

S.S.E. A'S Shivaji Science College, Nagpur

Department of Botany

Soil-less and Organic Farming Project

Coordinator: Dr. Reshma P. Sonwalkar

Session- 2024-2025

Duration: September 2024 - March 2025

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## Report

The Department of Botany at SSEAS Shivaji Science College initiated a project on soil-less and organic farming to promote sustainable agricultural practices. The project, coordinated by Dr. Reshma P. Sonwalkar under the guidance of Head Prof. P. S. Tiwari and conducted by FYBSc students, was carried out from September 2024 to March 2025 and involved active student participation. The main objective was to implement innovative farming techniques that minimize soil usage and maximize organic cultivation, while also providing hands-on experience to students in various farming processes. The harvested produce was distributed among the college administrative staff and faculty members to encourage awareness and appreciation of organic produce.

### Project Implementation

The project was divided into two major sections: soil-less farming and organic farming. Each section involved a series of systematic processes, including site preparation, bed preparation, sowing, irrigation, maintenance, and harvesting.

#### 1. Soil-less Farming

Two domes were constructed for soil-less farming, where plants were cultivated using alternative growing mediums such as cocopeat, vermicompost, and neem powder. These materials provided essential nutrients and supported plant growth without the use of traditional soil. Biofertilizers were also incorporated to enhance plant health and yield.

The soil-less farming method followed a specific growing medium ratio: Cocopeat (6) : Vermicompost (3) : Neem Powder (1). This combination ensured proper aeration, moisture retention, and disease resistance for the plants.

Process Timeline (September to March)

- September - October: Site selection, dome construction, and bed preparation. Mixing of cocopeat, vermicompost, and neem powder in the required ratio.
- November: Sowing of seeds for fenugreek, coriander, spinach, red amaranth, and cowpea greens. Initial irrigation and monitoring.
- December - January: Regular watering, monitoring plant growth, applying biofertilizers, and managing pest control.
- February: Weeding, thinning, and maintaining plant health.
- March: Harvesting of crops and distribution among college administrative and faculty staff.

#### 2. Organic Farming

Three domes were established for organic farming, where traditional soil-based cultivation methods were used while strictly following organic farming principles. No chemical fertilizers or pesticides were used; instead, organic manures and biofertilizers were applied to enrich soil fertility and promote healthy crop growth.

#### **Process Timeline (September to March)**

- September - October: Site selection, soil preparation, and bed formation. Addition of compost and organic manure.
- November: Sowing of crops including pattakobi (cabbage), baigan (brinjal), tomato, chilli, beetroot, carrot, radish, gavar (cluster beans), bhendi (okra), and onion. Irrigation setup.
- December - January: Regular irrigation, application of organic pest control, and monitoring plant growth.
- February: Weeding, pruning, and staking (for plants like tomatoes and chillies).
- March: Harvesting of crops and distribution among college administrative and faculty staff.

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#### **Student Participation**

Students actively participated in all stages of the project, gaining valuable hands-on experience in both soil-less and organic farming techniques. They were involved in dome construction, soil and bed preparation, sowing, irrigation management, pest control, weeding, harvesting, and yield distribution. The project not only enhanced their practical knowledge of sustainable agriculture but also encouraged teamwork and responsibility.

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#### **Conclusion**

The soil-less and organic farming project successfully demonstrated the advantages of alternative farming techniques in producing high-quality crops without the use of harmful chemicals. Through this initiative, students gained hands-on experience in sustainable farming methods and learned the importance of eco-friendly agricultural practices. The harvested crops were distributed among the college faculty and staff, promoting awareness of organic farming benefits. This project serves as a model for future agricultural research and sustainability initiatives within the institution and beyond.

#### **Action Taken Report**

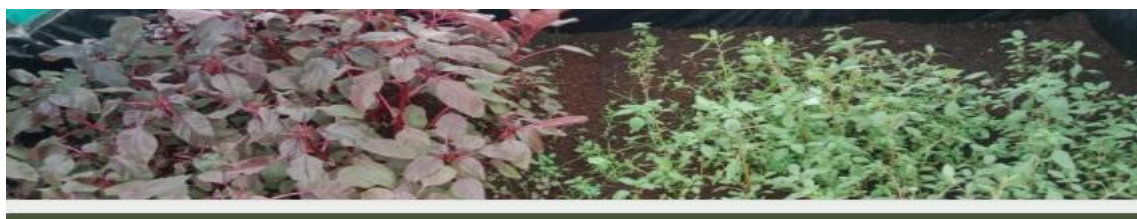
The project, conducted by the Department of Botany under the coordination of Dr. Reshma P. Sonwalkar and the guidance of Head Prof. P. S. Tiwari, was executed with the active involvement of FYBSc students. The process began with the construction of two domes for soil-less farming and three domes for organic farming. Bed preparation was completed using a mixture of cocopeat, vermicompost, and neem powder for soil-less farming, while organic manure and compost were used for organic farming. In November, students participated in sowing a variety of leafy and seasonal vegetables, followed by the implementation of a structured irrigation schedule to maintain optimal soil moisture levels. Biofertilizers were applied regularly to enhance plant growth, and organic pest control measures, such as neem-based treatments, were used to protect crops from pests. Throughout the project, weeding and maintenance activities were systematically carried out to promote healthy plant development.

