

GREEN HARVEST

AGRICULTURE NEWSLETTER

June 2024, Volume 3, Issue 2



School of Agriculture

Swami Vivekananda University

Barrackpore, West Bengal, 700121, India

www.swamivivekanandauniversity.ac.in

About School of Agriculture

The 2020-founded School of Agriculture strives for academic and scientific excellence. The school offers bachelor's degree programs in agriculture, agricultural engineering, and master's degree programs in agribusiness management. In accordance with the Indian Council of Agricultural Research's (ICAR) requirements, the school has created dynamic and targeted curricula to produce skilled workers for academics, agro-based industries, and extension-oriented applications.

Workshops/ Conference/ Invited Talks

On June 20–21, 2024, respectively, the School of Agriculture organized one international conference: the International Conference on Scientific Advances in Life Sciences, Agriculture and Food & Nutrition (ICSA2024). Numerous distinguished scientists from the agricultural area attended both conferences, and more than 100 research and review publications were presented. Both occasions acted as inspiration boosters, encouraging a great deal of invention and research. An enriching interaction session with distinguished guest speakers was held at the end of each conference to further increase the participants' understanding. The School of Agriculture's mission to promote cooperation, expand knowledge, and boost the agricultural industry is

demonstrated by its commitment to hosting such significant international conferences

Hands-on-training programmes/ Workshops

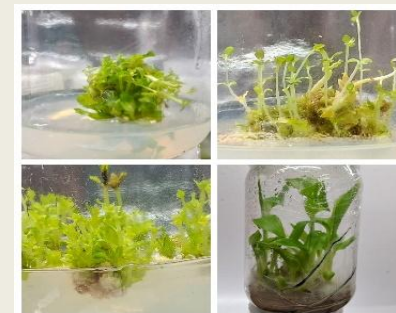
Nurturing the Future of Agriculture: Hands-On Training on Plant Tissue Culture

A hands-on training program on plant tissue culture was organized for the students, focusing on practical skills and applications of this advanced biotechnology technique. The training aimed to provide expertise in micropropagation, production of disease-free plants, and addressing agricultural challenges such as crop improvement and conservation.

The session began with an introduction to the principles and applications of tissue culture, emphasizing its use in rapid plant multiplication, conservation of genetic resources, and production of high-value crops. The students were trained in

aseptic handling techniques, media preparation, and

the use of essential laboratory equipment such as autoclaves and laminar airflow cabinets.



Applications in commercial crops like banana, Mint, Bringaraj, etc were highlighted, alongside discussions on scalability and economic potential.

This training provided students with practical skills and a deeper understanding of tissue culture, preparing them for careers in research, biotechnology, or entrepreneurial ventures in sustainable agriculture.

Hands-on Training on Vermicompost: Nature's Gold for Healthy Soil

A hands-on training program on vermicompost production was conducted for the students to impart practical knowledge and skills in organic waste management. The training aimed to teach sustainable techniques for producing nutrient-rich compost to enhance soil fertility and promote eco-friendly agricultural practices.



The program began with an introduction to the principles and benefits of vermicomposting, highlighting its role in reducing organic waste, improving soil health, and supporting sustainable farming systems. The students learned about the

biology of earthworms, particularly species like *Eisenia fetida* (red wigglers), which are ideal for composting. The practical sessions covered the step-by-step process of setting up a vermicomposting unit. Students prepared compost beds using organic materials like crop residues, kitchen waste, and animal dung. The training concluded with harvesting and sieving the compost, ensuring it was ready for agricultural use. Discussions on vermicompost's applications in crop production, its economic potential, and environmental benefits reinforced its value.

This hands-on experience enabled students to adopt vermicomposting as a sustainable practice, preparing them for careers in organic farming and waste management

Student Activity

Mushroom Cultivation

Mushroom cultivation is the process of growing mushrooms for food, medicine, or other uses. The B.Sc. Agriculture students were actively engaged in cultivating oyster mushrooms in an efficient and eco-friendly process. It began with preparing a substrate, typically straw, sawdust, or



agricultural waste, pasteurized to eliminate contaminants. Oyster mushrooms are easy to grow, highly nutritious, and sustainable, making them a popular choice for small-scale farmers and urban growers.

Soil Testing

Soil testing is the analysis of soil to determine its nutrient content, pH level, organic matter, and other characteristics essential for plant growth. The B.Sc. Agriculture final year students collected soil samples from different sites in the nearby villages and those samples were tested for various parameters in the laboratory to determine their pH, EC, soil nutrient availability, and organic carbon content. Soil testing helps to assess the soil fertility, identify deficiencies or toxicities of soil nutrients, and thus guide proper management practices for cultivating crops.



