



HON. TOMASI N. TUNABUNA

Minister for Agriculture, Waterways & Sugar Industry

Ministerial Response to Written Question 50/2026

30th April 2026

50/2026 - Hon. Joseph Nand to ask the Minister for Agriculture, Waterways, and Sugar Industry – Can the Minister update Parliament with respect to the following;

- (a) The results of recent trials using Black Soldier Fly larvae for low-cost livestock protein; and
- (b) When this is expected to be commercially available to farmers.
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The use of **Black Soldier Flies (*Hermetia illucens*)** as a low-cost protein source for livestock farmers in Fiji has several positive impacts, such as: -

- **Reduction in waste** - Black Soldier Flies can rapidly degrade organic bio waste, reducing the amount of waste that needs to be disposed of and contributing to a “**circular economy**”, an economic system designed to eliminate waste, keep resources in use for as long as possible, and regenerate natural systems.
- **Protein source** – the mature larvae are a valuable source of protein, which is highly sought after by livestock farmers for animal feed.
- **Economic benefits** – the larvae produce digestates that can be used as effective organic fertilisers (**frass fertilisers**), substituting for expensive imported mineral fertilisers. This can make local products more competitive in various markets.

- **Environmental benefits** – the bioconversion of organic waste reduces the release of greenhouse gases, particularly methane, with positive environmental consequences.

These benefits make Black Soldier Flies a promising solution for addressing the challenges of waste management and providing a sustainable protein source for livestock farmers.

[A]. Update Parliament on the results of recent trials using Black Soldier Fly larvae for low-cost livestock protein.

The Ministry of Agriculture, Waterways & Sugar Industry (MOAWSI), in collaboration with the Fiji National University (FNU), is currently developing techniques for rearing and breeding the Black Soldier Flies, as well as processing their larvae into feed for livestock such as pigs and poultry.

The Black Soldier Fly farming initiative is funded by the Australian Centre for International Agricultural Research (ACIAR), which supports innovative agricultural projects aimed at improving food security and sustainable livelihoods. The project also receives technical support from the International Centre of Insect Physiology and Ecology (ICIPE), a leading research institution based in Kenya that specialises in insect and scientific expertise to ensure the successful development and implementation of the Black Soldier Fly farming concept.

The Black Soldier Fly project has been structured into three phases, as agreed upon in negotiations with ACIAR.

- **Phase 1**: - Knowledge exchange visit to assess the potential for insect-based livestock feed production in the Pacific.

This involves a knowledge exchange visit to Kenya in 2023, as an initial awareness and learning trip to study the Black Soldier Fly (BSF) concepts and evaluate their potential application in Fiji and the wider Pacific. During the visit, three technical staff were exposed to BSF production techniques, operational models, and innovative approaches to insect-based livestock feed systems. This experience enabled them to better understand the feasibility, benefits, and challenges of adopting BSF technology within the local context. The insights gained are intended to inform the development of action plans and

guide future efforts toward establishing a sustainable, insect-based livestock feed production system in Fiji.

- **Phase 2 (In progress – 2026-2027): - Potential for insect-based livestock feed production in Fiji: An initiative to explore the management and bioconversion of agro by-products to a useful protein source using BSF Larvae (BSFL).**

This Small Research Activity (SRA), funded by ACIAR with a budget of **AUD 250,000**, focuses on exploring the potential of insect-based livestock feed production in Fiji. The project investigates how agro by-products can be effectively managed and biologically converted into a valuable protein source using BSFL. Initial efforts have involved scoping studies and basic assessments to understand the local context, alongside the establishment of a demonstration centre to showcase practical applications of the technology. A key component of the project has been building local capacity through the training of ten officers, selected to be the country champions, equipping them with the knowledge and skills needed to support and promote this innovative approach. This training phase has now been completed, marking an important step toward wider adoption and implementation.

