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## New protein can help achieve food security

The Star, Malaysia



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# New protein can help achieve food security

SECURING enough food for a growing world population is an important concern for all of us. As the global population approaches 10 billion, there is concern we may not have enough arable land to grow food.

Protein is one important food category we cannot live without. Chicken is the most popular source in Malaysia. But chicken farming requires poultry feed, which we mostly import. We saw recently how the high cost of feed in the world market, especially corn and soya, made chicken less affordable. Livestock meat is another popular protein source. But there is concern over the global warming effects of methane which is released when cows burp.

Researching for alternatives, food biotechnologists found promise in black soldier flies (*Hermetia illucens*), or BSF. Under the National Institutes of Biotechnology Malaysia, a group in the Agri-Biotechnology Institute has been among the earliest to research BSF in the country.

BSF larvae grow by feeding on organic waste materials, converting them into environmentally



Photo: LENNY WORTHINGTON/Wikimedia Commons

harmless biomass. Deploying BSF larvae to break down wastes can reduce our dependence on expensive landfills. BSF larvae are rich in protein, essential amino acids, and fats, making them a valuable source of nutrition for both animals and humans. They can be used as a sustainable and cost-effective alternative to traditional animal feed ingredients. This has the potential to reduce the environmental impact of livestock production.

Insect protein, produced in

clean environment, is also gaining popularity as a nutrient-dense food source for humans. The larvae can be processed into protein-rich products, offering a sustainable alternative to conventional protein sources. BSF larvae can also be harnessed to produce valuable by-products such as a nutrient-rich fertiliser and even oil.

It is clear BSF larvae offer many benefits as the world struggles to be food secure, while at the same time ameliorating environmental-damaging waste issues.

BSF have a low ecological footprint compared with other livestock and feed production systems. They do not need much space, and only require minimal water and feed inputs, making them a sustainable choice for insect farming. However, more research is needed to improve mass production techniques, optimise feed formulations, and explore new applications.

Apart from increased research funding, better collaboration between research and industry will be helpful. Undeniably, their ability to convert organic waste into valuable products, coupled with their low carbon footprint, make BSF promising candidates to revolutionise food security. We will need a viable national plan to effectively harvest the insect's vast economic prospects. This also includes BSF being the answer to converting palm oil wastes into wealth for farmers.

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### SUMMARIES

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