Insects; Healthy and Tasty with Less Impact on the Planet



black dog with insect.

To answer the increasing demand for proteins worldwide, we need to look for innovative alternatives that are more sustainable than current sources. Beyond humans, livestock and pets are drivers in this rising demand. Another growing trend is that pet owners want to buy food for their beloved pets containing high quality ingredients while at the same time reducing its environmental impact. To answer these needs, insects can be added to the diet of pets. Insects are a novel source of nutrients that is produced sustainably, and which is tasty for pets. They can be used as a natural alternative to animal proteins and vegetable oils.

Sustainability

Insects are more sustainable for several reasons. Firstly, insects can turn low value feed materials and related by-products into high value insect protein and oil. They are fed with by-products, not suitable for other livestock, which otherwise would have gone to lower value productions such as bio-refineries. Secondly, insect breeding is a zero-waste and circular process. There are three final products produced from insects: insect protein, insect oil and organic fertilizer. Insect protein and oil are used as natural and sustainable alternative ingredients in livestock feed and pet food. The frass, which is the manure and the leftovers from the insect breeding, is used as an organic fertilizer to grow new crops, of which again the lowest value by-products are used for feeding new batches of insects. It is a fully circular model! But sustainability of insect-based ingredients can even go beyond circularity and upgrading of low value by-products.

Industrial symbiosis

At Barentz Animal Nutrition, we are partnering with InnovaFeed, a highly innovative company, that has developed a unique production process based on an industrial symbiosis model. Their insect production site is directly connected with the nextdoor starch manufacturer, allowing agricultural by-products feeding the insects to be delivered to InnovaFeed's facility through a direct pipeline, effectively eliminating transportation and thus significantly reducing their carbon footprint. To go one "With this unique industrial symbiosis model, InnovaFeed produces insect protein and oil with a reduction of $80\% CO_2$."

step further, InnovaFeed also connected its production site with the next-door power plant providing them with residue heat that would otherwise have gone into the atmosphere. This allows the saving of a lot on energy and carbon emissions. With this unique model, InnovaFeed produces their insect protein and oil with a stunning reduction of 80% in their carbon footprint!

Versatile ingredient

Those insect ingredients come from the black soldier larvae, Hermetia Illucens, that has many nutritional benefits. The insect protein is highly digestible and has very balanced amino acid profile very much comparable to fish meal. Due to this amino acid profile the product is also high palatable. This high-quality insect protein fits perfectly in hypo-allergenic diets, because insect protein is an innovative ingredient, and most animals haven't been exposed to this protein source before. This makes insect protein very versatile, since it is tasty, nutritious, and functional. The oil as well has nutritional benefits thanks to its high level of medium chain fatty acids, that makes it easily digestible. Insect oil is also rich in lauric acid (C12-fatty acid), which is known for its antibacterial properties and thus improves gut health of animals. Insect protein and oil are both free of any unwanted substances and can be used in combination as high-quality, nutritious and sustainable ingredients to replace animal and vegetable meal and oils in certain livestock feed and pet food.



For more information

www.barentz.com/animal-nutrition

Industrial symbiosis model of InnovaFeed

