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New study shows paws-itive effects of insect ingredients in cat food

- Research plugs the gap in knowledge of black soldier fly larvae (BSFL)-based protein in cat food
- Great food acceptance and digestibility, and high nutritional value comparable to a super-premium poultry by-product-based diet
- Possibility to positively impact gut health due to its potential prebiotic effect
- Support for manufacturers in developing tasty, nutritious, healthy and sustainable cat food

Protix, the leading insect ingredients company worldwide, unveils the results of a study into insect-based cat food conducted at Wageningen University and Research. The study has been published in the *Journal of Insects as Food and Feed* and shows that Protix's BSFL meal (ProteinX) included in high levels in cat diets was well accepted and resulted in food digestibility comparable to a super-premium poultry by-product meal-based diet. ProteinX modulated the gut microbiota and promoted an increase in the production of faecal short-chain fatty acids (SCFAs), which are considered beneficial for the animal's health. The findings open up exciting opportunities for manufacturers to develop feline-specific formulas with a science-backed health claim.

The study structure

The study investigated the effects of incorporating Protix's BSFL meal on the nutritional profile of a dry extruded cat food, and the impact on certain health aspects of cats.

Eight adult cats were fed two different diets over two 28-day periods. One diet included ProteinX at 37.5% in the recipe, while the control was based on poultry by-product meal (PBP) with a similar nutrient and ingredient composition.

Throughout the study, food acceptance was monitored, and samples were collected during the final seven days of each period for assessment of apparent total tract nutrient digestibility, faecal

consistency, fermentation products and microbiota, as well as blood biochemistry and haematology.

Nutritious and delicious

Given cats' reputation for fickleness, the BSFL food found wide acceptance among the subjects. All the cats maintained normal consumption of the ProteinX diet throughout the trial period, with no food refusal, vomit or significant changes in blood parameters. The cats maintained their body weight and overall health.

Super-premium digestibility

The digestibility of dry matter, organic matter, nitrogen, fat and gross energy were notably high for the BSFL meal-based diet, aligning closely with those of a super-premium diet. The felines' faeces were well-formed, and of optimal consistency.



A good gut feeling

The ProteinX-based diet had a profound impact on intestinal microbial activity, increasing the production of short-chain fatty acids (SCFAs). SCFAs (acetate, butyrate, and propionate) are considered beneficial for the animal's health, and their concentration in the faeces of cats fed the BSFL diet was significantly higher than the control group values.

Furthermore, the cats presented a higher relative abundance of certain beneficial bacteria genera such as *Bifidobacterium*, known for its probiotic properties and considered beneficial for host health, while showing inhibition of *Negativibacillus* and *Lachnoclostridium* genera - these latter being associated with clinical signs of digestive issues and detrimental for gut health.

Therefore, by stimulating gut microbiota activity and production of SCFA, increasing beneficial gut bacteria and inhibiting some gut bacteria linked to digestive problems, ProteinX shows the potential to support gut health in adult cats. The results suggest that the unique composition of ProteinX meal and its presence of components such as lauric acid, antimicrobial peptides, and chitin yield high nutritional value, and potentially has prebiotic effects.

Bruna Loureiro, Product Development Manager at Protix, says "These results represent a further step in bringing natural and tasty insect-based nutrition to cats based on scientific evidence. We look forward to working with manufacturers to translate these promising findings into palatable products that will promote good gut health in felines."

Conclusion

The recently published research addresses the growing interest in the potential of insect ingredients as a high nutritional value, sustainable and healthy alternative in pet food formulations. Manufacturers can confidently incorporate insect ingredients at high inclusion levels into highly palatable cat food in the knowledge that they represent a sustainable and healthy option. The research paves the way for manufacturers to tap into growing consumer demand for natural pet food that optimises nutrition and animal wellbeing.

Full results of the study are available at request through <https://protix.eu/white-paper-catstudy/>



About Protix

Protix is the leading company in insect-based ingredients for healthy and sustainable pet food, aquaculture, livestock feed and organic fertiliser. The company is on a mission to create low footprint ingredients that solve major issues in the current food system. Protix contributes to a circular food chain by using waste from the food industry as feed for insects. In turn, the insects are processed into valuable nutrients such as proteins and lipids. Protix's customers use these proteins and lipids as high-quality ingredients for animal feed and pet food. Moreover, residual streams from the insects are used as organic fertiliser. This way, insects close the loop and bring the food system back in balance with nature. Since its foundation in 2009, Protix has developed state-of-the-art, scalable technology, enabling the efficient use of resources and supply chain optimisation, including the reduction and recycling of residues and waste. Protix has been producing insect ingredients at its fully ramped-up industrial scale plant in the Netherlands since 2019. The company takes a measured approach to growth, resulting in profitable and cost-effective operations. Emphasising the power of partnerships, Protix actively collaborates with forward-thinking entities to unlock the full potential of insect ingredients worldwide. www.protix.com
