

Insect farming:

*Achieving a sustainable
food cycle*

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One of the biggest challenges for agriculture is to produce enough nutritious food to meet the demands of a growing population and to do so in an environmentally responsible way. The concept of using insects as a sustainable, alternative source of protein in animal feed has gained considerable traction in recent years. Although not a novel idea, it is one that serves to re-instate insects to their essential role as converters of waste into high quality protein.

Protein in animal feed

Presently, protein in animal feed is predominantly plant based, mainly soya, which is considered hugely unsustainable, owing to the contribution of soy cultivation to deforestation. According to research from PROteINSECT, a project co-ordinated by the Food and Environment Research Agency (FERA), 70% of proteins used in animal feed are imported, mainly from Brazil, Argentina and the USA. PROteINSECT reported that those imports represent the equivalent of 20 million hectares of cultivated land, which is more than 10% of the EU's arable land.

Insects as a source of protein

The advantages of using insects as a source of protein are manifold. Insects reproduce quickly, have high feed conversion rates and the advantage of a low environmental footprint, requiring substantially less land and less water for production. Insects can be reared on food waste, which would otherwise be destined for landfill. Insects are extremely efficient converters of waste to protein. As a direct comparison, to produce 1kg of cricket protein requires 1.7kg of feed, to produce the same amount of cattle protein requires 10kg of feed.



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The nutritional profile of insects is also persuasive when considering their role in the food chain. Research undertaken by AB Agri, in conjunction with FERA, has demonstrated that insect meal is comparable with fish meal in terms of its amino acid content. Some insect protein is equivalent or superior to soybean protein as a source of essential amino acids.

Legislative framework

Insects are a natural part of the diet for fish, poultry and pigs. However, legislation governing feed law has previously prohibited the use of processed insect protein in animal feed. In recognition of the viability of insect protein in animal feed, the law has begun to change. Since 2017, insects have been permitted for use in aquaculture feed in the European market.

Legislative support for this use of insect protein lead to a 40% increase in investment in the industry in 2018. With further legislation changes anticipated, to permit the use of insect protein in poultry feed, the demand for insect protein is likely to skyrocket.

As and when the UK leaves the European Union, EU regulations, including those which govern protein in animal feed, will be transposed into UK law. If, at that point, European law has been amended to permit the use of insects in poultry feed, that will be reflected in UK legislation. If not, then this presents an opportunity for the UK to be at the forefront of this pioneering new industry, by providing legislative change and government support for UK companies to lead the way in this innovation.