Food processing Food processing is the transformation of raw ingredients into finished food products through physical, chemical, or



biological methods. It aims to improve food safety, shelf life, flavor, texture, and nutritional value while meeting consumer demands for convenience and variety. Our B.Sc. Agriculture students did the processing of raw fruits to prepare guava jam and jelly, ash gourd murabba, orange marmalade and did the packaging of the products for their sale.

Research Trial

Orchid Plantation

A research trial on rooftop orchid cultivation at the Swami Vivekananda University campus under the School of Agriculture has shown promising results, paving the way for sustainable gardening in cities. The project studied how unused rooftop



spaces can be turned into productive areas for growing orchids.

Researchers focused on methods like controlling the rooftop climate, using water

efficiently, and applying eco-friendly fertilizers. By combining nature with urban living, the project shows how rooftops can become beautiful, functional spaces. This initiative reflects the university's commitment to promoting sustainable agriculture and urban greenery. It encourages

future projects to explore creative ways of blending aesthetics with practicality in urban environments.

Hydroponic Production Unit



The recent research conducted by School of Agriculture of Swami Vivekananda University on growing vegetables with hydroponic techniques has been highly successful, showing a sustainable and efficient way of farming. The study, carried out on campus, focused on cultivating vegetables like cauliflower, cabbage, chili, tomato, okra, spinach, amaranthus, and broccoli in a soil-free, controlled environment.

Researchers tested Dutch type hydroponic methods, while fine-tuning nutrients and environmental conditions to boost plant growth and yield. The results revealed many benefits of hydroponics, including faster plant growth, higher production per area, and significant water savings compared to traditional farming. Since the crops weren't grown in soil, they were safe from soil-related diseases. The closed water systems reduced waste, making this method environmentally

friendly. Additionally, the study showed that hydroponics can enable year-round farming, even in cities or areas with limited resources, by using vertical farming and controlled setups. This research underscores the university's commitment to modern agricultural innovation and provides a model for tackling global food security. By blending technology with farming, it encourages farmers, students, and policymakers to adopt sustainable methods for food production. The trial proves that hydroponics is a practical solution for 22urban farming and resource-efficient agriculture.



Social Outreach

Soil Testing

Soil samples were collected from farmers' fields in *Selampur village*. The samples underwent laboratory testing for various parameters, including pH, electrical conductivity (EC), organic carbon, soil nitrogen, phosphorus, and potassium. Detailed reports were prepared based on these analyses, providing insights into soil health and

fertility. These reports were shared with the farmers, along with recommendations for enhancing soil productivity derived from the results.

Plant Protection Advice

During the RAWE field visit, diseases such as rice blast and yellow vein mosaic of okra were identified in farmers' fields. Control measures were recommended to manage these issues effectively. Additionally, symptoms of dead heart damage in rice and fruit fly infestation in cucurbits were observed. Farmers were advised on appropriate control strategies to address these problems. The activity was well-received by the farmers, as the recommendations aimed to improve crop health and productivity.



Felicitation and Higher Education

Swami Vivekananda University was named one of the top 10 promising agricultural colleges in



India for 2024 by HIGHER EDUCATION Review. This designation highlights the university's focus on agricultural education excellence, innovative research, and sustainable practices. As a renowned institution that encompasses a comprehensive curriculum with a blend of advanced agricultural technologies with practical training, the aim is to empower future leaders in agriculture. This endorsement validates its crucial role in changing the agricultural landscape of India and solving global food security challenges.

List of publications

Faculty members of School of Agriculture have published 46 articles of international reputed journals, ten book chapter and one edited book and also in the newspaper under the SVU affiliation.

Committee & Editorial Board

President: Dr. Nandan Gupta

Vice-President: Prof. Subrata Kumar Dey

Convener: Mr. Saurabh Adhikari

Secretary: Mr. Tanmoy Mazumder

Chief advisor: Prof. (Dr.) Swapan Kumar Datta

Editor-in-Chief: Dr. Tanmoy Sarkar

Editors: Dr. Sudip Senguta, Dr. Avishek Chatterjee, Dr. Suprabuddha Kundu, Dr. Ria Mukhopadhyay, Mr. Rakesh Das, Mr. Parijat Bhattacharya, Mr. Tanmoy Majhi, Ms. Sayani Bhowmick, Mr. Mahafuzar Rahaman.