IITA BBEST
BSF FOR BIO CIRCULAR ECONOMY AND ENVIRONMENTAL SUSTAINABILITY

Mr. Amuetey sensitizing visitors on the benefits of the BSF technology at the Channel One Tv Agrifair.

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THE IITA BBEST PROJECT IN PARTNERSHIP WITH UNIKIN SENSITIZED HOULSEHOLDS ON WASTE COLLECTION AND SEPERATION

To ensure the sustainable supply of biowaste for the production of Black Soldier Fly larvae at UNIKIN, the IITA-led BBEST Project and UNIKIN sensitized teachers, households and restaurants around the university on the sorting of biowaste. Biowastes remain one essential component in the production of BSF value chain; they are recycled to produce larvae, which are high source of protein used in animal feed formulation and the frass, used to produce vegetable.
The three-day activity focused on door-to-door visits, where households were called to improve their sorting and to ensure the safety of the waste collection equipment. The team reinforced the importance of the waste collection and sorting among existing households, and teachers who are already partners of the initiative and addressed the concerns raised by the households. the sensitization helped to:

An agent sensitizing a food vendor on the benefits of the BSF technology.

- reinforce the commitment of existing households,
- integrate new participants, and
- identify operational challenges.

The agents distributed the waste sorting equipment to households and restaurants that newly joined the initiative.
The households and restaurants managers were informed about the various benefits of the Black soldier fly larvae namely:

- A rich source of protein for animal feeding: They contain high-quality protein, ideal for feeding fish, poultry and pigs.
- Sustainable alternative: they replace ingredients such as fishmeal or soybean meal, thereby reducing pressure on natural resources.
- Cost reduction: Their production is economical and can reduce feed costs for farmers.
- Positive environmental impact: By consuming organic waste, they reduce greenhouse gas emissions

The agents handing over the bins to the beneficiaries

and produce natural fertilizers as a by-product. The beneficiaries received the containers and were encouraged to do the sorting. The agents listed what to put in the bins namely - Fruit peelings (e.g. oranges, bananas, mangoes). - Vegetable peelings (carrots, tomatoes, cabbage, etc.). - Food scraps such as fufu, rice or meat. - Any organic household waste. This protects the environment while recycling your waste. This activity highlights the BBEST Project commitment to improve the livelihoods of smallholder farmers and contribute to improved urban sanitation and climate change mitigation.

An agent handing over the bins for the waste collection to one of the beneficiaries.

REVOLUTIONIZING THE AGRICULTURE LANDSCAPE: THE BSF TECHNOLOGY ATTRACTED INVESTORS AND STAKEHOLDERS DURING AN AGRIFAIR.

The IITA- led BBEST Project, engaged farmers at the maiden Edition of Channel One TV's AgriFair, held from 20th to 22nd June at the Efua Sutherland Children's Park in Accra.

During the three-day event, the project exhibited a live display of the Black Soldier Fly (BSF) life cycle, attracting livestock and aquaculture producers, vegetable farmers, children, potential investors, agriculture institutions, and the general public.

Amuetey Nagetey, the BSF production manager, said, "The BSF technology is transforming the poultry and the agriculture landscape by converting fruit, vegetable, slaughterhouse, and kitchen wastes into larvae, which are a rich protein supplement used in aquaculture, poultry, and livestock production."

In addition to reducing a substantial amount of waste in landfills, the BSF also reduces greenhouse gas (GHG) emissions, leading to urban sanitation.

Twumasi, the Monitoring and Evaluation and Learning specialist on the IITA BBEST project, said, "Adopting the sustainable production of the Black Soldier Fly larvae will aid in reducing the import of fish meal and soybean meal." This will make the poultry industry more profitable.

After being sensitized on the benefits of BSF, and learning that the production process is environmentally friendly, a substantial number of poultry farmers, vegetable farmers, and individuals expressed interest in receiving training on BSF farming to start producing the larvae and the frass.

Mr. Daniel Fahene Acquaye visiting the IITA BBEST booth at the Channel One TV Agrifair.

The BSF frass, a certified product by the Plant Protection and the Regulatory Service (PPRDS) under the Ministry of Food and Agriculture (MoFA), was also exhibited and marketed during the Agrifair. It is used to produce vegetables and to restore soil.

Visiting the IITA-BBEST Project exhibition booth, Daniel Fahene Acquaye, the CEO of Agri-Impact, acknowledged the potential of the BSF technology to create jobs for the youth and expressed interest in partnering with the project.

The Ghana Prisons Service team, led by the Agriculture Director, Kwaku Ababio Ali, who also visited the exhibition booth, expressed interest in incorporating BSF farming into the prisons' rehabilitation and agriculture programs.

Mr. Ali, Director in charge of Agriculture and his officers visiting the IITA BBEST Project at the Channel One Tv

"This aligns with our poultry and aquaculture production programs. We see great potential in the BSF for food security and skills development for inmates," Ali said.

