to determine:

- the precaecal and total tract nutrient digestibility of porcine protein meal
- the effect of the porcine meal on performance, litter quality, bone quality and gut health in male broilers

The study included a digestibility study and a growth performance study with porcine PAPs as the test products. The birds performed well and the analysed growth performance data and litter scores showed some differences between the birds fed the PAP-supplemented diets and the control diet.

“Our studies showed animal welfare benefits too with reduced feather picking and drier litter observed”

Conclusions of the study were:

- differences in processing method affected the nutritional value of PAPs
- replacement of soybean meal by PAPs is possible without compromising performance, visual litter quality, footpad lesions, gait score, blood parameters, gut integrity, and bone quality

Read the poultry study report¹ - **Nutrient digestibility of processed animal proteins in broilers**

A further study looked at the nutrient composition, ileal and total tract digestibility,

and nutritional value of poultry based PAPs in growing pigs.

Overall, the study provided new data on digestibility and nutritional value for the use of poultry based PAPs in pig diets, specifically poultry meal, blood meal and feather meal.

It indicated that the protein digestibility of these products may vary from 60% for feathermeal up to 90%. The digestible protein content of the products was generally higher than in PAPs of unspecified animal origin in feed tables.

Read the pig study report² - **Nutritional value of poultry by-products in pig diets**



1. Nutrient digestibility of processed animal proteins in broilers, Wageningen University, August 2019 - <https://research.wur.nl/en/publications/nutrient-digestibility-of-processed-animal-proteins-in-broilers>
2. Nutritional value of poultry by-products in pig diets, Wageningen University, January 29 2020 - <https://www.wur.nl/en/Research-Results/Research-Institutes/livestock-research/show-wlr/Nutritional-value-of-poultry-by-products-in-pig-diets.htm>