- **Phase 3: - Scaling Insect-Based feed and Fertiliser innovations for sustainable livelihoods in the Pacific (SIIP Project) - Still in negotiation Phase.**

The Scaling Insect-Based and Fertiliser Innovations for Sustainable Livelihoods in the Pacific (SIIP Project) is a four-year initiative, backed by an investment of **AUD 1.2 million**, aimed at advancing the research, development, and commercialisation of BSF insect-based feed and fertiliser systems in Fiji. The project focuses on building local capacity by working with key industry players, research institutions, and community stakeholders to introduce, establish, and scale BSF technologies as a sustainable solution for waste management, animal feed production, and organic fertiliser generation. Through phased implementation – including initiation, pilot establishment, and industry development – the project seeks to strengthen livelihoods, promote circular economy practices, and support long-term environmental and economic resilience in Fiji over a five-year impact horizon.

[B]. When this is expected to be commercially available to farmers.

The presence of the BSF in abundance across Fiji presents a strong opportunity for sustainable feed production. Because this insect thrives in tropical environments and efficiently converts organic waste into high-protein biomass, it is well-suited to local conditions. By harnessing and rearing BSF larvae, farmers and entrepreneurs can reduce reliance on imported feed ingredients like fishmeal and soy, lowering costs while improving food security.

The staff have successfully observed and confirmed the functioning life cycle of the BSF here in Fiji, providing a strong foundation for further development. As part of the Small Research Activity (SRA), plans are in place to construct specialised facilities once donor funding is secured. These facilities will support large-scale mass rearing and larvae production, enabling the implementation of research trials focused on using BSF larvae as a sustainable feed source for pig and poultry production.

The SRA activities, currently in both the planning and implementation phases, include: -

- Conduct waste mapping of agro byproducts and relevant waste to gauge potential substrates for BSF feeding;
- Evaluate and assess the adoption and farmer/consumer perception on insect-based feeding (Social science studies);
- Develop and upgrade the fly rearing facility at the Koronivia Research Station/Fiji National University and test innovations on BSFL-based meals (Pigs & Poultry);
- Transfer the BSF-based feeding concept to commercial, semi-commercial and small holder farms after successful rearing and processing at KRS;
- Stakeholder consultation for adoption of the BSFL feeding concept; and
- Training, coaching and mentoring of interested individuals/farmers with rearing concepts.

The intended activities for the 4-year project include:-

- Mapping organic waste streams and establishing linkages between the source of waste and BSF farmers.
- Characterising and selecting local BSF species for mass production.
- Adapting black soldier fly farming innovations to locally available organic waste substrates and weather conditions.
- Strengthening linkages among input and output BSF value chain actors.

- Validating the benefits of BSF-based livestock and fish feeds on animal productivity.
- Optimising post-harvest treatment of **BSF frass fertiliser** and validating **frass fertiliser application** rates for enhanced soil health and crop productivity.
- Assessing the potential of the BSF sector in the target communities.
- Conduct profitability analysis of BSF farming.
- Assess the economic, food security, and climate impacts of BSF farming.
- Establish and support existing demonstration and training centres on BSF farming focused on women and youth.
- Develop the next generation of BSF farming scientists and entrepreneurs.
- Disseminate knowledge on BSF-based innovations.

The development of BSF commercial farming entrepreneurs is a key component of the 4-year project. The adoption of BSF practices will continue throughout the project's implementation period. Following the dissemination of BSF knowledge and innovations to the community, full adoption of these practices by farmers is expected to take place after the completion of the 4-year project.

The progress of Phase 2 and the rollout of the 4-year Phase 3 project have been hindered by the delays in the vetting process at the Solicitor General's office. Although ACIAR, as the funding agency, has already made the funds available for Phase 3, the Livestock Research Unit within the Ministry has been unable to access them due to the prolonged vetting process.

The extended vetting processes may delay the implementation and completion of the project, thereby impacting the timely availability of the BSF for commercial use by farmers, as fertilisers (frass fertilisers) for crop production and as feed for pigs and poultry.

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