



**VIDYABHARTI SANSTHA, WARDHA.**  
**DR. R. G. BHOYAR ARTS, COMMERCE & SCIENCE COLLEGE**

MOHANAPUR, TH-SELOO DIST-WARDHA 442104  
(FORMERLY VIDYABHARTI COLLEGE)

Affiliated To Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.

NAAC Accredited with B+ Grade

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## **Solid Organic Waste Management**

### **Black Soldier Fly Organic Waste Management Project in College Campus**

#### **By Department of Zoology**

#### Introduction –

Organic waste recycling and waste management is rapidly increasing problem in rural and urban areas in all over India. As per studies 40% to 50% of solid waste generated is organic. Organic waste dumped in soil release methane from decomposition of biodegradable waste under anaerobic conditions which contributes to global warming. Open dumping of organic waste, where number of flies sit and can spread diseases. One of more sustainable, economically valuable and environment friendly solution for management of such waste is the use of black soldier fly, *Hermetia illucens* L. farming, which helps for any organic waste management as well as can solve the food problem of aquaculture and poultry. Black soldier fly larvae not only useful as a feed of livestock but can generate other by products like Chitin, biodiesel, biogas, fertilizers etc. This activity in college campus focused a light on importance this fly and how this fly is best suitable for organic waste management, in rural and urban areas of India.

**Aim and Objective of the Project –** The main aim of the activity is to make aware to the students and farmers and common people of the villages about importance of organic waste management with the benefit of increasing their economy.

#### **Nature of Activity of the Project–**

- In College campus, this organic waste management activity is running from this session 2021-22 by the Department of Zoology.
- Department of Zoology did a curious study for the rearing and maintenance of this fly and throughout this session reared this fly successfully.

- The feed required for the larval stages of fly is received free of cost i.e. the organic waste like, vegetable waste, fruit waste, Kitchen waste, bakery waste, flour mill waste, oil factory waste, poultry slaughter house waste, Fish market waste etc.
- The college staff also bring their kitchen waste, fruit waste from their home as a feed for the larvae.
- The larval stages within 15 to 20 days of its life, feed voraciously on this organic waste and decompose and reduce the volume of these waste and convert waste into biomass as well as the residue which remained is used as plant biofertilizer.
- When larval development completed, we fed the larvae to the free ranged Chickens within the Seloo tahasil so the villagers received the knowledge for the importance of the BSF fly rearing.
- We also dried the larvae in oven and send it to the poultry farm for the layers.
- We also make aware and insisted to the farmers for keeping the larvae in their dust bins, so that villagers can put their kitchen waste in the bins and will get the nutritious larvae for their chickens.
- Department organised workshop and guest lecture for students and farmers of different villages during this session.

#### Outcome of this Project

- 1) Farmers understood the importance of rearing of this fly to reduce the cost of feed for their livestock.
- 2) Because of easy and cheap method of rearing of the fly, farmers showed great interest to receive the knowledge for the fly.
- 3) Because of no feed cost and easily availability of waste food for the larvae, farmers were very curious for this fly and they mentioned that this type of fly rearing will be helpful for increasing their economy.
- 4) Some villagers wanted to start the rearing of BSF at their places.

## Activity 1 - One Day Workshop on 'Black Soldier Fly rearing'

- On date 28th march 2022, Department of Zoology organised One day workshop on 'Black Soldier Fly rearing' for the farmers and for college students. For this workshop 27 farmers from Seloo tehsil and from different villages were present.



The poster is yellow and green. It features the logo of the college at the top. The text in Hindi reads: 'विद्याभारती संस्था, वर्धा' (Vidya Bharti Sanstha, Wardha), 'डॉ. आर. जी. भोयर कला, वाणिज्य आणि विज्ञान महाविद्यालय, सेलू, जि. वर्धा' (Dr. A.R. J. Bhoirer Arts, Commerce and Science College, Seloo, Dist. Wardha), '(विद्याभारती महाविद्यालय सेलू, जि. वर्धा)' (Vidya Bharti College Seloo, Dist. Wardha), 'NAAC मान्यंकित बी+ ग्रेडी' (NAAC Accredited B+ Grade), 'अंतर्गत गुणवत्ता मूल्यांकन विभाग (IQAC)' (Internal Quality Assurance Cell (IQAC)), 'प्राणिशास्त्र विभाग' (Department of Zoology), 'एक दिवसीय सैनिक माशी पालन उद्योजक कार्यशाळा' (One-day Entrepreneurial Workshop on Black Soldier Fly Rearing), 'दिनांक २८ मार्च २०२२' (Date: 28 March 2022), ': वेळ : सकाळी ११ ते दुपारी १ वाजेपर्यंत' (Time: 11 AM to 1 PM), ': स्थळ : डॉ. आर. जी. भोयर कला, वाणिज्य आणि विज्ञान महाविद्यालय, सेलू, जि. वर्धा' (Venue: Dr. A.R. J. Bhoirer Arts, Commerce and Science College, Seloo, Dist. Wardha), 'आयोजक समिती' (Organizing Committee). At the bottom, it lists the organizers: 'आयोजक डॉ. संजय एस्. कावते' (Organizer: Dr. Sanjay S. Kawate), 'आयोजक डॉ. कल्पना प्रे. नववीर' (Organizer: Dr. Kalpana P. Navvir), 'IQAC प्रमुख डॉ. जयशंकर टिपले' (IQAC Head: Dr. Jayashankar Tipale), 'IQAC उपप्रमुख डॉ. वैभव भिरवे' (IQAC Co-Head: Dr. Vaibhav Birve).