Through its participation in the Agrifair, the project has increased farmers' and feed producers' awareness of BSF technology, promoted the BSF frass among farmers, and established relationships with private and public institutions to enable the adoption and scaling of BSF technology and the promotion of climate-smart agriculture.

Mr. Amuetey sensitizing visitors on the benefits of the BSF technology at the Channel One TV

Francisca sensitizing potential investors on the BSF technology at the Channel One Tv Agrifair.

PROMOTING SUSTAINABLE AGRICULTURE PRACTICES: IITA BBEST PROJECT AND BNARI JOINTLY TRAINED THE GHANA PRISONS SERVICE OFFICERS.

The Black Soldier Fly Production unit, established in the Kofisah hosted a training for over fifteen (15) officers of Ghana Prison Service (GPS) on the Black Soldier Fly technology from 15th to 18th July 2025. Jointly organized by the IITA-led BSF for Bio circular Economy and Environmental Sustainability (BBEST) project and the Biotechnology and Nuclear Agriculture Research Institute (BNARI), this training is in line with the GPS agricultural agenda to reduce the cost of feed for their poultry and pig farms.

The officers of the Ghana Prisons during the training on the BSF.

The day one of the training unfolded with the theoretical aspect of the BSF Technology. Participants were introduced to the BSF and its benefits. The facilitators emphasized on the housing, the farm management and the mass production of the BSF. Dr Ofori highlighted other areas such as the life stages of the fly, its uniqueness, the biology of the eggs and the larvae as well as how the BSF fits into a circular economy. These laid the ground for the practical session, where participants fed of the larvae.

Under the practical session, participants were taken through setting the traps for the eggs from the wild, the egg incubation and the transfer of the neonate larvae.
The training highlighted the harvesting and the processing of the larvae and the process of degutting the larvae.

One of the officers putting the larvae into the oven during the training.

Another highlight of the training was the emphasis on the seed germination to test the maturity of the frass after composting. This aspect of the training was led by Mr. Sintim, the Chief Technologist at BNARI. The training aligns with one of the project's objectives to build capacities and BSF technology knowhow of youth agripreneurs and other stakeholders.

Participants were awarded with a certificate of completion at the end of the three-day training on the BSF technology. Present at the certificate presentation was the Director of Prisons Service In- Charge of Agric, Mr. Kweku Ababio Ali,

who expressed his gratitude to the IITA and BNARI team for their support.

Mr. Ali, handing over the certificates of completion to one of the trainees.

Miss Otoo explaining to the officers the harvesting procedures.

EMPOWERING FARMERS: IITA BBEST PROJECT IN COLLABORATION WITH WORLDVEG AND ORGANIZED A FIELD DEMONSTRATION FOR FARMERS IN NSAWAM.

To increase awareness and knowledge for the BSF technology and especially the long-term benefit of the frass to the soil and its application, the IITA led BBEST Project jointly with World Vegetable Center and BNARI organized a field demonstration activity for farmers in Nsawam.

This activity falls in line with the BBEST project's effort to promote sustainable agriculture and improve biowaste management.

Over twenty-five farmers from the municipality successfully participated in the field demonstration activity at the BSF Production Unit at Kofisah on 9th July. One of the highlights of the event was the tour to the BSF production facility, where farmers explored the processes involved in the frass production, from waste processing to the BSF larvae production and procession to the production of the BSF frass.

Demonstration filed established at the BSF Production unit in Ghana.

Vegetable farmers taking part in the field demonstration activity at the BSF production unit.

Mr. Amuetey, the production manager who facilitated the tour, explained to farmers the benefits of the BSF larvae in animal feed formulation. According to him, the larvae which are an alternative source of protein of about 45% to 51% can replace soyabean meal. He added that the BSF larvae can be produced by farmers in their farms.

He explained that BSF technology is not only used in producing organic fertilizer but also helps in waste management by repurposing organic waste into valuable products: larvae and frass. Mr. Sintim, the Chief technologist highlighted that BSF frass contains high levels of nitrogen, phosphorus, and potassium, along with beneficial microorganisms that enhance soil fertility. Additionally, using insect-based products reduces reliance on synthetic fertilizers, which can have negative impacts on the environment. He took farmers though the frass application, after which farmers collectively applied the frass to the land.

At the end of the activity farmers expressed interest in getting the BSF frass and taking part in the subsequent field demonstration activities namely: the vegetative and the maturity stages and to witness the performance of the BSF frass on the selected vegetables: tomatoes, okra and Amaranth and were willing to try the BSF frass.

The event was graced by the District Director of Agriculture at the district office in Nsawam, Madam Esther Comey, and two Agricultural Extension officers.

Vegetable farmers taking part in the field demonstration activity at the BSF production unit.

Vegetable farmers during their visit to the BSF production unit.

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IITA BBEST DIGEST is a quarterly newsletter produced by IITA BBEST Project, Ghana.
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