

Insects for feed and food

2018



In the worldwide increasing demand for animal proteins, insects play an important role. Insects quite efficiently convert food sources that are less useful for humans and animals into sustainably produced high-quality proteins; fully in line with the aim for a circular economy. To this end, Wageningen University & Research is researching the rearing and application of insects in animal nutrition for various types of farm animals.

Low-quality protein becomes high-quality

A technical feasibility study by Wageningen Livestock Research showed that we can successfully use substrates of low-grade biomass, such as residual flows and by-products, to feed insects. In this way the insects, or their larvae, convert low-grade proteins into high-quality proteins. The nutritional value of insects (crude protein, fat content and amino acid profile) is at least comparable to the nutritional value of soy beans and fish meal products.



Start-up barriers

Economic bottlenecks for the marketing of this concept will mainly concern scale of production, profitability and standardization. In the short term there are bottlenecks due to legislation and scale issues. Current legislation in Europe on the use of animal proteins in animal feed, including proteins derived from insects, is slowly changing.

Currently fish feed

As a first step, it is currently permitted to use animal proteins from non-ruminant animals in fish feed as a replacement for the usual but relatively expensive fish meal. In the future these new insect proteins will probably also be used in poultry and pig feed. A possible adjustment of the legislation may be the starting point for this.

Substitute of fish meal and soy

From a nutritional point of view we can therefore use proteins from insects as protein raw material in animal feed. From an economic point of view, it is likely that insect proteins will first be used as new protein ingredients in fish feed. Partial replacement of fish meal and soy meal in pig and poultry feeds can follow later, whereby striving for more sustainability may be more important than the financial reasons.



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