### Boucher for the Workshop



Dr. Ganvir Conducting the Workshop for Farmers

## देशोन्नती

### महिला - सांस्कृतिक

## सैनिक माशी पालन करा आणि आपल्या उत्पन्नात भर घाला : डॉ. करुणा गणवीर

### देशोन्नती वृत्तसंकलन...

चर्चा डॉ. आर. जी. भोयर कला, वाणिज्य आणि सायन्स महाविद्यालयाच्या प्राणी शास्त्र विभागातर्फे सैनिक माशी पालन' या विषयावर शेतकऱ्यांसाठी कार्यशाळेचे आयोजन करण्यात आले होते.

कार्यशाळेच्या आयोजिका डॉ. करुणा गणवीर यांनी सैनिक माशी पालनाचे महत्त्व शेतकऱ्यांना समजावून सांगितले. सैनिक माशीची अळी कुठल्याही प्रकारच्या जैविक अप्रवाह जगते आणि अळी पीष्टिक बनते. त्यामुळे या अळ्या कुत्रकुट पालनातील, मत्स्य पालनातील अन्न म्हणून उपयोगात आणता येतात. तसेच पाळीव प्राण्यांच्या अन्न घटकात यांचा उपयोग होऊ शकतो. सैनिक माशी पालन अगदी सोपे आणि खूपच कमी खर्चीक आहे. या माशी पालनाचे पर्यावरणातील जैविक कचरा कमी होण्यास मदत तर होतेच सोबतच या पीष्टिक अळ्या कुत्रकुट व मत्स्य पालन



क्षेत्रात विकल्याने शेतकऱ्यांचे आर्थिक उत्पन्न वाढते.

या अळ्या खाल्याने कॅबडीची अडे देण्याची क्षमता वाढते, त्यामुळे कुत्रकुट पालन करणे फायदेशीर होते. या कार्यशाळेस सेल्फ टालुन्वयातील शेतकऱ्यांनी तसेच महाविद्यालयातील विद्यार्थ्यांनी मोठ्या संख्येने सहभाग घेतला. या कार्यशाळेस प्रमुख अतिथी म्हणून संजय बानोडे उपस्थित होते. शेतकऱ्यांच्या समस्या या वातावरणातील बदलांमुळे वाढत जातात आणि त्यासाठी अशाच जोड यंत्रणांची गरज असते, असे सांगितले. कार्यशाळेचे अध्यक्ष व महाविद्यालयाचे प्राचार्य डॉ. संजय कानोडे यांनी

शेतकऱ्यांसाठी असे उपक्रम महाविद्यालयातर्फे नेहमी राबविले जातील असे सांगितले. निसर्गात अशा प्रकारचे बरेच किटक असतात, त्यांचा उपयोग व त्यांचे सांगोपण करून शेतकरी बांधव आपले आर्थिक बळ मजबूत करू शकतात, असे मत महाविद्यालयाचे प्राणिशास्त्र विभागप्रमुख डॉ. टिपले यांनी मांडले. कार्यक्रमाचे संचालन सूक्ष्मीयशास्त्र विषयाच्या प्राध्यापिका डॉ. शिल्पा मानकर यांनी केले, तसेच आमार् इंग्रजी विषयाचे प्राध्यापक डॉ. वैभव पिपळे यांनी केले. कार्यशाळा यशस्वी होण्याकरिता महाविद्यालयातील कर्मचाऱ्यांनी सहकार्य केले.

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### Activity 2- Guest lecture and Demonstration of Black Soldier fly rearing in NSS activity

As per fundamental principles of National Service Scheme, the volunteers are expected to remain in constant touch with the community and their problems. NSS have to select a particular village/slum for the implementation of NSS programmes and volunteers have to spread the health and hygiene related messages among the villagers during their residential camps. To study the Waste management policy, to disseminate its knowledge and importance among villagers is one of the priority of National Service Scheme of the Institution to develop the sustainable future.

Guest speaker- Dr. karuna P. Ganvir, Assistant Professor, Dept. of Zoology

Program- Accordingly NSS of the College organised a guest lecture on 'Black Soldier fly rearing for Organic Waste Management' on date 24th March 2022 in the College Seminar Hall for all NSS participated students. Students actively participated in the guest lecture as well as in the live demonstration of Black Soldier Fly rearing. All students understood the technique for the rearing of this fly and importance of rearing for the organic waste management. Total 37 students were present for this guest lecture and for demonstration.

Outcome of the program-

- 1) NSS students understood the importance of Black Soldier Fly rearing for the organic waste management.
- 2) As the topic of the guest lecture was new for all students, they were curious to ask the details of BSF rearing.
- 3) Students developed the attitude for self-employment with the less investment.
- 4) Some students assured to start BSF rearing at their home places and in their fields.
- 5) Students were curious about different types of insects for generating income.





Dhanoli, Maharashtra, India  
Aurangabad - Nagpur Rd, Dhanoli, Maharashtra 442104, India  
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Long 78.699165°  
24/03/22 03:04 PM



Wardha, Maharashtra, India  
Unnamed Road, Maharashtra 442104, India  
Lat 20.828028°  
Long 78.699665°  
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Wardha, Maharashtra, India  
Unnamed Road, Maharashtra 442104, India  
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Dr. Ganvir demonstrating for the rearing of the fly to the NSS students



Dr. Ganvir insisted the villagers to keep dustbins containing the larvae so that they can put their kitchen waste and will get the Nutritious BSF larvae for their Chickens





Dr. Karuna Ganvir with students, collecting organic waste from vegetable market for the Black soldier fly waste management project



Students working for organic waste management



College runs a Black soldier fly organic waste management project, where students learn each and every process of rearing, so that students can become self-efficient to start their own business

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