

BLACK SOLDIER FLY AS A PET FOOD INGREDIENT

Your Questions, Answered.

We pulled a sample of the most common questions from our recent informational webinar on using Black Soldier Fly as an ingredient for pet food. About one-sixth of attendees sent us questions, showing high interest in incorporating the high-quality ingredients into their pet food lineup!

Q How much Black Soldier Fly does Enterra produce?

A Our first facility is nearing capacity, which will allow for an annual production of 4,000 MT of product, with a mix of whole dried larvae, protein meal and oil. Over time, the company will expand to new locations, increasing capacity to keep up with demand.

Q What types of protein meal should we be looking at combining with Black Soldier Fly (BSF) ingredients?

A Many customers have had success when combining Black Soldier Fly and protein meal with other animal sources such as chicken, fish, and others, as well as vegetable sources of protein. It all depends on the goal of inclusion: BSF ingredients are produced very efficiently, so can be used to bring down the environmental impact of an animal-based food, or to enhance the taste or functional benefits of a “sustainable protein” based food.

Q How can BSF oil be used in pet food production?

A BSF oil has been used as a energy source, mixed right into pet food, and also as a post-extrusion spray onto the kibble to provide palatant benefits. Because of the unique unsaturated fat vs. saturated fat ratio of BSF oil, it maintains the consistency of butter at room temperature, which requires it to be heated for use as an ingredient. Functionally, BSF oil has antimicrobial benefits tied to the significant amount of lauric acid, a medium-chain fatty acid.

Q How does Enterra know that BSF ingredients are hypoallergenic?

A The claim of “potential hypoallergenic ingredient” is due to Black Soldier Fly having not been previously introduced to the target animal. Common foods that trigger allergic reactions in dogs include dairy, beef, soy, fish, wheat, chicken, lamb, and rabbit. BSF, and other insect ingredients, are similar to crustaceans, so may cause allergic reactions if an animal has allergies to shrimp. Pet owners who try BSF and witness symptoms like excessive scratching and feet licking, ear inflammation, inflamed skin, chronic gas, and diarrhea should contact a veterinarian immediately.

If you sent us a question, and don't see it answered here, don't worry, as we will be reaching out to follow up with answers to all questions directly.

➤ Additional questions and answers on the next page.

Q Will there be an organic certified BSF available in the future?

A At some point, we are hopeful this can be possible. However, up to now, we have not been able to secure the amount of organic feedstock required to supply a commercial-sized operation like we have and will have in the future.

Q How have customers received the use of this alternative protein and fat?

A Current pet food companies and their customers are having great success using Black Soldier Fly ingredients in their products. Anecdotally, pet owners are telling these companies that not only do their pets love the taste of foods with Black Soldier Fly, they are hearing stories of great changes due to past allergic reactions to some of the more common pet food ingredients. From a scientific standpoint, Enterra has conducted palatability and digestibility studies that back up the claims that dogs love these foods and they provide a very high level of digestibility.

Q How does the insoluble fibre (from chitin) affect protein digestibility and/or stool quality?

A Chitin is a unique fibre with prebiotic and antimicrobial characteristics, however, if chitin levels are allowed to increase too high, it may have an effect on protein digestibility and stool quality. Because chitin increases in larvae as they mature into pupae, we limit the amount by managing harvest timing. With this strategy, we are able to include the benefits of chitin, but still have excellent digestibility even up to 30% inclusion.

Q What does Enterra do for quality control to ensure no mold, toxins, or heavy metals are present in the ingredients at harmful levels?

A Enterra has a strict quality assurance program in place, including full-time environmental monitoring during larvae rearing to minimize the potential for molds. In addition, we conduct external testing for heavy metals, key toxins, and all important pathogens. Both the protein meal and oil are very stable due to the diverse fatty acid profile within the fat content and as a secondary step, we include a low level of a natural tocopherol-based antioxidant before packaging.

Q How does Enterra know that BSF ingredients have antimicrobial properties?

A BSF ingredients have substantial amounts of medium-chain fatty acids (MCFA) such as lauric and capric acid as well as chitin from the exoskeleton. There have been extensive studies showing that MCFAs have antimicrobial effects on gram-positive bacteria and have shown benefit in feeding studies. Other studies have shown that chitin and chitosan (present with chitin) have prebiotic and antimicrobial effects. Live BSF have antimicrobial peptides, which are known to provide immune support, however, research on the effects of product processing and animal health are ongoing.

Q What is the regulatory status of Enterra products?

A Black Soldier Fly has varying levels of approval for poultry, aquaculture, swine, and pet food in Europe, Canada, and the US, as well as other jurisdictions in the world. Each region is at a different level of regulatory approval at this time. Please contact Enterra for more information on any specific registration questions to ensure you have the correct, up-to-date information.

We thank you for your interest and participation in our webinar on the nutritional value and opportunities for Black Soldier Fly ingredients in the pet food market.



For more information, or if you have any additional questions, please contact us at: **P:** 604.888.4327 | **E:** sales@enterra.com