The project successfully reached its final phase in March, when crops were carefully harvested and distributed among the college administrative and faculty staff. This initiative effectively demonstrated sustainable agricultural practices, provided students with practical hands-on experience, and promoted eco-friendly cultivation methods within the institution. The project served as a valuable educational experience for students, reinforcing the importance of organic farming techniques and sustainable agriculture.



Convener

Dr. R.P.Sonwalkar



## S.S.E.A'S Science College, Nagpur Department of Botany. Feedback form - Soil-less and Organic Farming Project

Form description

Email \*

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This form is collecting emails. [Change settings](#)

Full Name \*

Short answer text

Class \*

Short answer text

Mobile no. \*

Short answer text

1. How would you rate the overall execution of the Soil-less and Organic Farming Project? \*

- ☐ Excellent
- ☐ Best
- ☐ Good

2. How effective was the hands-on learning experience provided during the project? \*

- ☐ Excellent
- ☐ Best
- ☐ Good

3. How would you rate the coordination and guidance provided by the faculty and project coordinators? \*

- ☐ Excellent
- ☐ Best
- ☐ Good

4. How satisfied are you with the quality and yield of the harvested crops? \*

- ☐ Excellent
- ☐ Best
- ☐ Good

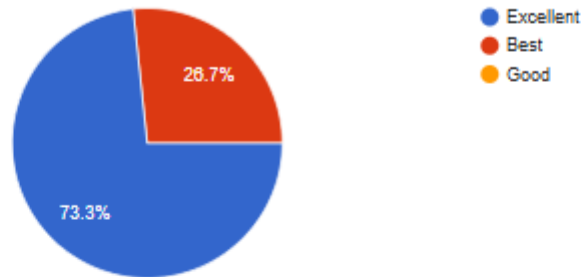
5. How useful do you find the project in understanding sustainable and organic farming techniques? \*

- ☐ Excellent
- ☐ Best
- ☐ Good

1. How would you rate the overall execution of the Soil-less and Organic Farming Project?

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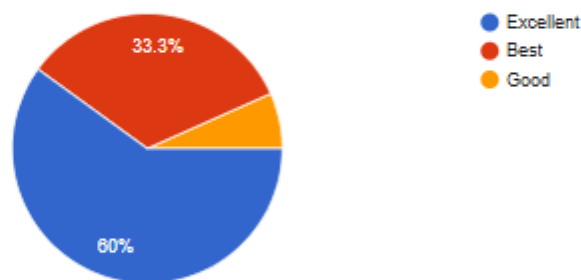
15 responses



2. How effective was the hands-on learning experience provided during the project?

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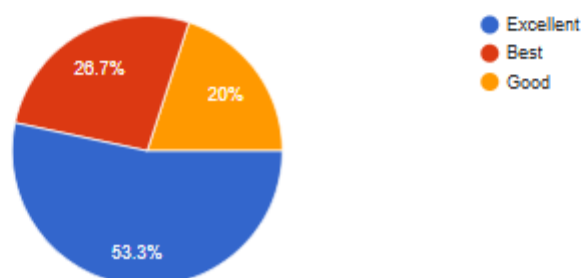
15 responses



3. How would you rate the coordination and guidance provided by the faculty and project coordinators?

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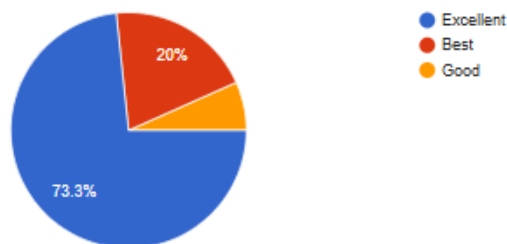
15 responses



4. How satisfied are you with the quality and yield of the harvested crops?

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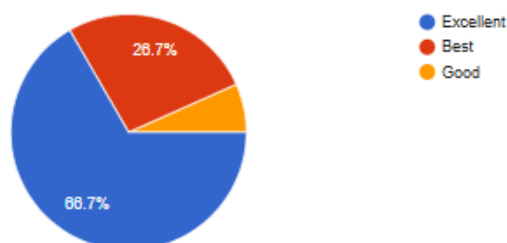
15 responses



5. How useful do you find the project in understanding sustainable and organic farming techniques?

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15 responses



Full Name	Class	Mobile no.
Trupti Burande	Bsc 1st year botany	9356917752
Srushti Marape	Bsc 1 year 2 sem	9209175540
Sapna harish mishra	Bsc 1st year 2nd semes	9028672407
Umesha Hiralal Raut	Bsc 1yr	9022498517
Himani rajesh deokar	Bsc 1st year (2nd semes	9370644361
Mugdha Gole	Bsc 1st yr	9067021709
Aarchi Sanodiya	Bsc Semester 2	09860775630
Tannu ghutke	Bsc 1	7709613548
Sanika Kawadkar	1st year botnay	9699432966
Hemanshi Shiv	1 yr	9309082784
Harshali Vilas Thaware	BSC 1st year	9322883933
Rudrakshi Amit Bhongar	2 semester	7507092158
Vaishnavi Kondalkar	Bsc. Botany. Sem 2	9607741351
Khushhoo Sanjay Choub	1st year Bsc	7796074035
Rutuja Waghmare	Bsc 1yrs sem 2	8767815675
Shravani Ravindra Raut	1st year	8975903878